



Stantec Consulting Services Inc.

5801 Pelican Bay Boulevard Suite 300, Naples FL 34108-2709

October 25, 2016
File: 177310582

Attention: Gulf Coast Ecosystem Restoration Council Grant Funding

3900 Commonwealth Boulevard M.S. 49
Tallahassee, FL 32399

Dear FDEP,

Reference: Naples Bay Restoration and Water Quality Improvements at the Cove Grant Funding Submittal

An application for Gulf Coast Ecosystem Restoration Council grant funding pursuant to RESTORE Act funds for the Naples Bay Restoration and Water Quality Improvements at the Cove project accompanies this letter. The attachments include:

- A prepared FDEP Online Project Form
- A prepared FDEP Cost Appendix Sheet
- An appendix that includes
 - A project location(s) map
 - A project outfall existing conditions exhibit
 - A rendering of the proposed living shoreline
 - The executive summary for the Preliminary Design Report (dated March 4th, 2016)
 - The 60% plans for the Water Quality Improvements at the Cove Outfall
 - The 60% plans for the Pollution Control Structure at Cambier Park

We appreciate your positive consideration for the Naples Bay Restoration and Water Quality Improvements at the Cove project.



October 25, 2016
Gulf Coast Ecosystem Restoration Council Grant Funding
Page 2 of 2

Reference: Naples Bay Restoration and Water Quality Improvements at the Cove Grant Funding Submittal

Regards,

STANTEC CONSULTING SERVICES INC.

Larry Alewine
EIT
Phone: (239) 649-4040
Fax: (239) 643-5716
Larry.Alewine@stantec.com

Attachment: Project_Submittal_Form_v5

c. Gregg Strakaluse – Director, City of Naples Streets and Stormwater Department
Andy Holland – Project Manager, City of Naples Streets and Stormwater Department
Kelly Blake – Principal, Stantec

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FLORIDA GULF OF MEXICO RESTORATION PROJECT SUBMITTAL FORM

SUBMIT

Form Purpose and Instructions:

- To assist the project proposal and review process, please complete this Submittal Form. Completion of the Form will contribute to the appropriate information being completely and accurately submitted for each project.
- Take as much space as needed for each question, but please keep responses as focused as possible. It may assist you to review all the questions before addressing any one question.
- If you have multiple projects – please submit one Form for each project.
- When you have completed the form hit the submit button in the upper right hand corner. Once your Form is successfully submitted, you will receive a confirmation email from the Florida Department of Environmental Protection.
- Submit all back-up maps, information, etc. to Restoration.Projects@dep.state.fl.us
- To submit updated information, please fill out this form and update fields as needed
- * Indicates required fields

New Project ☒ Update to Previous Submittal ☐ Project #

*Project Name

Contact Information

* Full Name Phone Number

* Email Organization Name

Additional name(s), phone number(s), email address(s), and organization name(s) and/or project partners

Gregg Strakaluse - gstrakaluse@naplesgov.com - City of Naples Streets and Stormwater Department
Ramon Castella - Ramon.Castella@stantec.com - Stantec
Kelly Blake - Kelly.Blake@stantec.com - Stantec
Larry Alewine - Larry.Alewine@stantec.com - Stantec

*Project Location

Include a map, if possible, and the city, county, longitude/latitude decimal degrees if known, and parcel # if applicable.

The projects are located within the City of Naples, Collier County, Florida.

Project components 1, 2 and 4 are located at latitude 26° 8'2.81"N and longitude 81°47'35.98"W.

Project component 3 is located at latitude 26° 8'18.22"N and longitude 81°47'50.32"W

Location maps are attached in the appendix.

*Watershed(s)

Select all that apply. A map of corresponding Florida watersheds is provided to assist in accurate placement of the project. If the project pertains to off shore or open ocean efforts, select Open Ocean. [Florida Watersheds Map](#)

- | | | |
|---|---|--|
| ☐ All FL Coastal Watersheds | ☐ Lake Worth Lagoon-Palm Beach Coast | ☐ Suwannee |
| ☐ All FL Gulf Coast Watersheds | ☐ Lower St. Johns | ☐ Tampa Bay |
| ☐ All FL Watersheds | ☐ Middle St. Johns | ☐ Tampa Bay Tributaries |
| ☐ Apalachicola-Chipola | ☐ Nassau-St. Marys | ☐ Upper East Coast |
| ☐ Caloosahatchee | ☐ Ochlockonee-St. Marks | ☐ Upper St. Johns |
| ☐ Charlotte Harbor | ☐ Ocklawaha | ☐ Withlacoochee |
| ☐ Choctawhatchee-St. Andrew | ☐ Open Ocean | |
| ☐ Everglades | ☐ Pensacola | |
| ☒ Everglades West Coast | ☐ Perdido | |
| ☐ Fisheating Creek | ☐ Sarasota Bay-Peace-Myakka | |
| ☐ Florida Keys | ☐ Southeast Coast-Biscayne Bay | |
| ☐ Indian River Lagoon | ☐ Springs Coast | |
| ☐ Kissimmee River | ☐ St. Lucie-Loxahatchee | |
| ☐ Lake Okeechobee | | |

*Project Description

Describe all aspects of the project.

The Naples Bay Restoration and Water Quality Improvements at the Cove project will reduce point source urban stormwater runoff pollutant loadings in Naples Bay while incorporating the natural system restoration objectives of the City's 20 Year Restoration Plan for the bay. The Cove Pump Station pumps stormwater from Stormwater Basin III into Naples Bay, and is a known contributor of Total Suspended Solids (TSS), Phosphorus, Nitrogen and heavy metals to Naples Bay. The project will mitigate many of the built impacts contributing to Naples Bay by the pump station and its associated drainage basin.

In addition to pollutant loadings, the Pump Station has caused a large scour hole at the outfall which, combined

*Project Category

Although projects may identify under multiple categories, please place your project in the best fit category. A document of category definitions and examples is provided. [Category Definitions](#)

Land Acquisition
Water Quality or Quantity
Habitat Restoration
Living Resources
Recreation/Public Access
Community Resilience

*Estimated Project Costs

Describe the estimated costs of the project, including any assumptions for contingency and ongoing operations/maintenance. Identify other secured funding sources such as matching funds, in-kind contributions or state/federal dollars. In addition, if possible, complete and submit the Cost Appendix Sheet associated with this Form.

Preliminary Design - \$176,602.00

Design, Permitting, Bidding Assistance - \$268,615.00

Construction - \$913,990.00

*Total Estimated Project Cost \$ 1,359,207.00

*Other Funding

Indicate if the project is submitted for any potential funding or if it may be used to leverage additional funding, if so, please describe the funding source [e.g. State/Federal Grants]. Put NA if not applicable.

A funding application for South Florida Water Management District Cooperative Funding Grants (State grant) was submitted on May 20th, 2016 and was not awarded. The project team is on schedule to prepare and submit an application for Clean Water Act 319 Grant (State grant) at the beginning of 2017.

Technical Feasibility

Describe the technologies involved and any relevant past experience or proven success with similar projects.

The upstream pollution control structure is currently designed as a hydrodynamic separator. According to the EPA's Storm Water Technology Fact Sheet:

"Hydrodynamic separators are flow-through structures with a settling or separation unit to remove sediments and other pollutants that are widely used in storm water treatment. No outside power source is required, because the energy of the flowing water allows the sediments to efficiently separate."

Stantec has previous success implementing storm water pollution control structures such as these in locations

Conflicts or Complements to Existing Efforts

Describe any ongoing activities in the project implementation area, if the project is part of another plan, and why the project does or does not interfere with that work. Please consider how the project may complement existing local, regional, and state efforts/plans/objectives.

There are no other ongoing activities in the project implementation areas, and therefore there are no expected impacts to other projects.

The project complements many different efforts at the local, regional and state levels.

Local: Early in preliminary design, the project team researched various City initiatives to determine ways in which the project could supplement other City efforts. The following is a list of the local initiatives that the design

Complies with Federal, State, Local, and Tribal Laws/Regulations

Describe any concerns or potential conflicts.

No concerns or potential conflicts with Federal, State, Local and Tribal Laws/Regulations are anticipated for the project. Approximately 2.25 acres of submerged bottom within the Cove (and waterward to the Naples Bay bulkhead line) were dedicated to the City of Naples by Trustees of the Internal Improvement Trust Fund (TIITF) in June of 1962 for streets and other public municipal purposes. Current state records indicate that the referenced dedication (TIITF Instrument No. 23096) remains in effect, and the project improvements at the Cove will remain within this boundary.

~~The unstream improvement will be installed on City of Naples owned property and there are no anticipated~~

Readiness for Implementation

Describe if the project has had any design or permitting work started or completed [attach permits or design work]. Please address any issues that may delay start or finish of the project.

The initial project kick-off meeting occurred on May 13th, 2015. The project reached a significant milestone in February of 2016, with the acceptance of a Preliminary Design Report (30% design), with instructions from City Council for moving forward with final design and permitting.

The project is at 60% design as of September 2016 (see attached design documents) and has begun the permitting process through FDEP and Army Corp of Engineers. 100% design is anticipated for January 2017. While the permitting process can be time consuming, the project team schedule anticipates this with final permitting documents expected to be received by July 2017.

Environmental Benefits

Describe the nature, magnitude, and timing of any environmental benefits attributable to the project. If possible, describe potential environmental performance measures [e.g. pollutant reduction]. Please address any potential environmental impacts associated with implementing or maintaining the project [e.g. loss of a habitat or conversion of habitat from one type to another during implementation].

Environmental performance measures are broken down by component as follows:

Component 1

- Removal of 3,000 tons (1850 CY) of marine sediments
- 3.4 lbs (1.5 kg) of Poly-cyclic Aromatic Hydrocarbons (PAH)
- 15.2 lbs (6.9 kg) of Copper
- ~~Improvement in channel hydraulics will reduce velocities and allow TSS to settle out of the water column and~~

Economic and Social Benefits

Describe the economic and social benefits including those related to the project's improved ecosystem services and any estimates on jobs created or preserved.

Per the 2014-2015 annual report created by the Natural Resources Division, economic benefits from the living shoreline are an estimated \$41,700 per year. The living shoreline will improve ecosystem services at the Cove due to the reintroduced grasses and oysters up-taking nutrients. The system will require minimal maintenance by the City, as the plantings will grow slowly and will reach a maximum height that will not require trimming.

The social benefits of the stormwater education signage will increase awareness of City-wide initiatives, including the fertilizer reduction ordinance, that should help reduce overall loading and impacts to Naples Bay.

Community Resilience

Describe if the project assists Florida's ability to anticipate, withstand, or recover from hazards or threats [e.g. hurricane preparedness, establishing living shorelines].

The project helps achieve coastal resilience by establishing a living shoreline. In using a combination of resilient plantings (Spartina) and oysters, the system will be able to bounce back from severe storms and hurricanes while binding sediments and reducing wave impacts associated with those weather events. And by improving conditions throughout the outfall, the local mangrove community health will improve, which will help mitigate hurricane-induced storm surge.

Public Acceptance

Describe any known or potential public approval or opposition to the project.

In February of 2016, the Naples City Council unanimously gave support for the project to move forward based on the Preliminary Design Report (30% design) presented, with the stipulation that the stormwater education/public outreach component be reduced in scope to only the southern sidewalk. A workshop will be scheduled with City Council to review the project and solicit feedback in November of 2016.

A public information meeting took place on January 28th, 2016, where the project team solicited feedback from the public. There was no public opposition to the project indicated, but several comment cards of support.

~~Another public information meeting will be held before 100% design.~~

Additional Information you wish to provide

Please include any maps, designs, drawings, photos or background resources that may assist in completely and accurately understanding the project. If these are too large to attach here, please email them to Restoration.Projects@dep.state.fl.us.

Please see the attached appendix for:

Appendix A - Project Locations Map

Appendix B - Outfall Existing Conditions

Appendix C - Living Shoreline Rendering

Appendix D - Preliminary Design Report Executive Summary (Dated March 4th, 2016)

Appendix E - Water Quality Improvements at the Cove Outfall (60% plans submittal)

Appendix F - Pollution Control Structure at Cambier Park (60% plans submittal)

COST APPENDIX SHEET

Cost Item

Cost Estimate

Planning

Contracts	\$ 176,602.00
Feasibility	The upstream pollution control structure is currently designed as a hydrodynamic separator. According to the EPA's Storm Water Technology Fact Sheet:
Engineering, Design, Land Rights & Bid Prep	\$ 268,615.00
Restoration Plan	
Site Visits & Cost of Site Selection	
Administration, Overhead and Indirect	
Other	
Planning Subtotal:	\$ 445,217.00

Construction

Contracts	\$ 676,730.00
Administration & Mobilization/Demobilization	\$ 55,660.00
Other	
Construction Subtotal:	\$ 732,390.00

Monitoring

Contracts	
Data Collection	
Monitoring Administration	
Other	
Monitoring Subtotal:	\$ 0.00

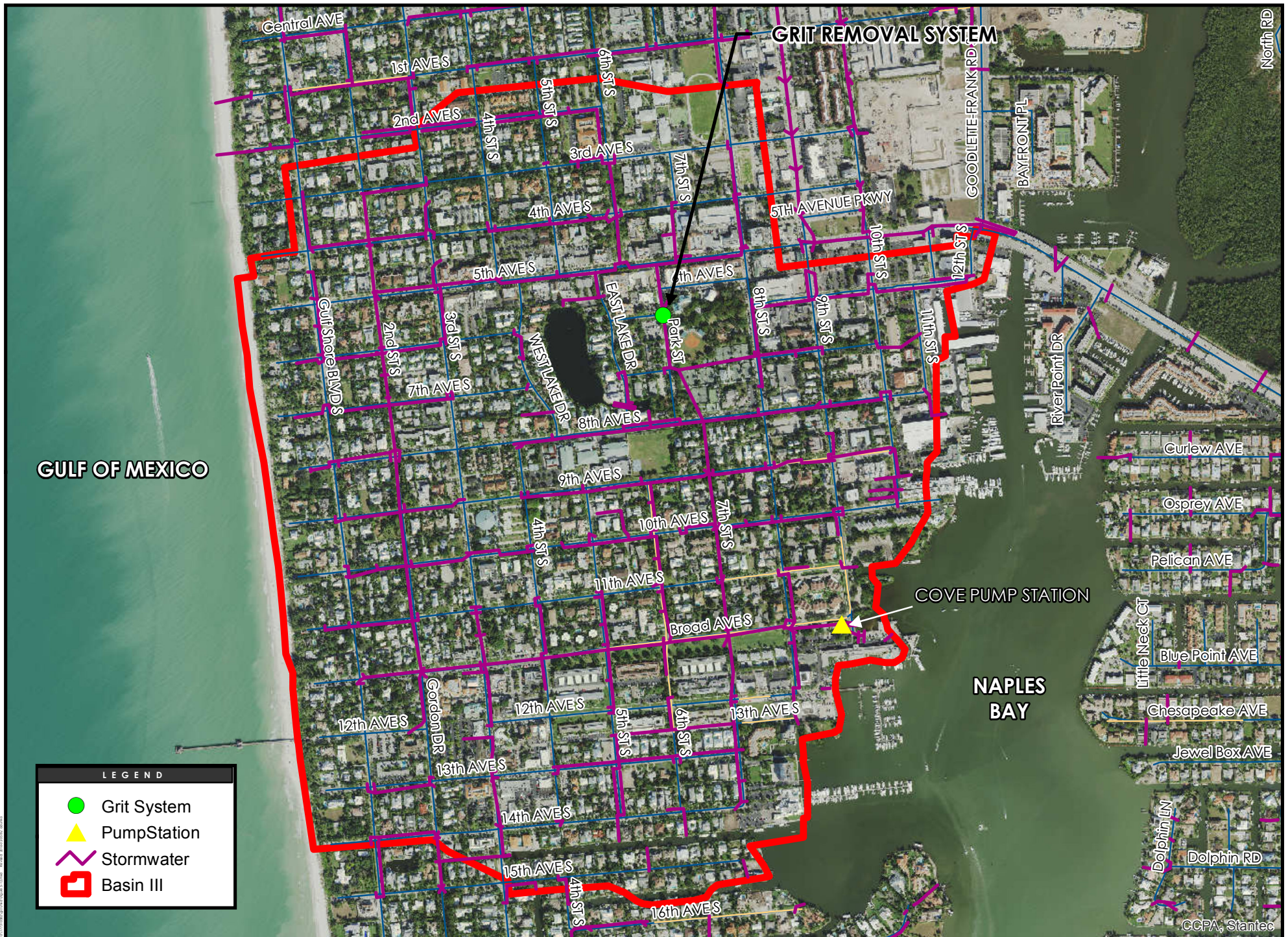
Project Cost

Contracts	\$ 1,177,607.00
Subtotal:	
Contingency (<i>traditionally calculated at 10% of the subtotal</i>)	\$ 181,600.00
TOTAL:	\$ 1,359,207.00

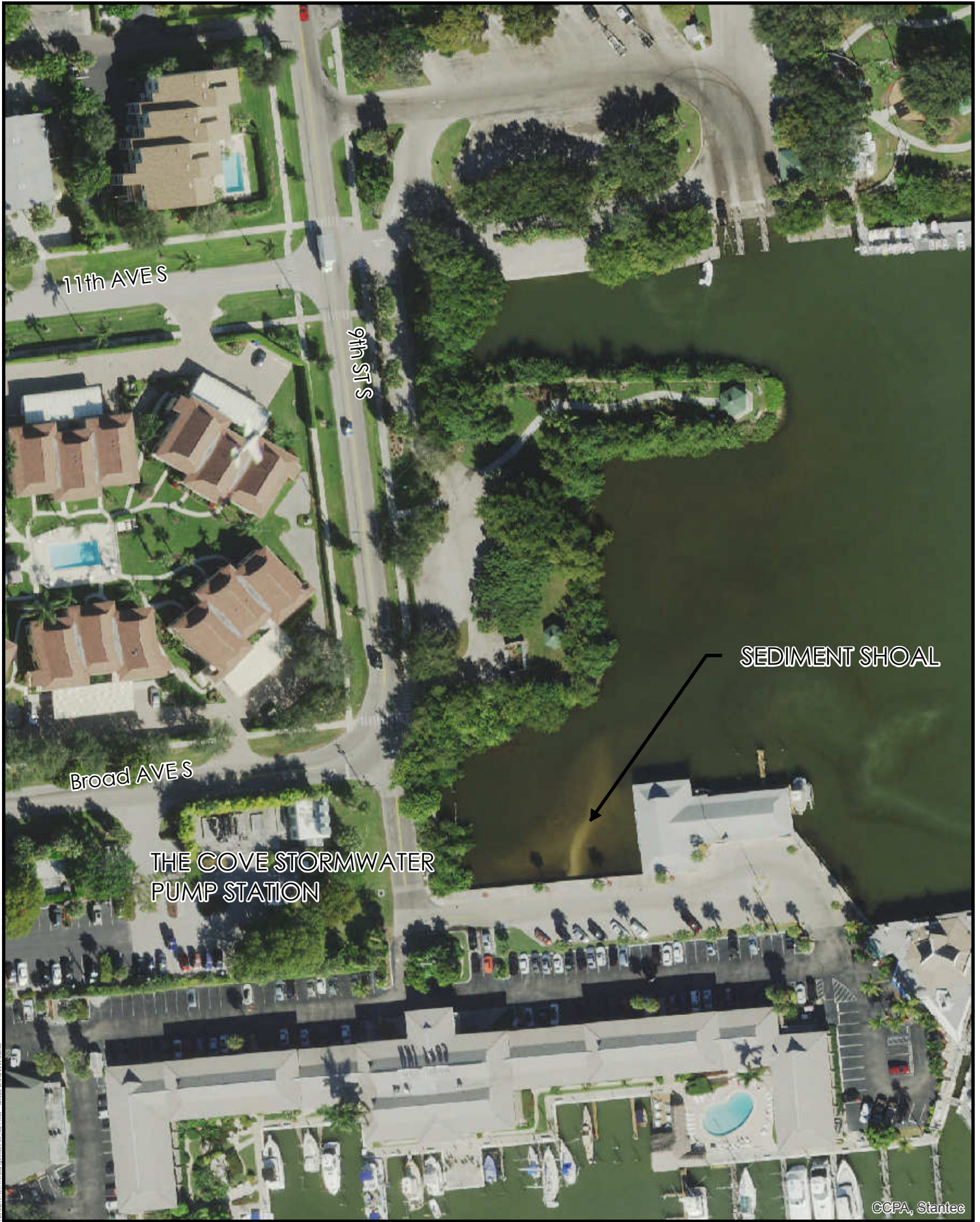
Estimated Costs by Year

Year 1	\$ 1,359,207.00
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	

APPENDIX A – PROJECT LOCATIONS MAP



APPENDIX B – OUTFALL EXISTING CONDITIONS



Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Notes:
1. Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet
2. Source data:
3. Imagery.

THE COVE
FIGURE 2-1: EXISTING CONDITIONS
February 2016

Stantec Consulting Services Inc.
3200 Bailey Ln, Ste. 200
Naples, FL 34105
tel 239.649.4040
fax 239.649.5716

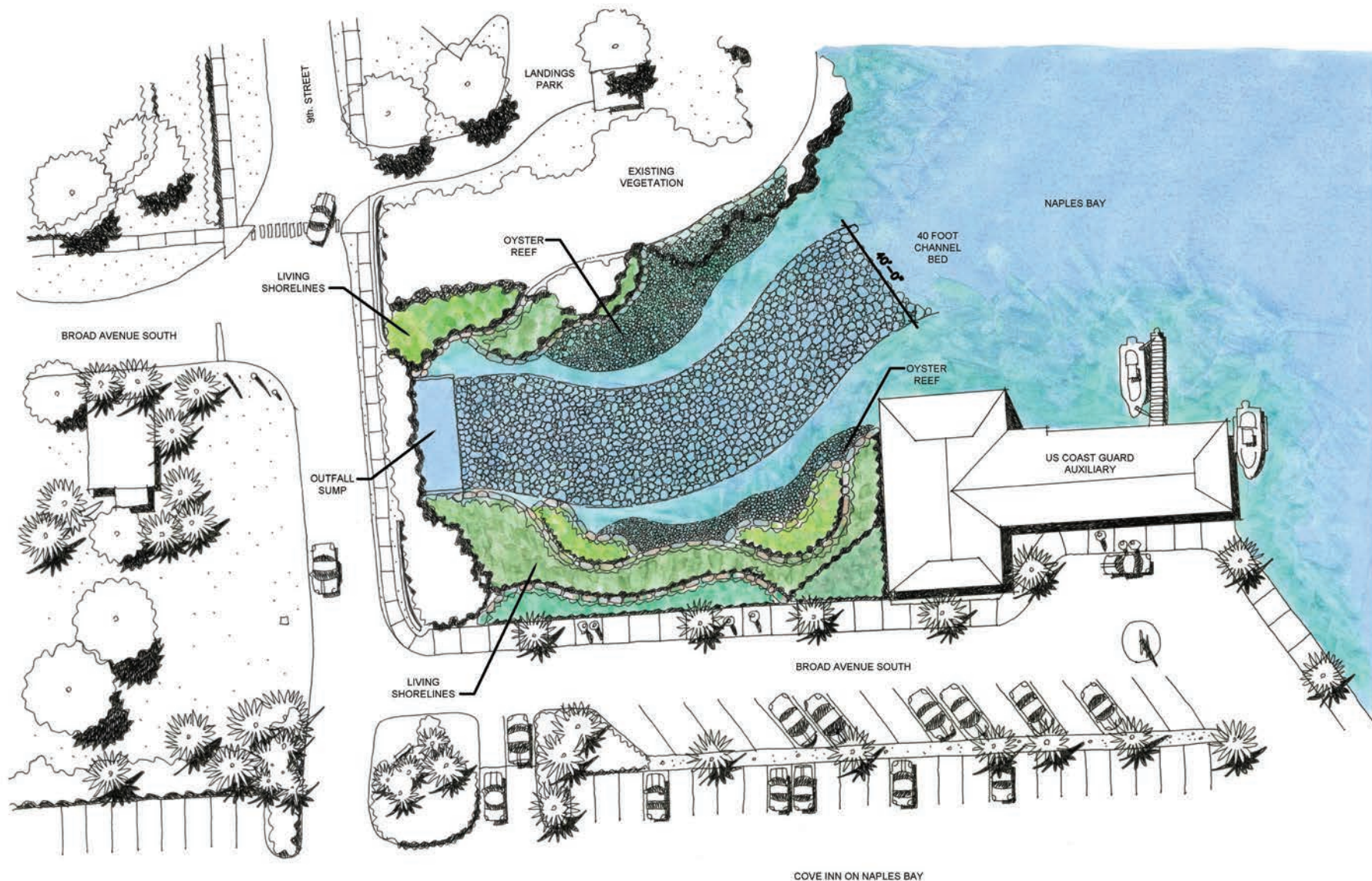


0 75 150 Feet

Prepared by: A.P.D. 02/02/16

APPENDIX C – LIVING SHORELINE RENDERING

11/02/2016 02:04 By: Admin



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Notes:
1. Coordinate System:
2. Source data:
3. Imagery

NAPLES BAY RESTORATION & WATER QUALITY PROJECT AT THE COVE

FIGURE 5-6 COMPONENT 2: LIVING SHORELINE

February 2016

Stantec Consulting Services Inc.
3200 Bailey Ln. Ste. 200
Naples, FL 34109
tel 239.649.4040
fax 239.649.5716



**APPENDIX D – PRELIMINARY DESIGN REPORT EXECUTIVE
SUMMARY (DATED MARCH 4TH, 2016)**



EXECUTIVE SUMMARY

Introduction

Naples Bay and its contributing watershed have been dramatically altered by development over time. Associated with various water management projects, the watershed of Naples Bay has expanded from approximately 10 square miles in size to its current 160 square miles (City of Naples Master Plan Update, Tetra Tech 2007). As a result, freshwater inflows to Naples Bay have increased by an order of magnitude, along with increases in nutrient loads from the developed and expanded watershed.

Naples Bay is categorized as Waterbody Identification (WBID) 3278R4 (Naples Bay-Coastal Segment) and is listed by the Florida Department of Environmental Protection (FDEP) as being impaired for four parameters; [dissolved oxygen](#), [fecal coliform bacteria](#), [copper](#) and [iron](#).

The Cove Pump Station outfall is the discharge point for the City's Stormwater Basin III and is permitted by the South Florida Water Management District (SFMWD Permit No. 11-00343-S). The contributing drainage area covers a largely impervious area of approximately 477 acres. Development within Basin III is primarily characterized by residential development, with commercial development along US 41 and multi-family high rise residential and hotel residential along the beaches.

In recent years, the City of Naples has implemented several best management

practices (BMPs) to reduce nutrient loading into Naples Bay, in addition to treating runoff for suspended solids prior to discharging into Naples Bay.

The City's environmental stewardship compels it to enhance water quality for its residents, visitors, and neighbors, and has identified the need to investigate the ecological and environmental conditions at the Cove Pump Station outfall. To that end, the City put together a project team including members of the City's Streets and Stormwater Department, Natural Resources Department, and Operations and Maintenance staff along with outside consultants to evaluate the existing conditions at the Cove Outfall and identify improvements that will reduce freshwater impacts to Cove outfall and assist in the restoration of Naples Bay.

Existing Conditions at Outfall

The Cove Stormwater Pump Station is located at the southwest corner of Broad Avenue South and 9th Street South. Over time sediment transported through stormwater runoff has been discharged in the vicinity of the outfall and has accumulated adjacent to the outfall. [The deposition of the sediment has led the City to question the content of the sediment, the impacts that the built environment has to the habitat function, and water quality within the Cove.](#)

It is estimated that there is approximately 511 cubic yards of accumulated sediment over the natural bay bottom. Additionally, the outfall

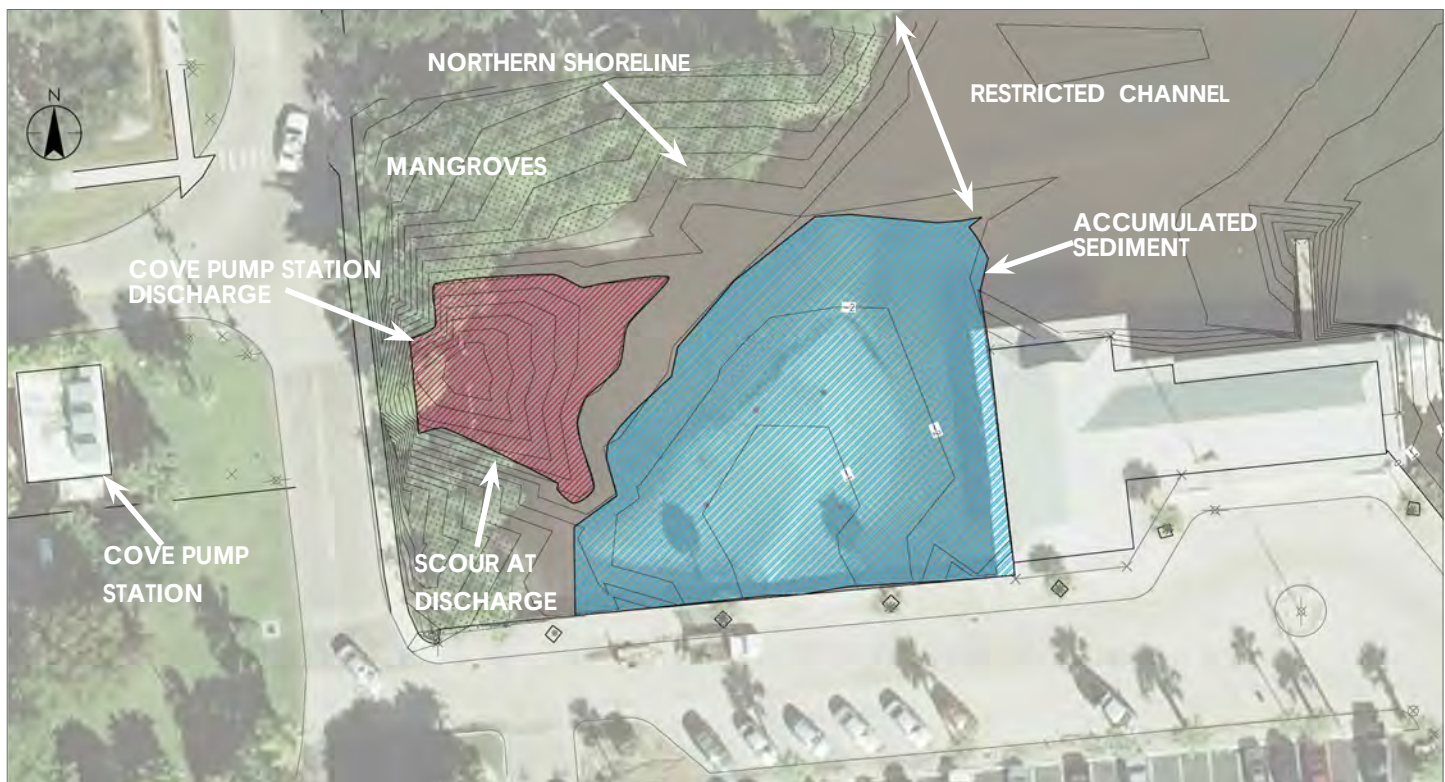


Figure ES- 1 Summary of Existing Conditions at Outfall

pipes appears to have had significant scour as a result of outfall discharge. Over time, the scoured sediment and any settleable solids carried by the stormwater runoff have been deposited in a shoal within the Cove. As a result, the channel mouth leading from the Cove outfall into Naples Bay is artificially narrowed.

It appears that the existing shoal is created by a combination of sediments entering the Cove Outfall via the Cove Pump Station and its associated drainage collection system, and the scouring of the bay bottom substrate at the outfall discharge.

As part of this study Stantec mobilized a 2-person team of ecologists to conduct a 1-day field assessment on June 12, 2015. It was determined **the limited number of specimens encountered indicates a stressed benthic community along the Cove substrate.**

This shoal has artificially constricted the hydraulic conditions within the Cove, contributing to low ecosystem function throughout the Cove, but more specifically on the south side. The sediment accumulation also alters the natural shoreline elevations, reducing the availability of estuarine environment suitable for tidal marsh habitat. The vertical sea wall along the south

of the Cove acts as an additional deterrent to functionality of the habitat.

An analysis was performed of the deposited sediment deposition to determine whether or not pollutants were present in the sediment at a contamination level that would affect re-use or disposal of the sediment after dredging. The results returned indicated that with the exception PAH's and lead, the contaminants tested for were either undetected, or below threshold levels of action. **Both PAH's and lead were detected at levels that may have adverse impact on aquatic organisms.**

PAH's are considered a common constituent in urban stormwater runoff. Coal-tar sealant used in the coating of asphalt is a commonly recognized urban source of PAHs. Additionally, with consideration of the marine environment of the Cove outfall, creosote found in old decking and pilings are considered another possible source.

Lead is considered a common constituent in urban stormwater runoff. No point source for the lead contaminants was identified. However, stormwater runoff contaminated with lead could possibly come from old pipe sealers on rooftops.

The evaluation of the existing conditions and the collaboration of the Streets and Stormwater Department and Natural Resources Division has resulted in the development of the following improvement goals and objectives:

- improve benthic productivity;
- enhance water quality;
- improve the hydraulic performance of the Cove Outfall;
- control benthic erosion;
- reduce the sediment deposition rate in the Cove; and
- create a valuable amenity for the community.

The recommended approach to meeting these goals and objectives should include, at a minimum sediment removal and disposal, channel velocity reduction and armoring, improvements to the outfall structure to provide energy dissipation and to equalize flows, a vegetated shoreline be created in the south area of the Cove, and to treat additional stormwater prior to discharging to bay.

Water Quality at Cove Outfall

Water quality data from ongoing monitoring efforts in Naples Bay was compiled, reviewed for quality assurance/quality control and then compared to the pollutant loads discharged from the Cove Pump Station.

When comparing the nutrient concentrations in water discharged by the Cove Pump Station to nutrient concentrations in Naples Bay, both [TN and TP concentrations in water discharged from the station were higher, on average, than](#)

[estimated concentrations in stormwater runoff from the Naples Bay watershed.](#)

Project Opportunity

The station is located in the Crayton Cove district of the Old Naples Area. The Crayton Cove district is a cultural and historical area within the City with public parking allowing visitors to walk to several points of interest including: Naples City Dock, City of Naples Landings Park, Dock Restaurant, Cove Inn, Auxiliary Coast Guard, Naples Yacht Club, and several other shops, accommodations, and restaurants. Several charters, site seeing tours, and trolley services have stops within the Crayton Cove area. The primary goals of the improvement projects discussed herein are to improve conditions at the outfall; however the unique location of the outfall provides additional project opportunities that should be considered. [It is recommended that the City consider additional value added project elements as part of this project or consider these elements in the future to improve water views, connectivity, points of interest and education and outreach.](#)

In accordance with the City's NPDES permit and FAC 62-621.300(7)(b), the City is required to implement a public educational program and conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff. The proposed project at the Cove outfall site creates an opportunity for the City to incorporate



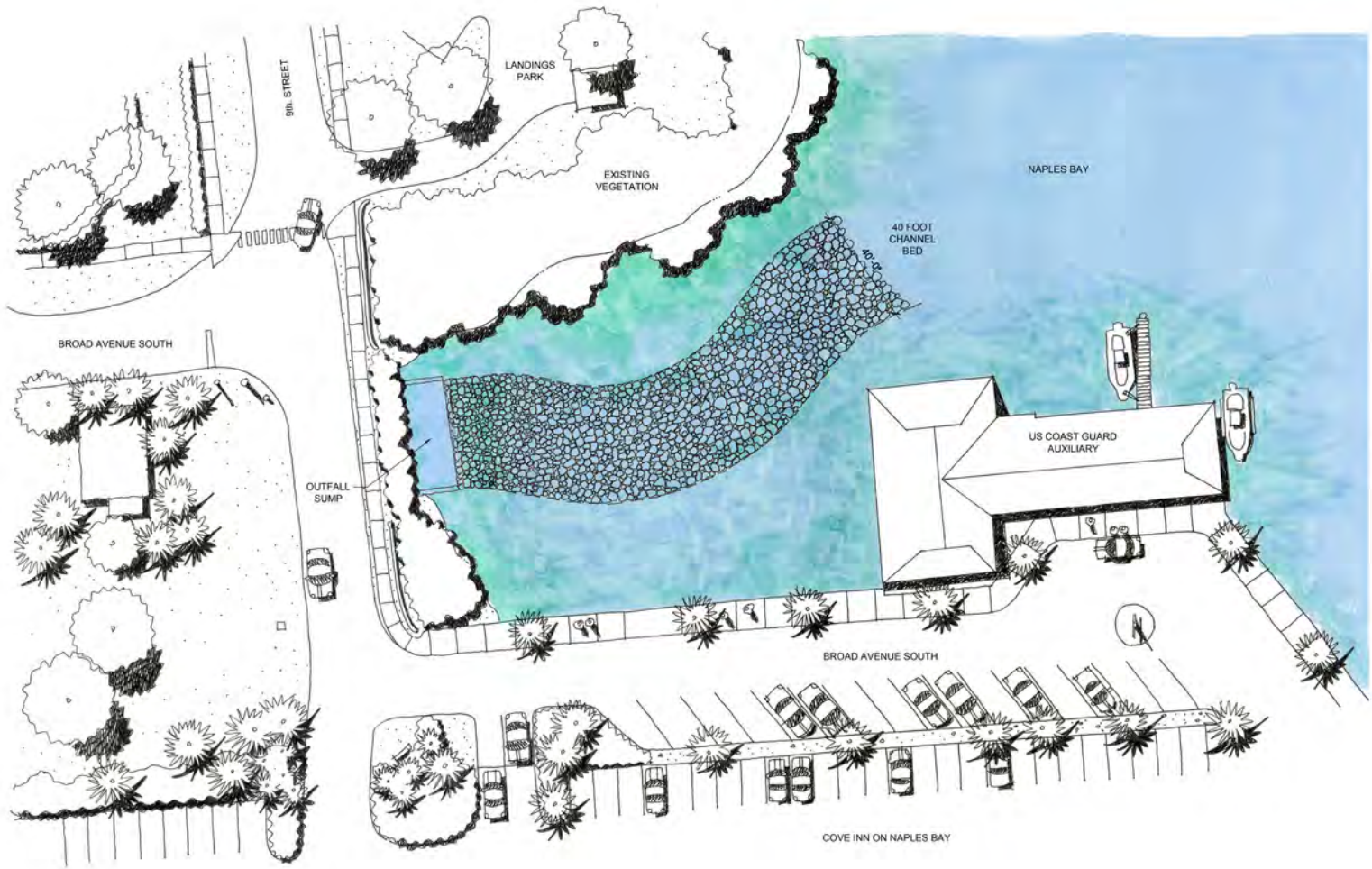


Figure ES- 2 Dredging and Armoring at Outfall

education components on the impacts of stormwater to the public.

Proposed Improvements

Four (4) project improvement components were developed based on the evaluation of the existing conditions at the outfall, evaluation of water quality at the outfall, and identification of project opportunities such as improved bay views and connectivity. The proposed project components include; Dredging and Armoring at the Outfall, Construct Living Shoreline, Upstream Water Quality Improvement, Public Amenity.

Project Component 1 - Dredging and Armoring at Outfall consists of dredging, filling scour hole, and armoring channel this is shown in Figure ES-2. The benefits of these improvements include:

- Removal of 1,080 Tons (666 CY) of accumulated sediments.
- Removal of an additional 1920 Tons (1185 CY) of sediment to accommodate improvements.
- Removal of contaminants will mitigate adverse impacts (PAH and Lead) on aquatic organisms .
- Improve channel hydraulics by reducing velocities allowing solids to settle and reduce future sediment transport into the Bay.
- Diverts waste stream (contaminated sediments) from landfills by utilizing a resources recovery facility capable of remediating contaminated marine sediments.

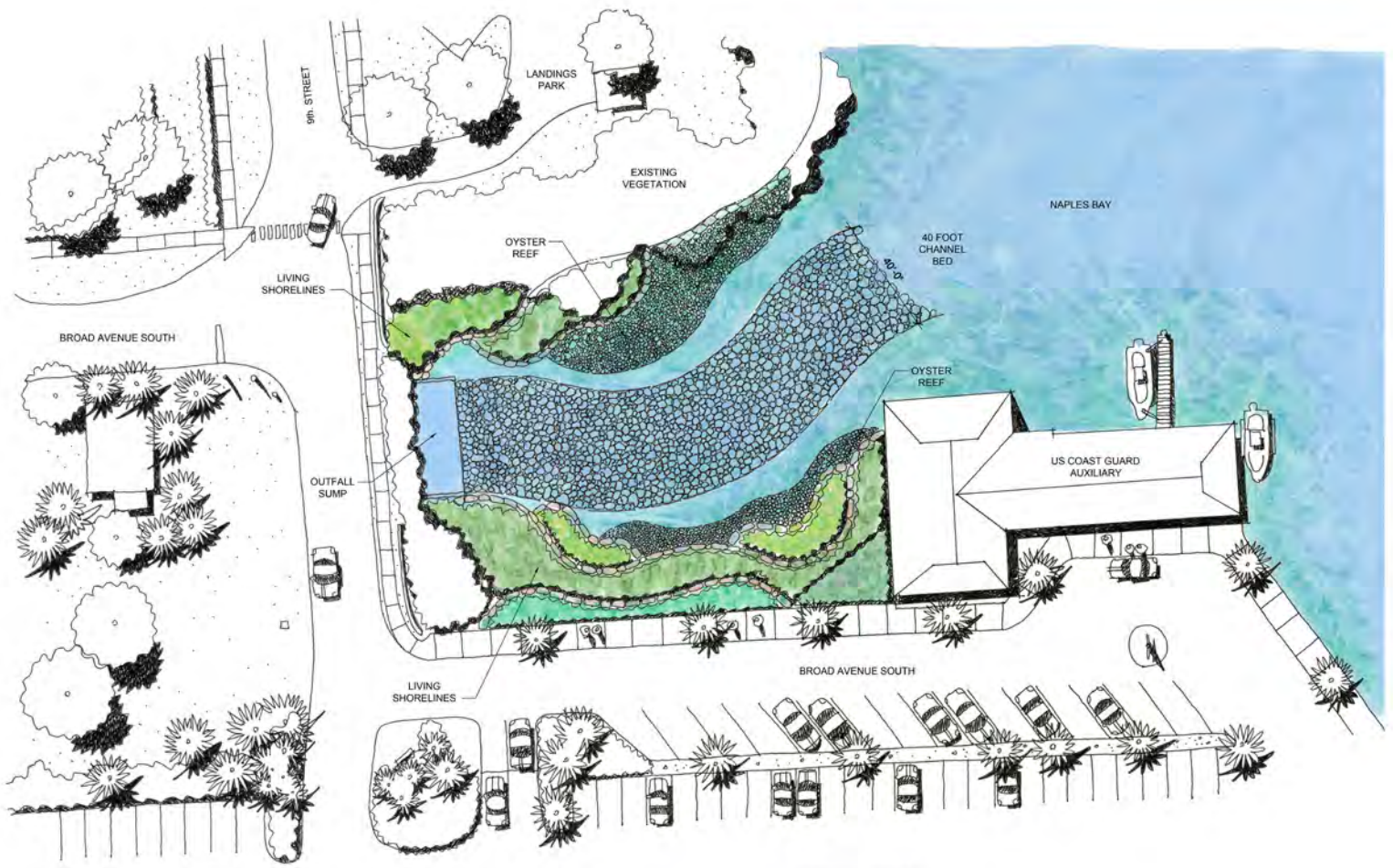


Figure ES-3 Living Shoreline Typical Section (NOAA)

Project Component 2 – Living Shoreline consists of constructing a living shoreline on the southern shoreline and enhancing the existing living shoreline on the northern shoreline as seen in Figure ES-3. The benefits of these improvements include:

- Reduction of wave impact at southern sea wall
- Improved water quality through increased nutrient uptake
- 630 LF of new oyster and vegetated habitat on the southern shoreline
- 330 LF of new habitat on the northern shoreline
- Favorable project component for permitting and funding.

Project Component 3 – Upstream Water Quality Improvement consists of installing a below grade inline vortex grit separator within the existing stormwater collection system. The system is shown as Figure ES-4. The benefits of these improvements include:

- Additional Treatment Volume: 32.3 MG/yr (7% of Total Basin III Volume)
- Estimated grit removal quantities: 2,500 lb/yr
- Favorable project component for funding



Figure ES- 4 Vortex Grit Removal Illustration
(www.hydro-int.com)



Figure ES- 5 Conceptual Plan and Section

Project Component 4 – Public Amenity is one conceptual approach to creating a public amenity at the Cove outfall and consists of the installation of a boardwalk over the discharge, pavers and improved streetscaping. The conceptual plan is shown as Figure ES-5. The benefits of these improvements include:

- Enhanced bay views
- Connectivity
- Enhanced Point of Interest
- Opportunity for education and outreach.

Public Concerns

The City prepared two public notifications associated with the Naples Bay Restoration and Water Quality Project at the Cove. The City of Naples held a neighborhood information meeting for the Cove Pump Station Outfall Improvement and Water Quality Project on Thursday, January 28, 2016. The purpose of the meeting was to inform residents, stakeholders and/or interested parties about the preliminary project plan.

Public concerns for the project, as with most stormwater capital improvements, question if the project benefit is commensurate with the project cost. There are several benefits associated the proposed project and public approval for each component will vary depending on the individuals priorities.

Permitting

Surface waters and the remnant wetland fringe within the Cove project site are jurisdictional to both the State of Florida and the federal government. Project components within the Cove Outfall will require an Army Corp of Engineer (ACOE) individual permits. These project components also be subject to additional review by the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA – NMFS). The proposed dredge and fill activities will also require an individual Environmental Resource Permit (ERP) issued by South Florida Water Management District. **Evaluation of permitting does not indicate that there will be any significant challenges to permit any components. The living shoreline will aid in the environmental permitting of the overall project.**

Grant Funding

A preliminary evaluation indicates the proposed project is eligible for seven grant funding sources. While each funding mechanism has specific framework, the combination of improvements associated with stormwater quality and habitat restoration (Project Component 1, Project Component 2, and Project Component 3) make this proposed project eligible for up to 50% match for project funding.

Cost

A preliminary opinion of probable cost was developed for each of the project components. The costs are based on similar project experience, equipment quotations from vendors, recent City bid tabulations, and

published construction cost data. Table ES-1 shows the costing breakdown.

Table ES- 1 Preliminary Opinion of Probable Cost

Description	Cost Estimate
Project Component 1 - Dredging and Armoring	\$427,400
Project Component 2 - Living Shoreline	\$315,300
Project Component 3 – Upstream Water Quality Improvement	\$ 155,700
Project Component 4 -Public Amenity	\$271,000
Project Component Subtotal	\$1,169,400
Permitting	\$35,000
Grant Funding Assistance	\$25,000
Design	\$160,000
Construction Engineering and Inspection	\$80,000
Project Service Subtotal	\$300,000
Total Project Cost	\$1,469,400

Schedule

A preliminary schedule was developed for the design, permitting, funding application development and submittal, bidding, and construction of the proposed project. The schedule is provided in Section 10.0 of this report.

Summary

The scope of services associated with the development of this report and recommendations are specifically to address the quantity and quality of sediment in the Cove outfall area, and how to prevent future sediment from entering into Naples bay. This report identifies that the sediment is in fact adversely impacting the aquatic organism and provides recommendations to remove the sediment and improve the outfall area to better capture and settle sediment prior to entering the bay.

Upon evaluation of the existing conditions at the Cove outfall, project team members developed

a comprehensive set of goals that not only address the sediment at the Cove outfall, but incorporate environmental enhancements as well as incorporate City planning initiatives.

The need for dredging and armoring at the outfall present a great opportunity for the enhancement of the outfall area including the installation of the living shoreline and

creation of a public amenity. The public amenity project component presented is one approach to enhance the project area, and further consideration of the City's regional planning initiatives as well as additional public/stakeholder input should be solicited as part of future design efforts, whether associated with the overall project presented, or as a future City initiative.

Project Component	Benefit
Dredging and Armoring	- Removes contaminated sediments - Improves channel hydraulics that will allow sediment to settle prior to entering Naples Bay
Living Shoreline	- Provides new estuarine habitat - Provides limited nutrient uptake - Enhances bay views - Favorable component for permitting and grant funding
Upstream Water Quality Improvement	- Prevents grit and sediment from entering Bay (approximately 2,500 lb/yr) - Prevents contaminants such as copper, lead, and PAHs from entering Naples Bay - Favorable project component for grant funding
Public Amenity	- Enhances point of interest - Optimizes bay views - Improves mobility - Provides opportunity for community outreach



Workshop

A workshop took place on Tuesday, February 16th between team members and the City of Naples City Council. Council's consensus to the item was to move forward with Staff's recommendations in the agenda memo and presentation with the following exceptions:

- Remove the \$271,000 overlook and find an alternative way to perform public outreach.
- Include looking at the cost-effectiveness versus pollutant removal efficiencies of dredging Spring Lake. Dredging the lake should facilitate its ability to improve water quality, but a comparative analysis would be required to determine the benefits of dredging versus other best management practices available.
- Include educational components such as project signage along the sidewalk on the south side of the cove as an alternative.

The City should also consider the recirculation of stormwater from the Cove Pump Station

to the existing Broad Avenue Detention area which would allow for stormwater treatment for the lower intensity higher frequency stormwater events. The 2009 Cove Pump Station improvements included the installation of a valve that would allow the redirecting of a portion of pumped stormwater flows to the detention area.

In summary, the City will proceed with:

- design and permitting efforts associated with the project dredging and armoring of the outfall,
- construction of a living shoreline
- construction of an inline vortex grit removal system.

The design will consider including education components such as signage along the existing sidewalk along the southern edge of the outfall area.

Additionally, the design will evaluate the feasibility and effectiveness of recirculating stormwater flows from the pump station to the Broad Avenue detention area.

APPENDIX E – WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL (60% SUBMITTAL)

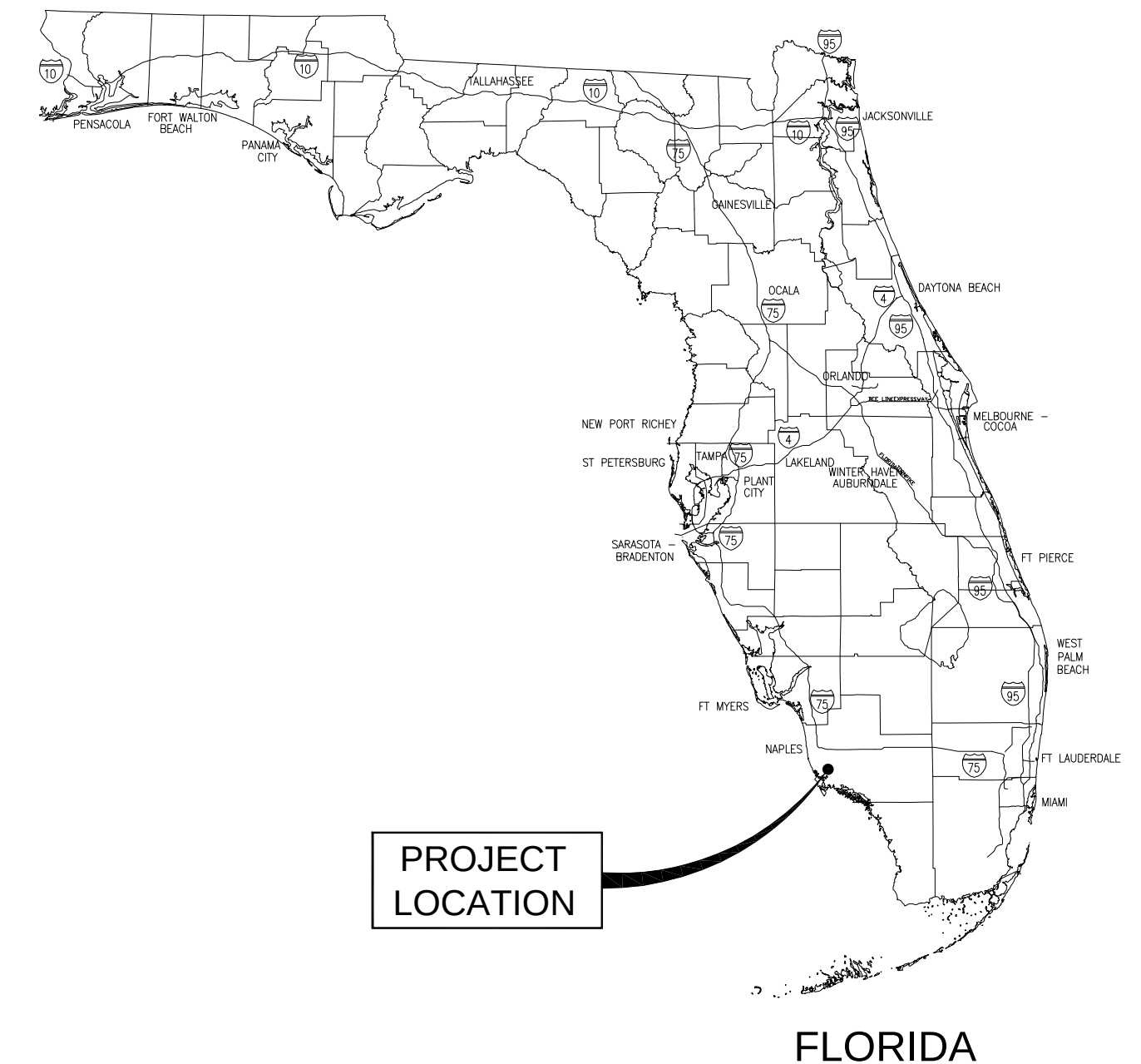
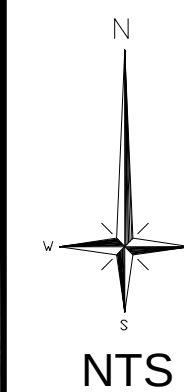
CITY OF NAPLES, FLORIDA

NAPLES BAY RESTORATION & WATER QUALITY IMPROVEMENTS AT THE COVE

CONSTRUCTION PLANS FOR

WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

INDEX OF SHEETS		
DRAWING NUMBER	SHEET TITLE	SHEET DESCRIPTION
General		
1	G-001	COVER SHEET AND INDEX OF SHEETS
2	G-002	GENERAL NOTES
Environmental		
3	EP-101	EXISTING CONDITIONS SITE PLAN W/AERIAL
4	EP-102	CHANNEL & LIVING SHORELINE SITE PLAN
5	EP-103	DREDGING & STAGING SITE PLAN
6	EP-201	CHANNEL SECTIONS
7	EP-401	TYPICAL SECTIONS AND DETAILS
8	EP-301	BEST MANAGEMENT PRACTICE PLAN AND DETAILS
Landscape		
9	L-101	LANDSCAPE PLAN
10	L-102	TYPICAL SECTIONS AND DETAILS



LOCATION MAP

GOVERNING REGULATIONS & SPECIFICATIONS:

THE PROJECT DEVELOPMENT CODE;
CITY OF NAPLES;
COLLIER COUNTY;
FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT);
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP);
SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD);
UNITED STATES ARMY CORPS OF ENGINEERS (USACE);
IN THE EVENT OF A CONFLICT, THE MOST RESTRICTIVE APPLIES.

MAYOR
BILL BARNETT

VICE MAYOR
LINDA PENNIMAN

CITY COUNCIL
REG BUXTON
DOUG FINLAY
MICHELLE MCLEOD
SAM SAAD III
ELLEN SEIGEL

STREETS AND STORMWATER DIRECTOR
GREGG STRAKAULUSE, P.E.

PLANS PREPARED FOR:



City of Naples Streets and Stormwater Department
295 Riverside Circle, Naples, FL 34102
Tel. (239) 213-5016 Fax. (239) 213-5010 www.naplesgov.com

PLANS PREPARED BY:



Stantec Consulting Services Inc.
5801 Pelican Bay Boulevard, Suite 300
Naples, FL U.S.A.
34108
Tel. 239.649.4040
www.stantec.com
Florida Certification No. 27013



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Call before you dig.**



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SUNSHINE STATE ONE CALL OF
FLORIDA, INC.**

60% SUBMITTAL

ATTENTION IS DIRECTED TO THE FACT THAT
THESE PLANS MAY HAVE BEEN REDUCED IN
SIZE BY REPRODUCTION. THIS MUST BE
CONSIDERED WHEN OBTAINING SCALED DATA.

**STANTEC PROJECT NO. 177310582
SEPTEMBER 2016**

R. QUINCE SELLERS, P.E. P.E. NO.: 49374

DATE _____

GENERAL NOTES:

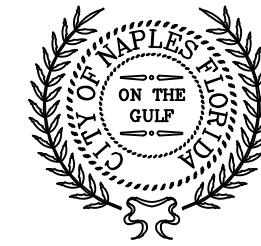
- ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY THE CITY/COUNTY. WHERE CONFLICTS OR OMISSIONS EXIST, THE CITY OF NAPLES STANDARDS SHALL DICTATE. SUBSTITUTIONS AND DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE CITY OF NAPLES.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING TO BE HELD BETWEEN THE CITY OF NAPLES STREETS AND STORMWATER DEPARTMENT, UTILITIES DEPARTMENT, PARKS DEPARTMENT, ENGINEER OF RECORD, CONTRACTOR, AND OTHER INTERESTED PARTIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 01600 EQUIPMENT AND MATERIAL.
- ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 01600 EQUIPMENT AND MATERIAL.
- CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES (SUNSHINE STATE ONE CALL, 1-800-432-4770) FOR UTILITY LOCATES AT LEAST 48 HOURS (2 BUSINESS DAYS) PRIOR TO CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGH THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
- ALL ELEVATIONS ARE DECIMAL FEET, BASE UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN HAND BEFORE BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE SHALL BE FULLY BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL SUBMIT ROW PERMIT APPLICATION THROUGH CITY OF NAPLES STREETS AND STORMWATER DIVISION SHOWING MAINTENANCE OF TRAFFIC AND ANY ROAD OR LANE CLOSURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, SIDEWALKS, SIGNS, STORM CULVERTS, FENCES AND LANDSCAPING AS REQUIRED BY THE CITY, ENGINEER OF RECORD AND/OR GOVERNING ENTITIES.
- ALL DISTURBED AREAS SHALL BE RESTORED, INCLUDING REGRADING, TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REGRADING AND REPLANTING VEGETATION IN ALL AREAS DISTURBED BY THE CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL CLEARED VEGETATION WITHIN FIVE (5) DAYS OF CLEARING AND GRUBBING WORK. SITE SHALL BE CLEANED PRIOR TO WEEKENDS.
- CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES. THESE MEASURES SHALL CONFORM TO THE PLANS AND SPECIFICATIONS AND ALL STATE AND LOCAL REQUIREMENTS.
- ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE BIDDING OR COMMENCING WORK.
- NO FIELD CHANGES OR DEVIATION FROM DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE CITY OF NAPLES.
- THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE CITY OF NAPLES, AS REQUIRED, A MINIMUM OF 48 HOURS IN ADVANCE AND NOTIFY ENGINEER 48 HOURS IN ADVANCE.
- NO CONNECTION TO, OR ANY OTHER CONSTRUCTION SHALL BE PERFORMED ON AN EXISTING UTILITY MAIN OR STRUCTURE WITHOUT THE PRESENCE OF A CITY OF NAPLES UTILITY INSPECTOR.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF RECORD DRAWINGS TO THE ENGINEER OF RECORD WITHIN TWO (2) WEEKS AFTER CONSTRUCTION HAS BEEN COMPLETED ON EACH PHASE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY TESTING TO ENSURE THAT THE PROPER COMPACTION HAS BEEN ACHIEVED ON THE SUBGRADE, BASE AND ALL OTHER PERTINENT AREAS THAT HAVE BEEN COMPLETED. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH TESTING AND RETESTING OF THE AREAS AND SHALL PROVIDE THE OWNER AND THE ENGINEER WITH COPIES OF CERTIFICATION OF COMPACTION FROM THE TESTING COMPANY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXISTING SITE CONDITIONS OF SOIL PRIOR TO N.T.P. CONSTRUCTION TO DETERMINE IF ANY OFF SITE MATERIALS WILL NEED TO BE IMPORTED TO ACHIEVE THE GRADES SPECIFIED ON THE PLANS.
- THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A REGISTERED FLORIDA PROFESSIONAL LAND SURVEYOR FOR LAYOUT OF ALL WORK AND RESTORING THE MONUMENTS AND PROPERTY CORNERS DISTURBED DURING CONSTRUCTION. PROOF OF REGISTRATION SHALL BE SUBMITTED TO THE ENGINEER.
- ALL SHEETING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WHO SHALL SUBMIT COMPLETE DESIGN CALCULATIONS AND WORKING DRAWINGS OF PROPOSED SHORING, SHEETING AND BRACING WHICH HAS BEEN PREPARED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.
-



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5801 Pelican Bay Blvd Suite 300
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CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

Notes

Revision	By	Appd.	YY.MM.DD
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File Name:	177310582-01C-002G.dwg	AS	RGS	SEPTEMBER 2016
		Dwn.	Chkd.	Dsgn.

Permit-Seal

R. QUINCE SELLERS, P.E	49374
Engineer	Reg No.

Client/Project
CITY OF NAPLES

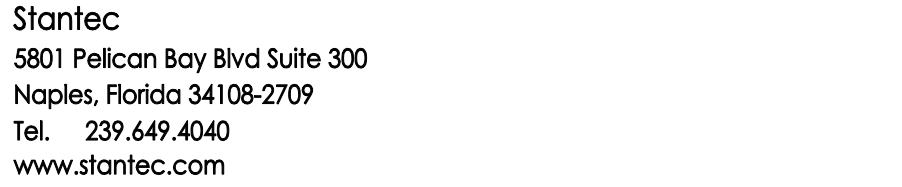
WATER QUALITY IMPROVEMENTS
AT THE COVE OUTFALL

Title

GENERAL NOTES

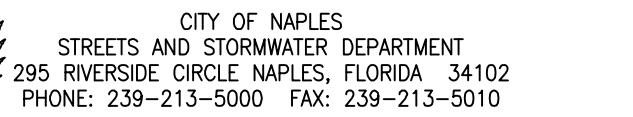
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177310582	NTS	
Project Phase	Sheet	Drawing No.

60% SUBMITTAL 2 of 10 G-002



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1. SITE BENCHMARK: STANTEC LB7866, NAIL & DISC, ELEVATION = 2.75' (NVD88).
2. DIMENSIONS ARE IN FEET AND DECIMALS. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NVD88).
3. AERIAL PHOTOGRAPH PROVIDED FOR ILLUSTRATION PURPOSES ONLY (DISTINGUISHABLE FEATURES MAY HAVE CHANGED OVER TIME), APPROXIMATE YEAR OF AERIAL 2015. AERIAL SOURCE: ESRI, DIGITAL GLOBE, GEOTIFF, ICARTEARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSPODO AND THE GIS USER COMMUNITY.

File Name: 177310582-01C-101SP.dwg	AS	RQS	SEPTEMBER 2016	
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

R. QUINCE SELLERS, P.E	49374
Engineer	Reg No.

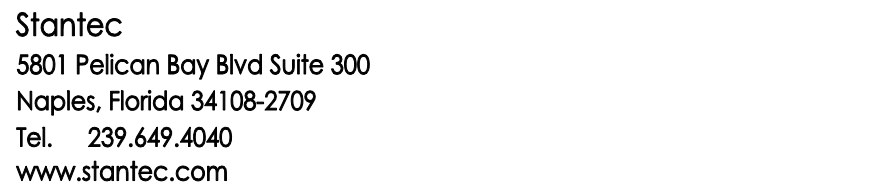
WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

EXISTING CONDITIONS SITE PLAN W/AERIAL

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177310582	1" = 40'	
Project Phase	Sheet	Drawing No.

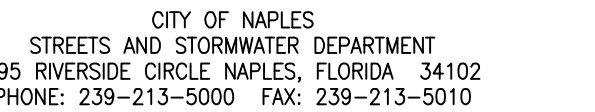


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2016/09/23 11:01 AM By: Salazar, Andrea



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1. MANGROVE FRINGE TO BE TRIMMED BACK TO LIMIT OF PROP ROOTS EXCEPT AS OTHERWISE NOTED IN PROJECT PERMITS.

File Name: 177310582-01C-102SP.dwg	AS	RQS	SEPTEMBER 2016	
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Engineer	Reg No.

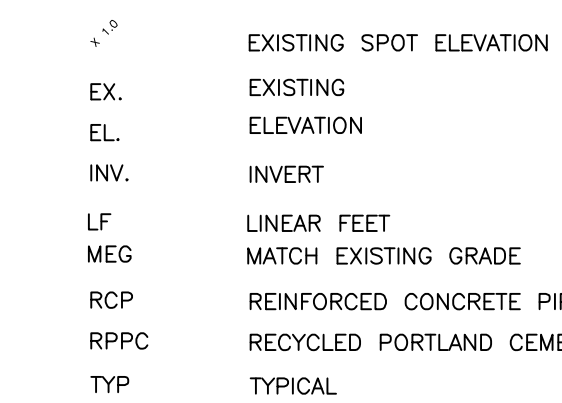
Client/Project
CITY OF NAPLES

WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

CHANNEL & LIVING SHORELINE SITE PLAN

Project Phase	Sheet	Drawing No.
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60% SUBMITTAL 4 of 10 EP-102

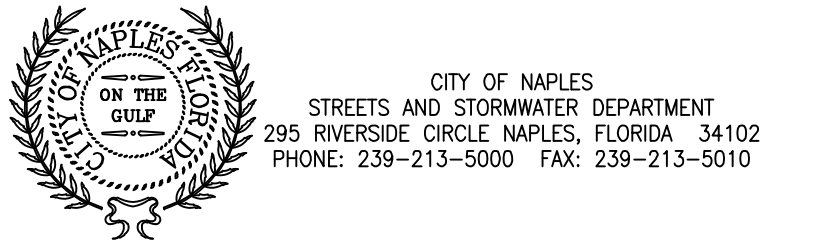


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- Notes
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 - BOATER MANATEE WARNING SIGN MUST BE DISPLAYED PURSUANT TO FLORIDA FISH AND WILDLIFE SERVICE GUIDELINES.
 - USE OF THE TEMPORARY BARGE LOADING/OFFLOADING AREA MUST BE COORDINATED WITHIN THE CITY OF NAPLES HARBOR MASTER.

Revision

File Name: 177310582-01C-103SP.dwg AS RGS SEPTEMBER 2016
Dwn. Chkd. Dsgn. YY.MM.DD

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Engineer Reg No.

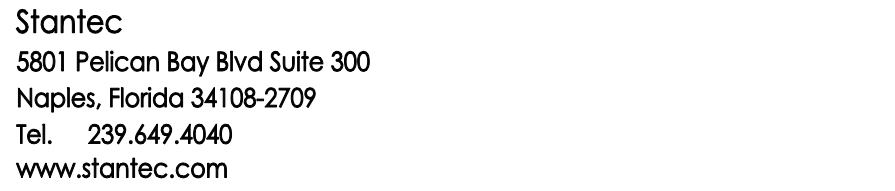
Client/Project
CITY OF NAPLES

WATER QUALITY IMPROVEMENTS
AT THE COVE OUTFALL

Title
DREDGING & STAGING SITE PLAN

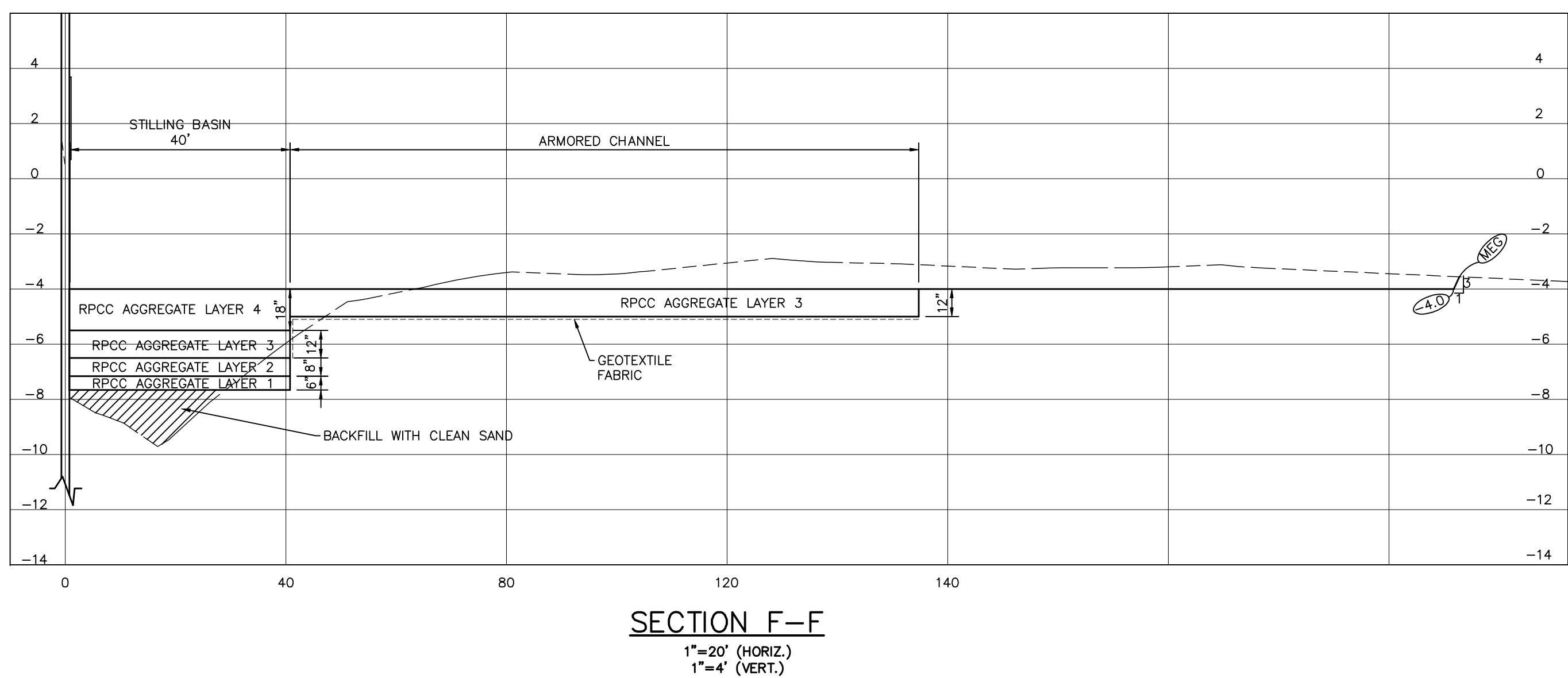
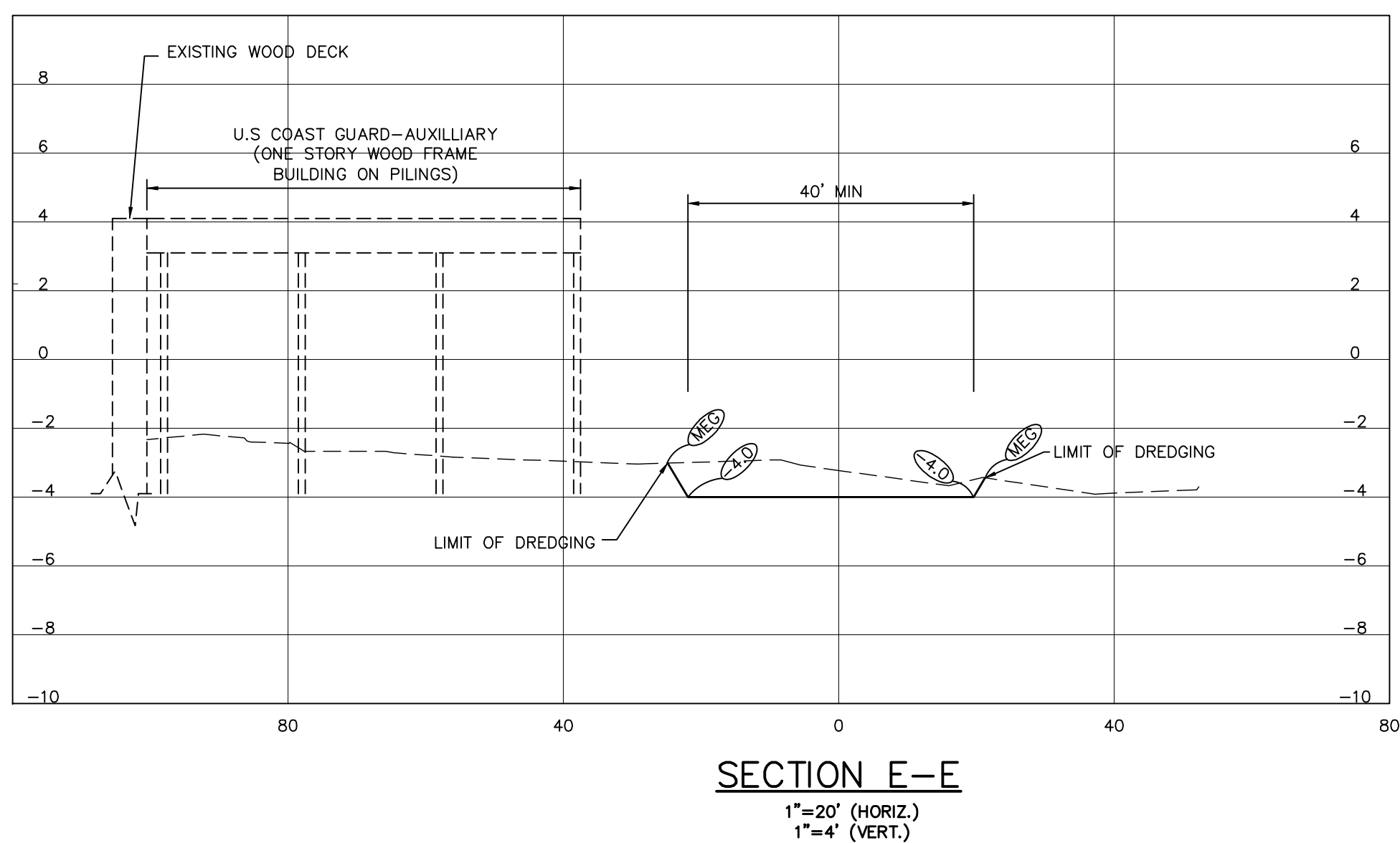
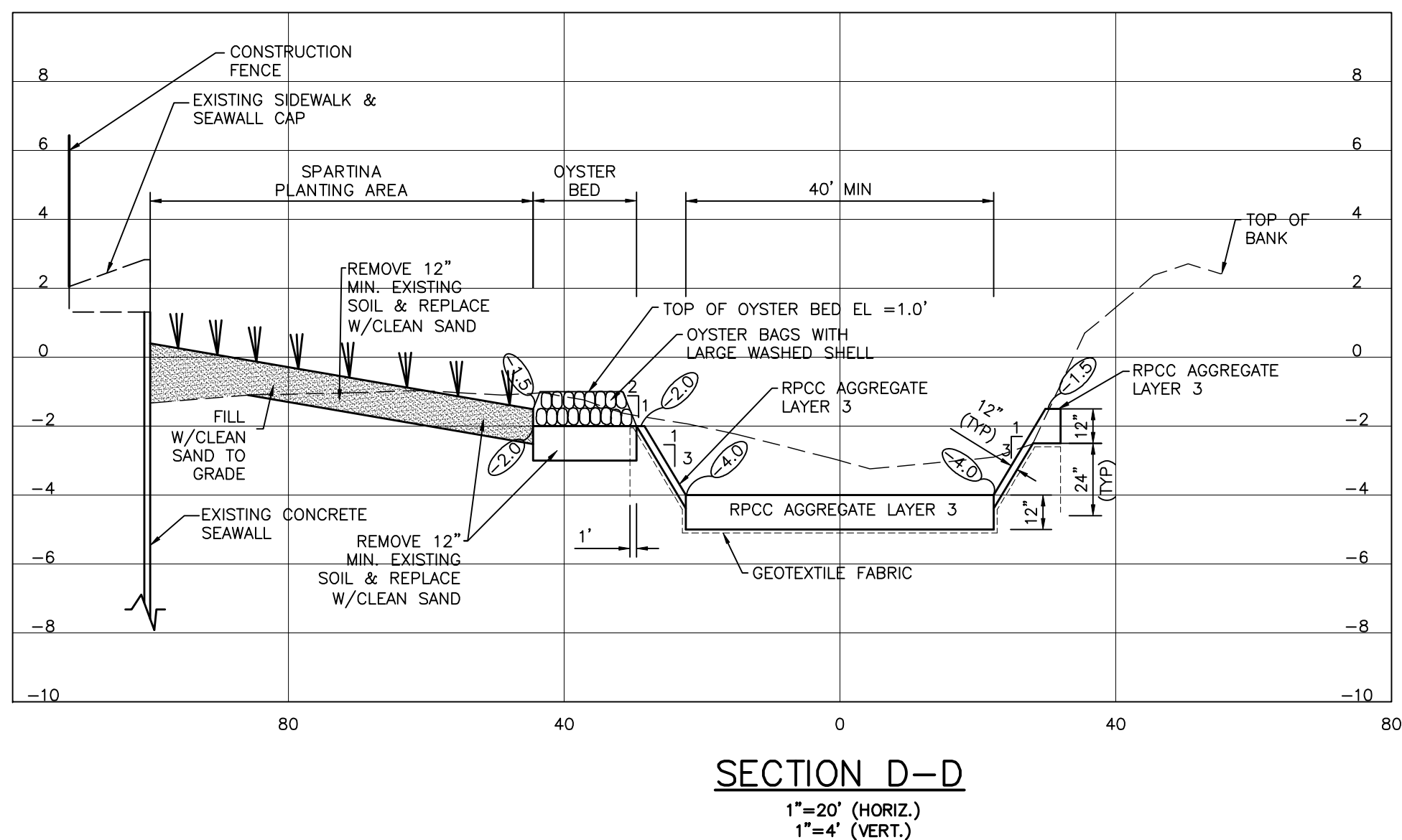
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Project Phase Sheet Drawing No.

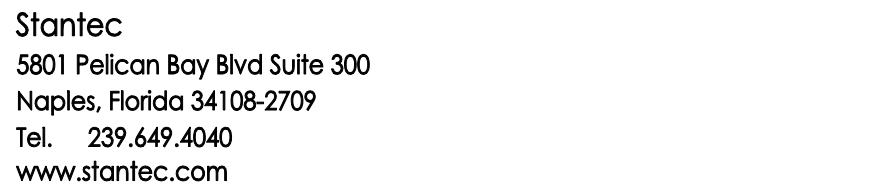
60% SUBMITTAL 5 of 10 EP-103



CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

1. EXISTING CONCRETE SEAWALL TO REMAIN UNDISTURBED.
2. USE CLEAN SAND FOR BACKFILL. DO NOT REUSE DREDGE SPOIL.
3. DREDGE SPOIL TO BE DISPOSED AT AN APPROVED LANDFILL CERTIFIED TO HANDLE CONTAMINATED SOILS.





CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
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File Name: 177310582-01C-401DD.dwg	AS	RQS	SEPTEMBER 2016	
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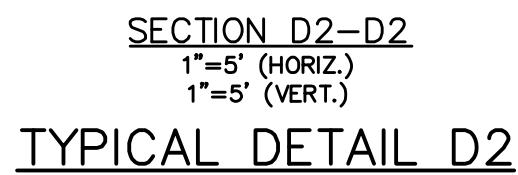
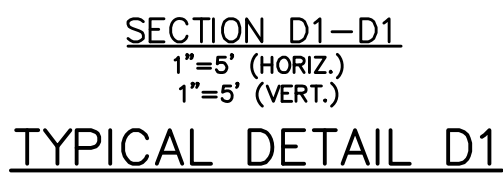
R. QUINCE SELLERS, P.E	49374
Engineer	Reg No.

WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

TYPICAL SECTIONS AND DETAILS

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Project Phase	Sheet	Drawing No.

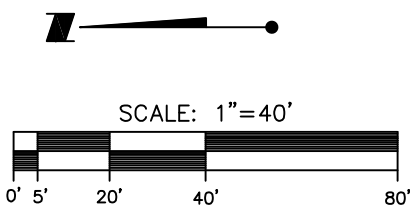
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2016/09/23 11:00 AM By: Salazar, Andrea



- NOTES**
1. INLET SHALL HAVE 3" DIA. HOLE AT THE BOTTOM OF THE BOX CLEAR OF ANY PIPE CONSTRUCTION TO BE PLUGGED WHEN CONCRETE INVERT FORMED.
 2. U.S.F. GRATE NO. 6210 (CAST IRON)
 3. 3/4" CHAMFER ALL EXPOSED EDGES.
 4. 3000 PSI CONCRETE @ 28 DAYS SHALL BE USED THROUGHOUT.
 5. POURED CONCRETE INVERT AFTER INLET & PIPE PLACED IN GROUND, 3000 PSI @ 28 DAYS.
 6. REINFORCING STEEL SHALL BE INTERMEDIATE GRADE BILLET WITH DEFORMATIONS CONFORMING TO ASTM A-615-76A. ALL STEEL SHALL BE 2" COLD UNLESS OTHERWISE NOTED.

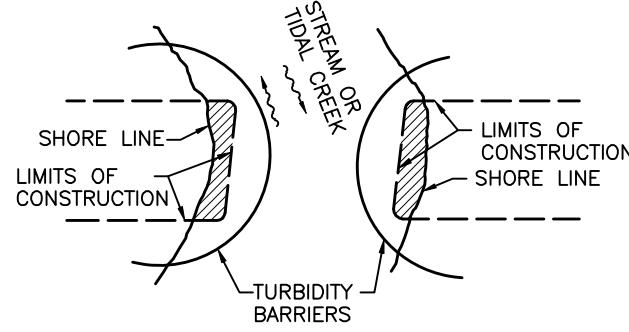
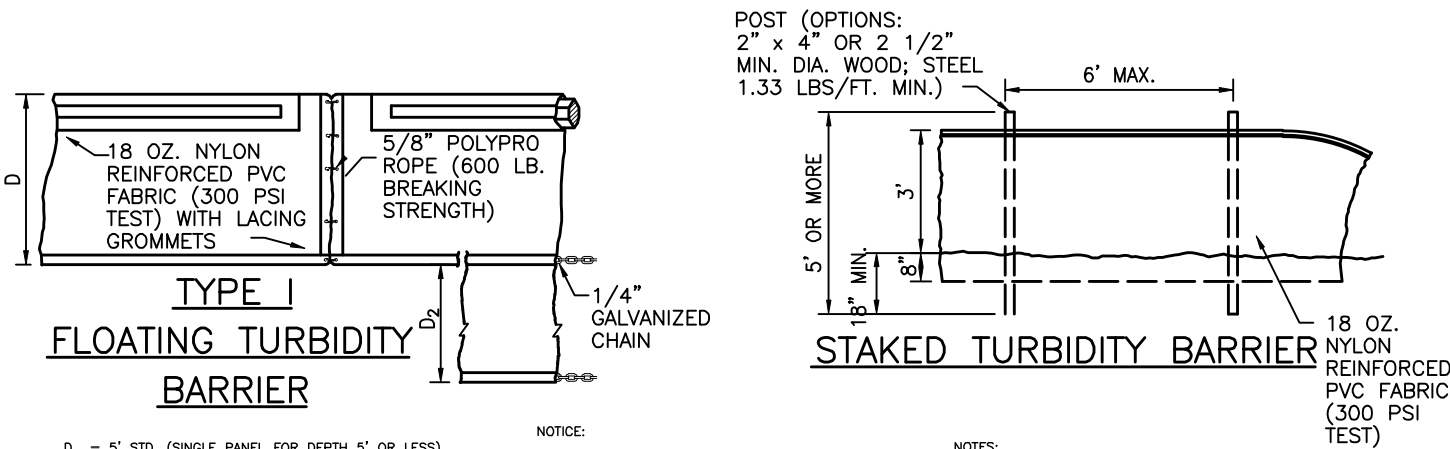


F.D.O.T. TYPE "C" INLET
N.T.S.

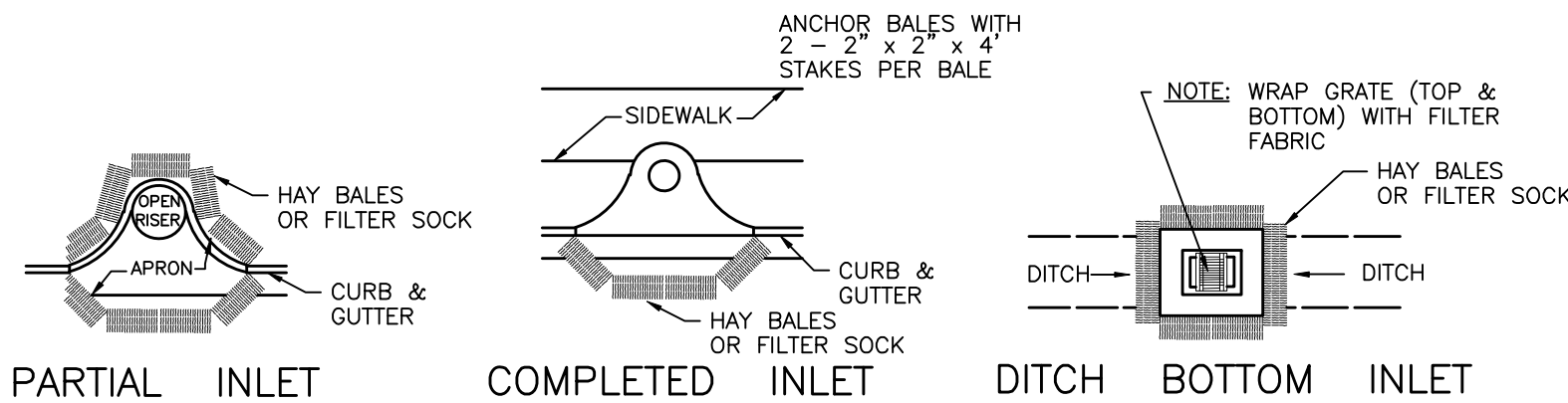


NOTES:

1. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE CONDITIONS OF THE REGULATORY AGENCY PERMITS AND HAVE COPIES OF THE PERMITS ON SITE. THE CONTRACTOR SHALL BEAR ALL RESPONSIBILITY AND COSTS FOR OBTAINING AND/OR MODIFYING ALL APPLICABLE NPDES PERMITTING AND FOR COMPLYING WITH ALL DISTRICT, FDEP AND USACOE PERMITTING CONDITIONS.
2. THE CONTRACTOR SHALL STAGE CONSTRUCTION IN PHASES WHENEVER POSSIBLE TO MINIMIZE SOIL LOSS AND CONTROL EROSION.
3. THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEEPED AS REQUIRED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL TO OR FROM THE CONSTRUCTION SITE SHALL BE COVERED WITH A TARPULIN.
4. THE CONTRACTOR SHALL CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT AND SHALL USE WATER, STRAW MULCH, OR OTHER SUITABLE MATERIAL AS REQUIRED.
5. AT A MINIMUM, SILT FENCES, OR EQUIVALENT SEDIMENT CONTROLS ARE REQUIRED FOR ALL SIDE SLOPE AND DOWN SLOPE BOUNDARIES OF THE CONSTRUCTION AREA.
6. THE CONTRACTOR SHALL ERECT SILT FENCE, STAKED HAY BALES, STAKED TURBIDITY BARRIERS, AND FLOATING TURBIDITY BARRIERS PRIOR TO COMMENCEMENT OF EXCAVATION/GRADING ACTIVITY. FLOATING TURBIDITY BARRIERS MAY BE DEPLOYED IN SECTIONS AROUND ACTIVE CONSTRUCTION AND BE MOVED AS APPROPRIATE AS CONSTRUCTION AND RESTORATION IS COMPLETED.
7. REQUIRED EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED AS REQUIRED THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT.
8. ALL EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR IN COMPLIANCE WITH DISTRICT AND NPDES PERMIT REQUIREMENTS THROUGH THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL DEVICES WEEKLY AND WITHIN 4 HOURS AFTER EACH RAINFALL EVENT OF 0.5 INCHES OR MORE. ALL MAINTENANCE SHALL BE PERFORMED WITHIN 24 HOURS OF INSPECTION.
9. ALL PRACTICABLE AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT MATERIAL TO INLETS, WETLANDS, AND OFFSITE AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESTORATION EFFORTS THAT MAY BE REQUIRED.
10. EROSION AND SEDIMENT CONTROL DEVICES (SILT FENCE, TURBIDITY BARRIERS, ETC.) ARE DEPICTED IN APPROXIMATE LOCATIONS AND SHALL BE ADJUSTED AS NECESSARY WITH THE APPROVAL OF THE DISTRICT REPRESENTATIVE.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL EROSION AND SEDIMENT CONTROL DEVICES AT THE COMPLETION OF THE PROJECT.
12. ALL EXCAVATION, AND ACCESS TO AND FROM CONSTRUCTION AREAS SHALL BE WITHIN THE LIMITS OF THE PROJECT AREA.

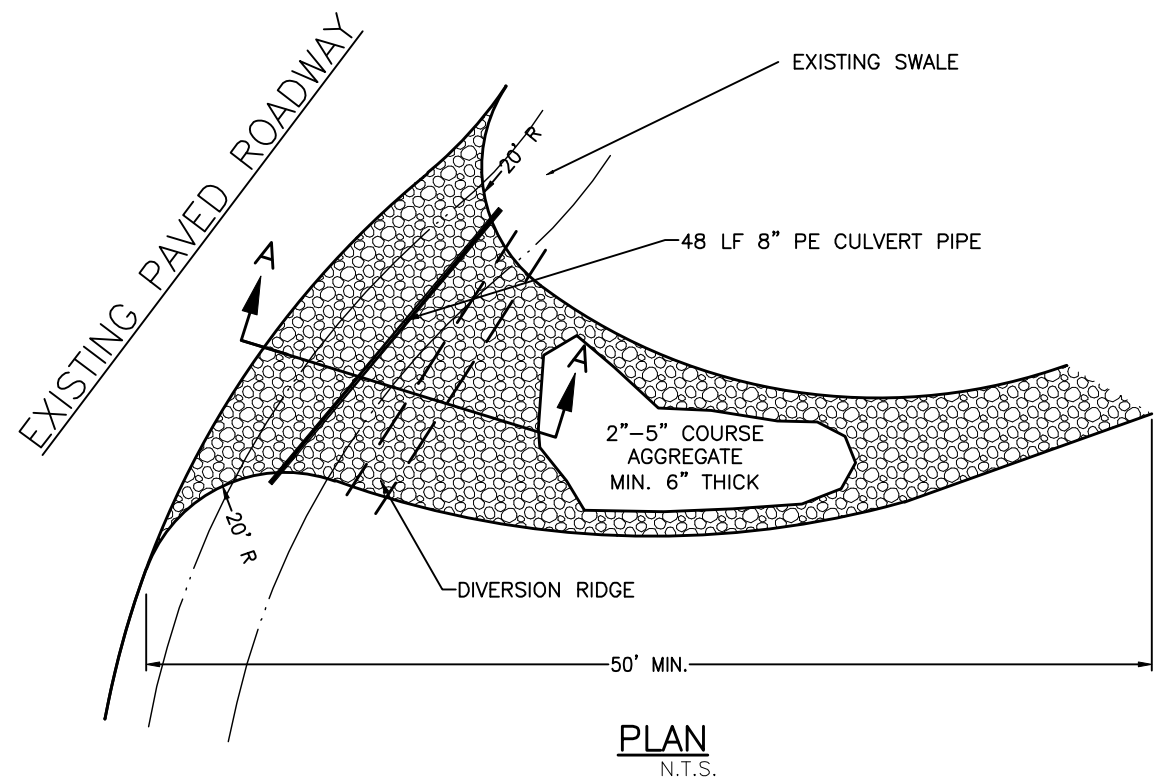
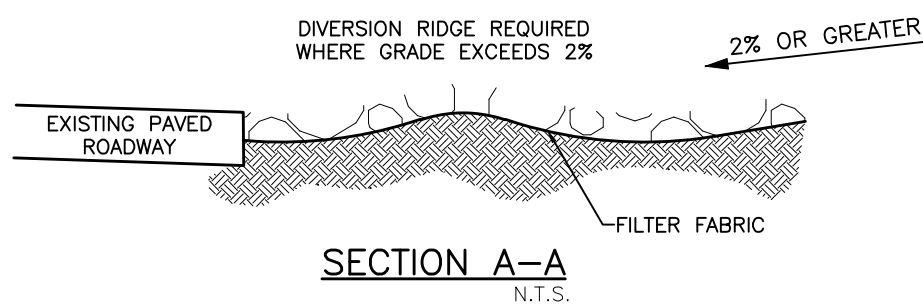
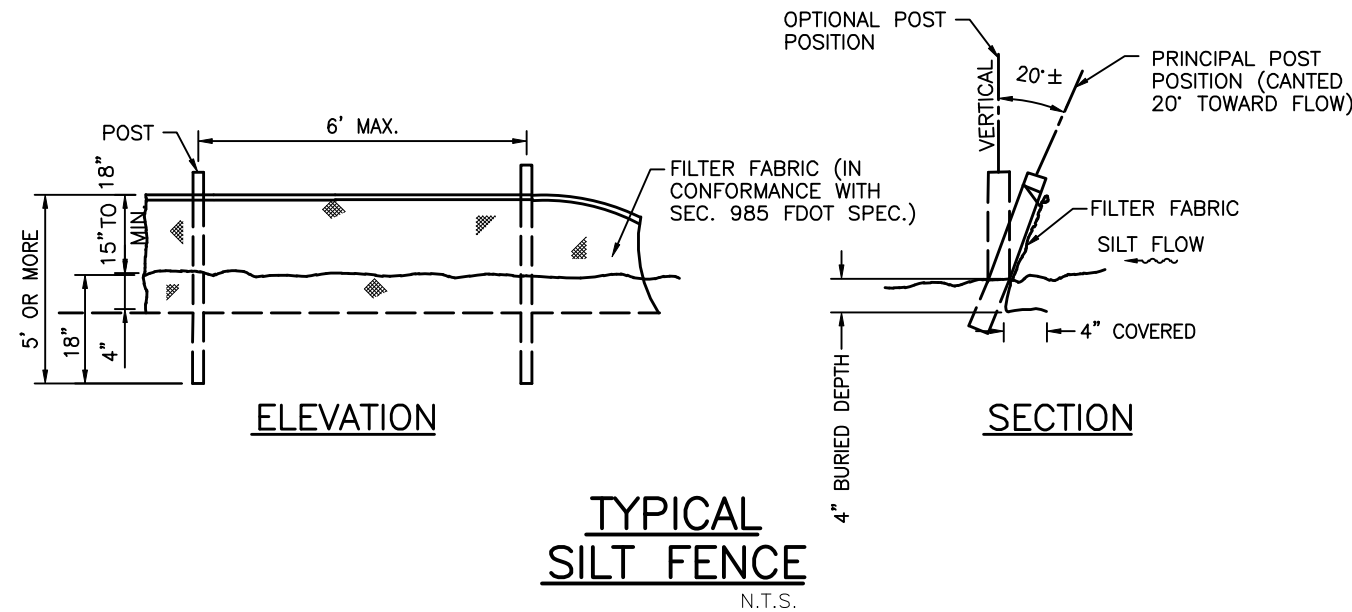


NOTE:
TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CHANNELS MAY BE EITHER FLOATING OR STAKED TYPES OR ANY COMBINATION OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPES WILL BE AT THE DISCRETION OF THE ENGINEER. THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER MAJOR STAKED TURBIDITY BARRIER MAJOR STAKED TURBIDITY BARRIER TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



PROTECTION AROUND INLETS OR
SIMILAR STRUCTURES

N.T.S.



- NOTES:
1. CONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS (INCLUDING CROSSING CULVERT) AND RESTORE GRADES (INCLUDING ROADSIDE SWALE) TO PRE-CONSTRUCTION ELEVATIONS; SOO ALL BARE EARTH SURFACES; REPAIR ANY DAMAGE TO THE ASPHALT ENTRANCE DRIVE.
 2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

TEMPORARY CONSTRUCTION
ACCESS DETAIL

N.T.S.

LANDINGS PARK

STAGING AREA

9TH STREET S.

BROAD AVE S.

THE BOAT HOUSE
RESTAURANT

SUBMERGED LANDS DEDICATION BOUNDARY
RESOLUTION No. 23096 (MAY 22, 1962)
TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA



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CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

Notes

Revision

File Name: 177310582-01C-301EC.dwg AS RGS SEPTEMBER 2016
Dwn. Chkd. Dsgn. YY.MM.DD

Permit-Seal

R. QUINCE SELLERS, P.E. 49374
Engineer Reg No.

Client/Project
CITY OF NAPLES

WATER QUALITY IMPROVEMENTS
AT THE COVE OUTFALL

Title

BEST MANAGEMENT PRACTICE PLAN AND DETAILS

Project No. 177310582 Scale 1" = 40'
Project Phase Sheet Drawing No.

60% SUBMITTAL 8 of 10 EP-301



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STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

Notes

LANDSCAPE NOTES:

1. QUALITY: PLANT MATERIALS USED TO MEET THE REQUIREMENTS OF THIS PLAN SHALL MEET THE STANDARDS FOR FLORIDA NO.1 OR BETTER AS SET OUT IN GRADES AND STANDARDS FOR NURSERY PLANTS, PART I AND PART II, DEPARTMENT OF AGRICULTURE, STATE OF FLORIDA (AS AMENDED). ROOT BALL SIZES ON ALL TRANSPLANTED PLANT MATERIALS SHALL ALSO MEET STATE STANDARDS.
2. ALL PLANT MATERIALS SHALL BE INSTALLED ACCORDING TO ESTABLISHED HORTICULTURAL METHODS AND STANDARDS.
3. ALTERNATE PLANT SPECIES MAY BE SUBSTITUTED, UPON APPROVAL OF LANDSCAPE ARCHITECT, PROVIDED AS LONG AS THE REQUIRED NATIVE PERCENTAGE IS SATISFIED.
4. EXOTIC VEGETATION AS DEFINED BY THE CITY OF NAPLES LAND DEVELOPMENT CODE SHALL BE REMOVED FROM THE SITE AND SUBSEQUENT ANNUAL EXOTIC REMOVAL (IN PERPETUITY) SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
5. VEGETATION TO REMAIN SHALL BE PROTECTED WITH APPROVED BARRICADING (SEE CIVIL PLANS) AND BARRICADING WILL REMAIN IN PLACE UNTIL COMPLETION OF CONSTRUCTION.
6. ALL PLANTS TO BE ARRANGED IN STAGGERED ROWS UNLESS OTHERWISE NOTED ON PLAN.
7. PARKING LOT/ POLE LIGHTING SHALL BE LOCATED A MINIMUM OF 12.5' FROM THE TRUNK OF A TREE OR PALM.
8. PLANT SPECIFICATIONS (HEIGHT, SPREAD ETC.) SHALL MEET MINIMUM CITY OF NAPLES REQUIREMENTS UNLESS OTHERWISE SPECIFIED. MULCH TYPE MAY VARY BUT WILL NOT EXCEED 25% CYPRESS IN VOLUME.
9. ALL EXPOSED EARTH SHALL BE COVERED WITH SOD, HYDROSEED, AND/ OR MULCH.
10. INSTALL ROOT BARRIER PER DETAIL.

Revision	By	Appd.	YY.MM.D
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File Name: 10582_tblock.dwg	AS	RQS	SEPTEMBER
	Dwn	Chkd	YY.MM.D

Permit-Seal

R. QUINCE SELLERS, P.E	49374
Engineer	Reg No.

Client/Project
CITY OF NAPLES

WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

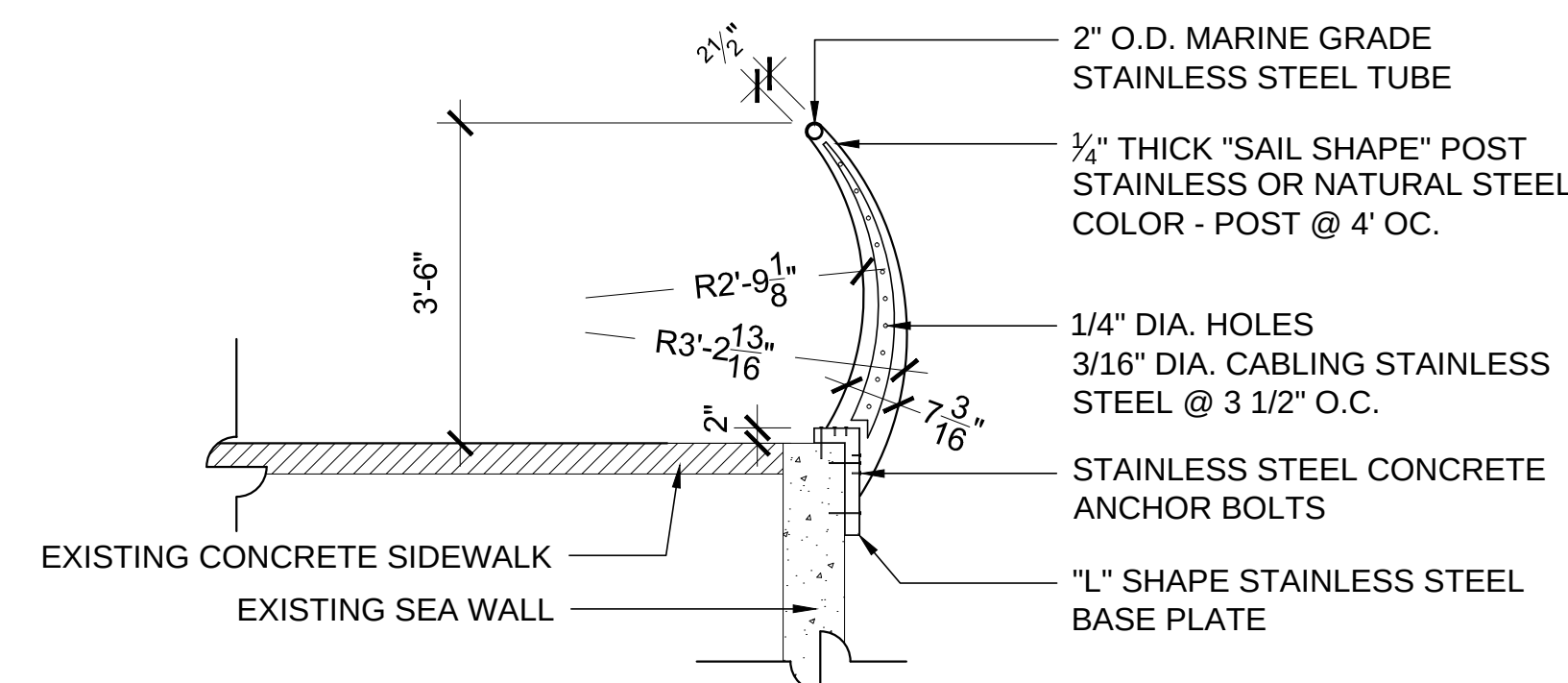
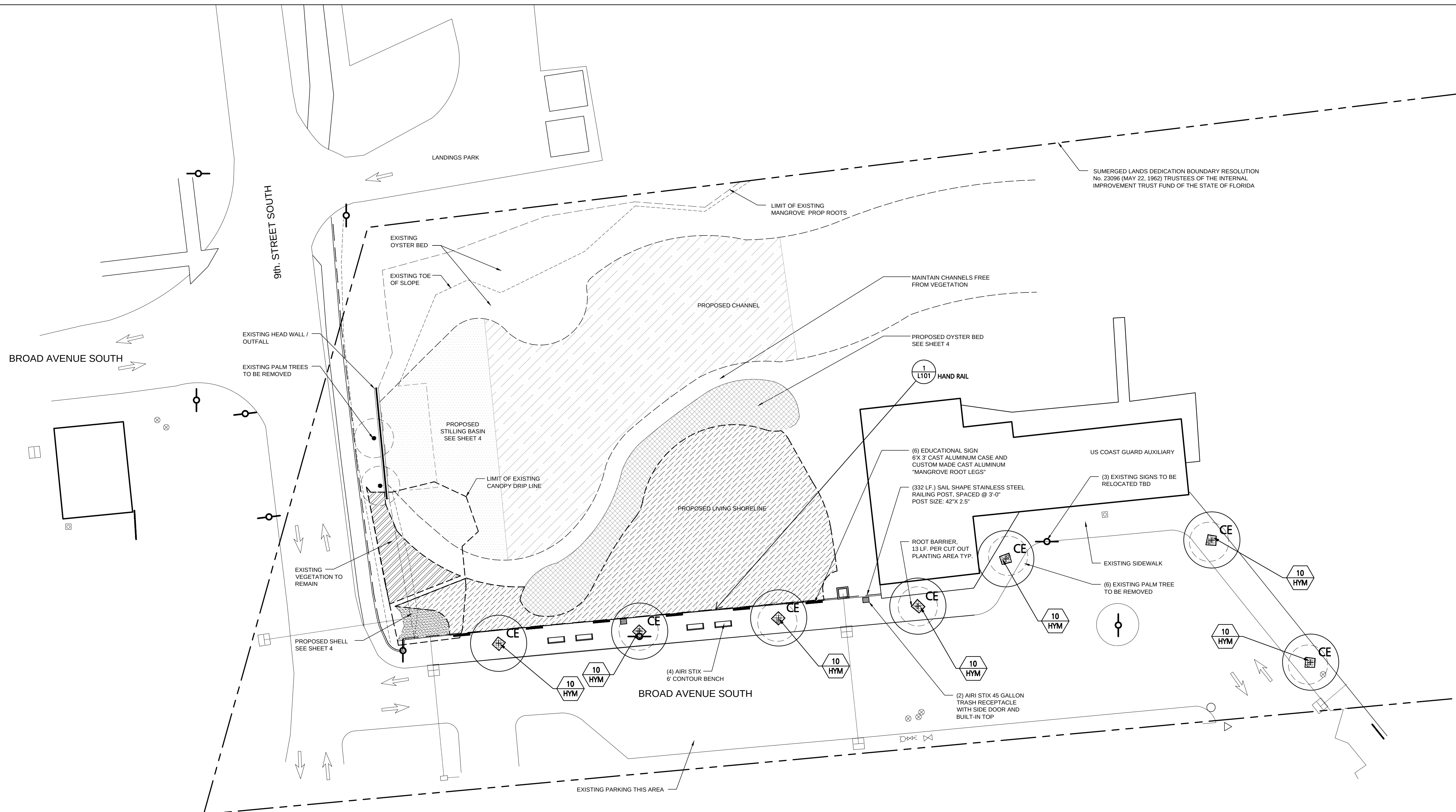
LANDSCAPE PLAN

Title

	1"=20'-0"	
Project No.	Scale	
177310582	LP 101	1
Project Phase	Sheet	Drawing No.

60% SUBMITTAL

9 of 10



STAINLESS STEEL HAND RAIL

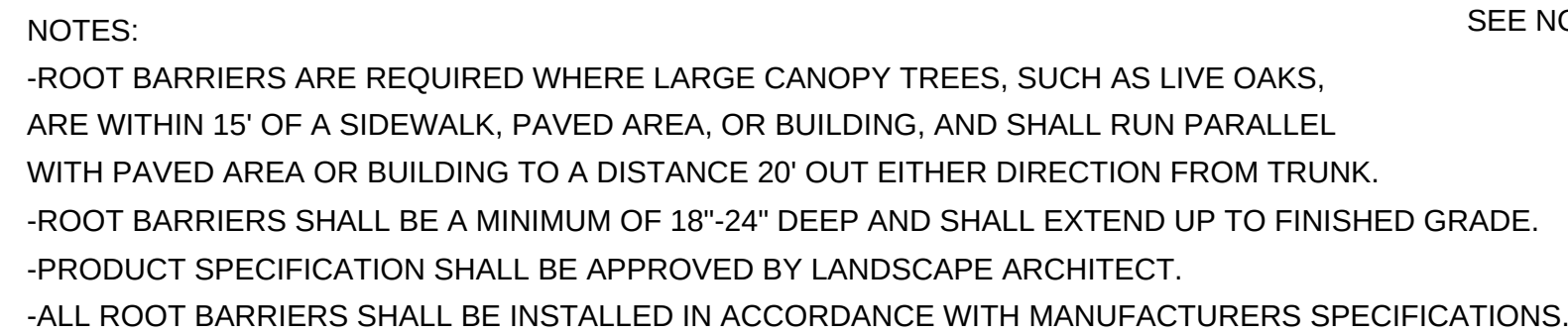
1

SCALE 1/2" = 1'-0"
FILE NAME (DT-HAND RAIL)

PLANT LEGEND					
TREES / PALMS					
QTY.	NATIVE	SYM.	BOTANICAL NAME	COMMON NAME	SPECIFICATION
7	Y	CE	Conocarpus erectus	Green Buttonwood	45 Gal., 12'-14' ht. / 2" cal./ 4' spr. Minimum
SHRUBS / GROUNDCOVERS					
QTY.	NATIVE	SYM.	BOTANICAL NAME	COMMON NAME	SPECIFICATION
70	Y	HYM	Hymenocallis latifolia	Florida Spider Lily	1 Gal., Full, 15" O.C.
Misc					
QTY.	NATIVE	SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATION
		MULCH	Shredded Eucalyptus/ Melaleuca blend or Pine Straw		

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2016/09/23 1:16 PM By: Delcompare, Giovanni

ORIGINAL SHEET - ANSI



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	FILE NAME: DT-LargeTree.dwg

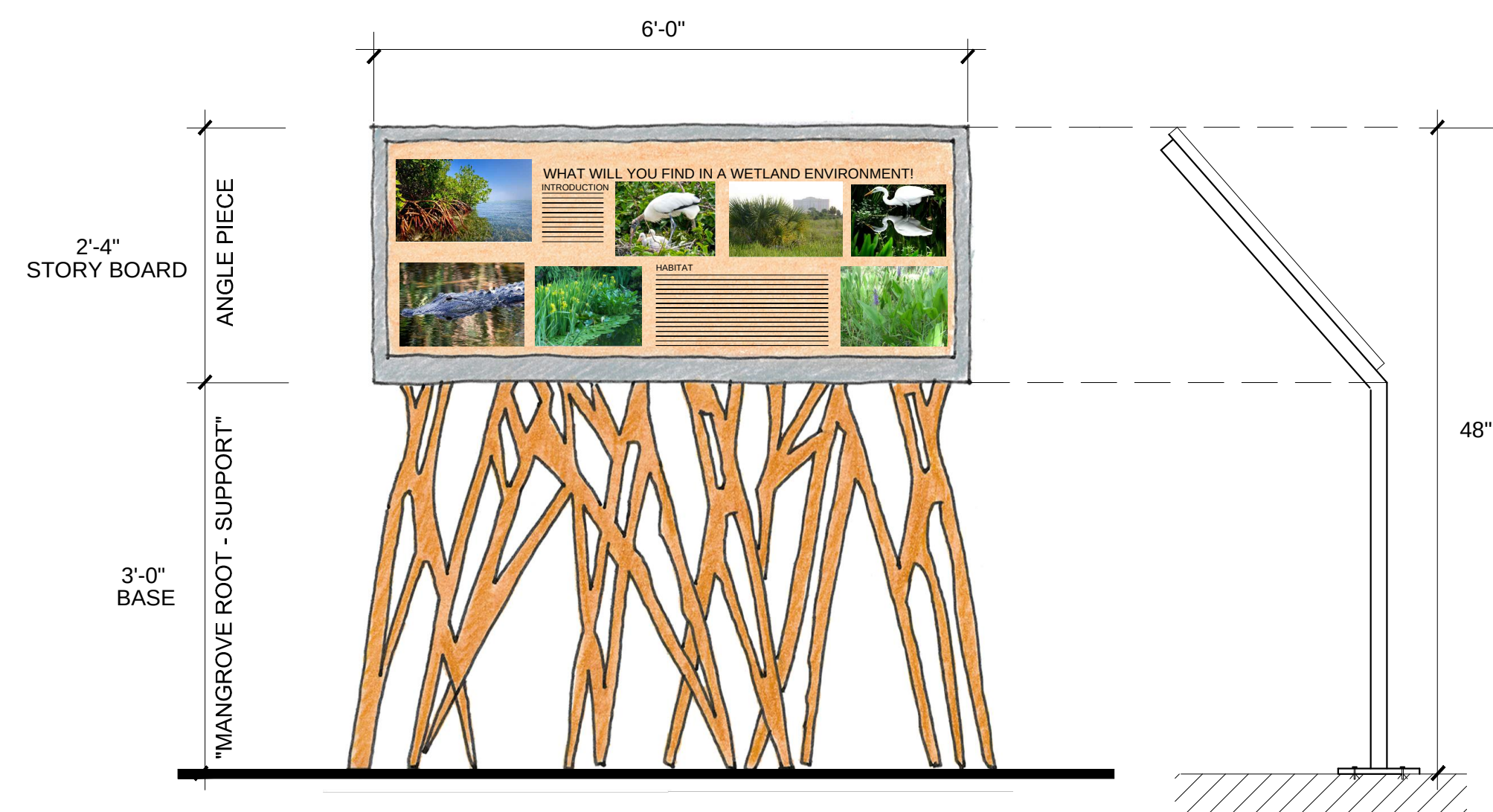


3	SCALE: NTS
	DT-RootBarrier.dwg

- NOTES:
1. A SOLID 24" DEPTH ROOT BARRIER SHALL BE EMPLOYED WITHIN A 20.0' RADIUS OF A TREE WHEN TREES ARE WITHIN 10.0' OF ADJACENT HARDCAPE SURFACES OR EQUAL AND SHALL RUN PARALLEL WITH PAVED AREA OR BUILDING TO A DISTANCE 20.0' OUT EITHER DIRECTION FROM TRUNK. SEE PLANTING PLANS FOR LOCATIONS.
 2. NO TREES ARE TO BE PLANTED WITHIN 5.0' OF EXISTING OR PROPOSED UNDERGROUND UTILITIES.
 3. USE ROOT BARRIER WHEN TREES ARE WITHIN 10.0' OF UNDERGROUND UTILITIES. ROOT BARRIER TO BE NO CLOSER THAN 5.0' TO UNDERGROUND UTILITY PIPES.
 4. ROOT BARRIERS SHALL SHALL EXTEND UP TO FINISHED GRADE WHERE APPLICABLE.
 5. PRODUCT SUBMITTAL SHALL BE APPROVED LANDSCAPE ARCHITECT.
 6. ALL ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDED SPECIFICATIONS.

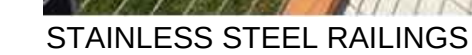
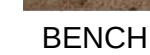
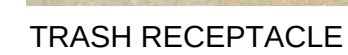


2	SCALE: NTS
	FILE NAME: DT-ShrubGro



Educational Sign

4



Proposed Furnishings

5

Revision _____
By _____ Appd. _____ YY-MM-DD _____

File Name:- 10582_fblock.dwg
AS _____ RQS _____ SEPTEMBER 2016

Dwn.
Chkd.
Disgn.
YY-MM-DD

R. QUINCE SELLERS, P.E.	49374
Engineer	Reg No.

Client/Project
CITY OF NAPLES

WATER QUALITY IMPROVEMENTS AT THE COVE OUTFALL

LANDSCAPE DETAILS

	NTS	
Project No.	Scale	
177310582	LP 102	2
Project Phase	Sheet	Drawing No.

60% SUBMITTAL

10 of 10

APPENDIX F – POLLUTION CONTROL STRUCTURE AT CAMBIER PARK (60% SUBMITTAL)

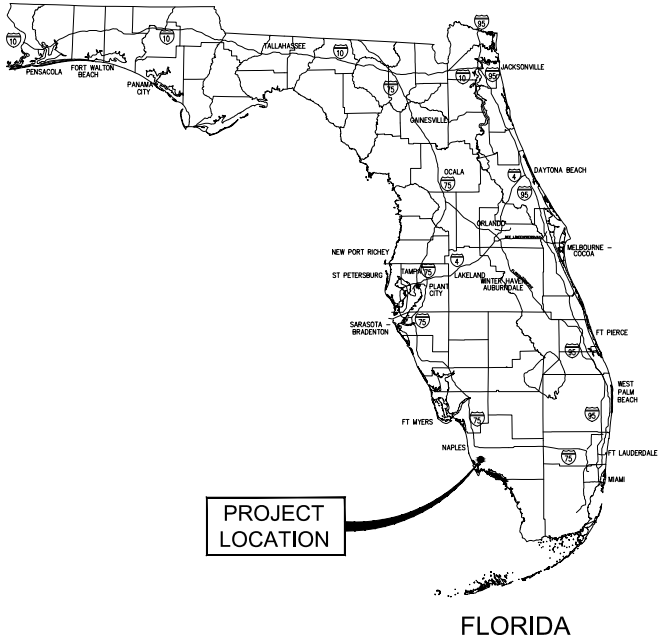
CITY OF NAPLES, FLORIDA

NAPLES BAY RESTORATION & WATER QUALITY IMPROVEMENTS AT THE COVE

CONSTRUCTION PLANS FOR

POLLUTION CONTROL STRUCTURE AT CAMBIER PARK

INDEX OF SHEETS		
DRAWING NUMBER	SHEET TITLE	SHEET DESCRIPTION
General		
1	G-001	COVER SHEET AND INDEX OF SHEETS
2	G-002	GENERAL NOTES
3	G-003	LOCATION MAP & LEGEND
Civil		
4	C-101	EXISTING SITE PLAN
5	C-102	PROPOSED IMPROVEMENT PLAN
6	C-103	PROPOSED IMPROVEMENT PROFILE
7	C-501	DETAILS
8	C-502	BEST MANAGEMENT PRACTICES



LOCATION MAP

GOVERNING SPECIFICATIONS:

THE PROJECT DEVELOPMENT CODE;
CITY OF NAPLES;
COLLIER COUNTY;
FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT);
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP);
SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD);
UNITED STATES ARMY CORPS OF ENGINEERS (USACE);
IN THE EVENT OF A CONFLICT, THE MOST RESTRICTIVE APPLIES.

MAYOR
BILL BARNETT

VICE MAYOR
LINDA PENNIMAN

CITY COUNCIL
REG BUXTON
DOUG FINLAY
MICHELLE MCLEOD
SAM SAAD III
ELLEN SEIGEL

STREETS AND STORMWATER DIRECTOR
GREGG STRAKAULUSE, P.E.

PLANS PREPARED FOR:



City of Naples Streets and Stormwater Department
295 Riverside Circle, Naples, FL 34102
Tel. (239) 213-5016 Fax. (239) 213-5010 www.naplesgov.com

PLANS PREPARED BY:



Stantec Consulting Services Inc.
5801 Pelican Bay Boulevard, Suite 300
Naples, FL U.S.A.
34108
Tel. 239.649.4040
www.stantec.com
Florida Certification No. 27013



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SUNSHINE STATE ONE CALL OF
FLORIDA, INC.

60% SUBMITTAL

ATTENTION IS DIRECTED TO THE FACT THAT
THESE PLANS MAY HAVE BEEN REDUCED IN
SIZE BY REPRODUCTION. THIS MUST BE
CONSIDERED WHEN OBTAINING SCALED DATA.

STANTEC PROJECT NO. 177310582
SEPTEMBER 2016

CIVIL & MECHANICAL
ENGINEER OF RECORD:
KELLY BLAKE, P.E.

KELLY BLAKE, P.E. P.E. NO.: 69876
DATE

GENERAL NOTES:

1. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY THE CITY/COUNTY. WHERE CONFLICTS OR OMISSIONS EXIST, THE CITY OF NAPLES STANDARDS SHALL DICTATE. SUBSTITUTIONS AND DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE CITY OF NAPLES.
2. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING TO BE HELD BETWEEN THE CITY OF NAPLES, STREETS AND STORM WATER DEPARTMENT, UTILITIES DEPARTMENT, PARKS DEPARTMENT, ENGINEER OF RECORD, CONTRACTOR, AND OTHER INTERESTED PARTIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 01600 MATERIAL AND EQUIPMENT.
4. ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY ENGINEER PRIOR TO CONSTRUCTION. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS 01600 MATERIAL AND EQUIPMENT.
5. CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES (SUNSHINE STATE ONE CALL, 1-800-432-4770) FOR UTILITY LOCATES AT LEAST 48 HOURS (2 BUSINESS DAYS) PRIOR TO CONSTRUCTION OPERATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGH THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
7. ALL ELEVATIONS ARE BASED UPON MEAN SEA LEVEL, 1988 NAVD.
8. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN HAND BEFORE BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE SHALL BE FULLY BORNE BY THE CONTRACTOR..
9. THE CONTRACTOR SHALL SUBMIT ROW PERMIT APPLICATION THROUGH CITY OF NAPLES STREETS AND TRAFFIC DIVISION SHOWING MAINTENANCE OF TRAFFIC AND ANY ROAD OR LANE CLOSURES.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, SIDEWALKS, SIGNS, STORM CULVERTS, FENCES AND LANDSCAPING AS REQUIRED BY OWNER, ENGINEER OF RECORD, AND/OR OTHER GOVERNING ENTITIES.
11. ALL DISTURBED AREAS SHALL BE RESTORED, INCLUDING REGRADING, TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR REGRADING AND REPLANTING VEGETATION IN ALL AREAS DISTURBED BY THE CONSTRUCTION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL CLEARED VEGETATION WITHIN FIVE (5) DAYS OF CLEARING AND GRUBBING WORK. SITE SHALL BE CLEANED PRIOR TO WEEKENDS.
14. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES. THESE MEASURES SHALL CONFORM TO THE PLANS AND SPECIFICATIONS AND ALL STATE AND LOCAL REQUIREMENTS.
15. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE BIDDING OR COMMENCING WORK.
16. NO FIELD CHANGES OR DEVIATION FROM DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE CITY OF NAPLES.
17. THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE CITY OF NAPLES, AS REQUIRED, A MINIMUM OF 48 HOURS IN ADVANCE AND NOTIFY ENGINEER 48 HOURS IN ADVANCE.
18. NO CONNECTION TO, OR ANY OTHER CONSTRUCTION SHALL BE PERFORMED ON AN EXISTING UTILITY MAIN OR STRUCTURE WITHOUT THE PRESENCE OF A CITY OF NAPLES UTILITY INSPECTOR.
19. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF RECORD DRAWINGS TO THE ENGINEER OF RECORD WITHIN TWO (2) WEEKS AFTER CONSTRUCTION HAS BEEN COMPLETED ON EACH PHASE.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY TESTING TO ASSURE THAT THE PROPER COMPACTION HAS BEEN ACHIEVED ON THE SUBGRADE, BASE AND ALL OTHER PERTINENT AREAS THAT HAVE BEEN COMPLETED. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH TESTING AND RETESTING OF THE AREAS AND SHALL PROVIDE THE OWNER AND THE ENGINEER WITH COPIES OF CERTIFICATION OF COMPACTION FROM THE TESTING COMPANY.
21. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXISTING SITE CONDITIONS OF SOIL PRIOR TO N.T.P. CONSTRUCTION TO DETERMINE IF ANY OFF SITE MATERIALS WILL NEED TO BE IMPORTED TO ACHIEVE THE GRADES SPECIFIED ON THE PLANS.
22. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A REGISTERED FLORIDA PROFESSIONAL LAND SURVEYOR FOR LAYOUT OF ALL WORK AND RESTORING THE MONUMENTS AND PROPERTY CORNERS DISTURBED DURING CONSTRUCTION. PROOF OF REGISTRATION SHALL BE SUBMITTED TO THE ENGINEER.
23. ALL SHEETING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WHO SHALL SUBMIT COMPLETE DESIGN CALCULATIONS AND WORKING DRAWINGS OF PROPOSED SHORING, SHEETING AND BRACING WHICH HAS BEEN PREPARED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.

DEMOLITION:

1. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND LICENSES FOR PERFORMING THE DEMOLITION WORK AND SHALL FURNISH A COPY OF SAME TO THE ENGINEER PRIOR TO COMMENCING THE WORK. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES OR LOCAL AUTHORITIES FURNISHING GAS, WATER, ELECTRICAL, TELEPHONE, OR SEWER SERVICE SO THEY CAN REMOVE, RELOCATE, DISCONNECT, CAP OR PLUG THEIR EQUIPMENT IN ORDER TO FACILITATE DEMOLITION.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL TREES, STRUCTURES, AND UTILITIES NOT MARKED FOR REMOVAL OR DEMOLITION AND SHALL PROMPTLY REPAIR ANY DAMAGE AS DIRECTED BY THE ENGINEER AT NO COST TO THE CITY OF NAPLES.
4. THE CONTRACTOR SHALL REMOVE PAVING MARKED FOR DEMOLITION WHICH INCLUDES ALL ASPHALT, CONCRETE, BASE AND RETAINING WALLS (INCLUDING FOOTERS).
5. THE CONTRACTOR SHALL REMOVE TREES MARKED FOR REMOVAL WHICH INCLUDES THE ROOTS ASSOCIATED WITH THE TREES. TREES NOT MARKED FOR REMOVAL SHALL BE PROTECTED IN ACCORDANCE WITH THE CITY/COUNTY REGULATIONS.
6. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL SIGNS, MAILBOXES, FENCING, DRAINAGE STRUCTURES, ETC AS REQUIRED TO COMPLETE THIS PROJECT. ALL SUCH RESTORATION SHALL BE COMPLETED IMMEDIATELY FOLLOWING PIPE INSTALLATION AND BACK FILL AND SHALL BE INCLUDED IN CONTRACTOR'S PRICE FOR PROJECT.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ALL REMOVED/DEMOLISHED PIPE, STRUCTURES, EQUIPMENT AND APPURTENANCES.

DRAINAGE NOTES:

1. THE STORM DRAINAGE PIPING SHALL BE SUBJECTED TO A VISUAL INSPECTION BY THE CITY AND ENGINEER PRIOR TO PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION.
2. THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE INSPECTED BY CITY AND ENGINEER PRIOR TO FINAL ACCEPTANCE.
3. DRAINAGE PIPES TO BE ABANDONED SHALL BE PLUGGED WITH BRICK AND MORTAR AT BOTH ENDS AND FILLED WITH GROUT.

UTILITY NOTES:

1. ALL UTILITY, PIPE AND STRUCTURAL BEDDING AND BACKFILL SHALL CONFORM TO SPECIFICATION SECTION 02223.
2. SUBSURFACE SOIL EXPLORATION ANALYSIS AND RECOMMENDATION FOR PROPOSED POLLUTION CONTROL STRUCTURE PREPARED BY YPC CONSULTING (JULY 7TH, 2016) AND PROVIDED IN APPENDIX A OF TECHNICAL SPECIFICATIONS.

TEMPORARY EROSION AND SEDIMENT CONTROL:

1. CONTRACTOR SHALL INSTALL PRIOR TO AND MAINTAIN DURING CONSTRUCTION ALL SEDIMENT CONTROL MEASURES AS SHOWN ON PLANS.
2. EROSION CONTROL MEASURES WILL BE INSPECTED BY CONTRACTOR AT LEAST DAILY, AFTER REACH RAIN EVENT AND REPAIRED BY THE GENERAL CONTRACTOR IF DAMAGED. CLEAN OUT OF SEDIMENT CONTROL STRUCTURES WILL BE PERFORMED BY THE CONTRACTOR WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF (1/2) FULL FOR SILT FENCE, TURBIDITY BARRIERS, AND INLET SEDIMENT TRAPS.
3. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING SEDIMENT AND EROSION CONTROL MEASURES TO PROVIDE OPTIMUM SEDIMENT AND EROSION CONTROL. SEDIMENT AND EROSION CONTROL MEASURES SHALL COMPLY WITH CHAPTER 6 OF THE FLORIDA DEVELOPMENT MANUAL.
4. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION OF CITY OF NAPLES DESIGNATED REPRESENTATIVE.
5. THE CONTRACTOR SHALL PROTECT ALL EXISTING DITCHES, WETLAND VEGETATION, STORM DRAIN PIPE, AND INLETS IN THE VICINITY OF WORK TO BE PERFORMED, FROM DAMAGE OR SILTATION, WHETHER OR NOT SPECIFICALLY IDENTIFIED IN THE PLANS.
6. EROSION CONTROL MEASURES DESCRIBED SHALL BE MAINTAINED UNTIL PERMANENT DRAINAGE FACILITIES HAVE BEEN RECONSTRUCTED AND VEGETATION ON PLANTED SLOPES IS SUFFICIENTLY ESTABLISHED TO BE AN EFFECTIVE EROSION DETERRENT.
7. CONSTRUCTION EXISTS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD INTO PUBLIC STREETS. IF TRACKING OR FLOW OF MUD OCCURS, CONTRACTOR SHALL CONSTRUCT A SOIL TRACKING PREVENTION DEVICE IN ACCORDANCE WITH FDOT DESIGN STANDARDS 2010, INDEX NO. 106.
8. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON ESTABLISHMENT OF PERMANENT VEGETATION OR PROJECT COMPLETION, AS DIRECTED BY THE CITY'S REPRESENTATIVE.
9. SILT FENCE AND TURBIDITY BARRIERS SHALL MEET THE REQUIREMENTS OF FDOT DESIGN STANDARDS 2010, INDEX NO. 102 AND 103.
10. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTROL OF EROSION WITHIN THE WORK SITE AND PREVENTION OF SEDIMENTATION OF ANY ADJACENT OR DOWNSTREAM WATERWAYS. THE EROSION AND SEDIMENTATION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. THE CONTRACTORS' METHODS OF OPERATION MAY DICTATE ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND INSTALLING ADDITIONAL MEASURES.
11. ANY EXPOSED DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 20 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.



Stantec
5801 Pelican Bay Boulevard Suite 300
Naples, Florida 34108-2709
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CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

Notes

Revision	By	Appd.	YY.MM.DD
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File Name: 10582-G-002.dwg	SRP	KK8	LA	SEPTEMBER 2016
	Dwn.	Chkd.	Dsgn.	DATE

Permit-Seal

KELLY K. BLAKE, PE 69876
Engineer Reg No.

Client/Project
CITY OF NAPLES

POLLUTION CONTROL STRUCTURE
AT CAMBIER PARK

Title

GENERAL NOTES

Project No. 177310582	Scale
Project Phase	Sheet
	Drawing No.

NEW

DRAFTING LEGEND

SECTION LETTER
DRAWING NUMBER ON WHICH SECTION IS SHOWN.
A DASH(-) INDICATES THAT SECTION IS SHOWN ON THE SAME SHEET.

DETAIL NUMBER
DRAWING NUMBER ON WHICH DETAIL IS SHOWN.
A DASH(-) INDICATES THAT DETAIL IS SHOWN ON THE SAME SHEET.

SECTION LETTER → A → TITLE SCALE

DETAIL NUMBER → 3 → TITLE SCALE

EL. 47.0  WATER SURFACE ELEVATION

 (X) EQUIPMENT TAG

Revision	By	Appd.	YY.MM.DD
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File Name: 10582-G-002.dwg	SRP	XXX	XXX	SEPTEMBER 2016
	Dwn.	Chkd.	Dsgn.	DATE

Permit-Seal

KELLY K. BLAKE, PE	69876
Engineer	Reg No.

Client/Project
CITY OF NAPLES

POLLUTION CONTROL STRUCTURE AT CAMBIER PARK

Title _____

LOCATION MAP & LEGEND

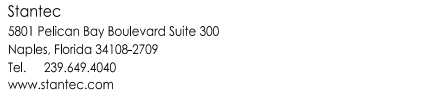
Project No.	Scale
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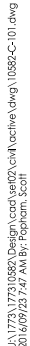
CITY OF NAPLES
STREETS AND STORMWATER DEPARTMENT
295 RIVERSIDE CIRCLE NAPLES, FLORIDA 34102
PHONE: 239-213-5000 FAX: 239-213-5010

KELLY K. BLAKE, PE	69876
Engineer	Reg No.

POLLUTION CONTROL STRUCTURE AT CAMBIER PARK

EXISTING SITE PLAN

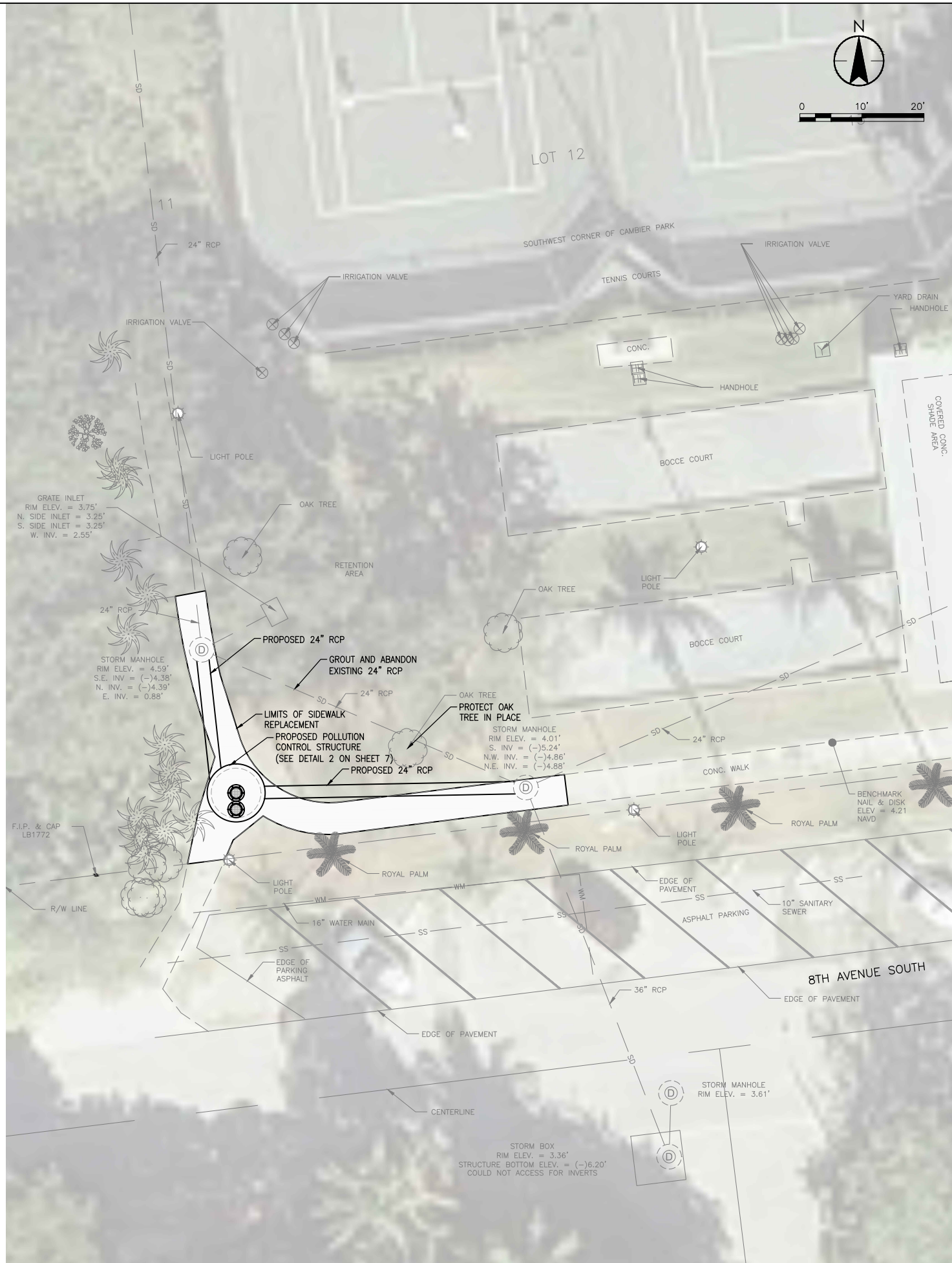
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ORIGINAL SHEET - ANSWERS

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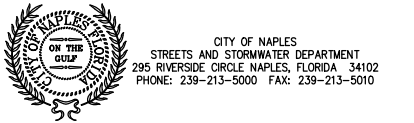


CAMBIER PARK
PROPOSED IMPROVEMENT PLAN



Stantec
5801 Pelican Bay Boulevard Suite 300
Naples, Florida 34108-2709
Tel. 239.649.4040
www.stantec.com

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- Notes
1. CONTRACTOR SHALL COORDINATE WITH FPL ON LIGHT POLE PROTECTION.
 2. ALL SHEETING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WHO SHALL SUBMIT COMPLETE DESIGN CALCULATIONS AND WORKING DRAWINGS OF PROPOSED SHORING, SHEETING AND BRACING WHICH HAS BEEN PREPARED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.

Revision	By	Appd.	YY.MM.DD
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File Name: 10582-C-102.dwg	SRP	KK8	LA	SEPTEMBER 2016
	Dwn.	Chkd.	Dsgn.	DATE

Permit-Seal

KELLY K. BLAKE, PE	69876
Engineer	Reg No.

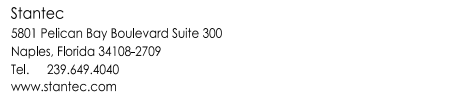
Client/Project
CITY OF NAPLES

POLLUTION CONTROL STRUCTURE
AT CAMBIER PARK

Title

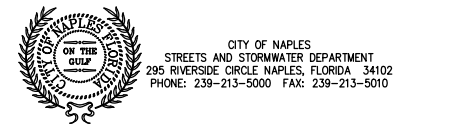
PROPOSED IMPROVEMENT PLAN

Project No. 177310582	Scale
Project Phase 60% SUBMITTAL	Sheet 5 of 8
	Drawing No. C-102



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[illegible]

File Name: 10582-C-103.dwg	SRP	XXX	XXX	SEPTEMBER 2016
	Dwn.	Chkd.	Dsgn.	DATE

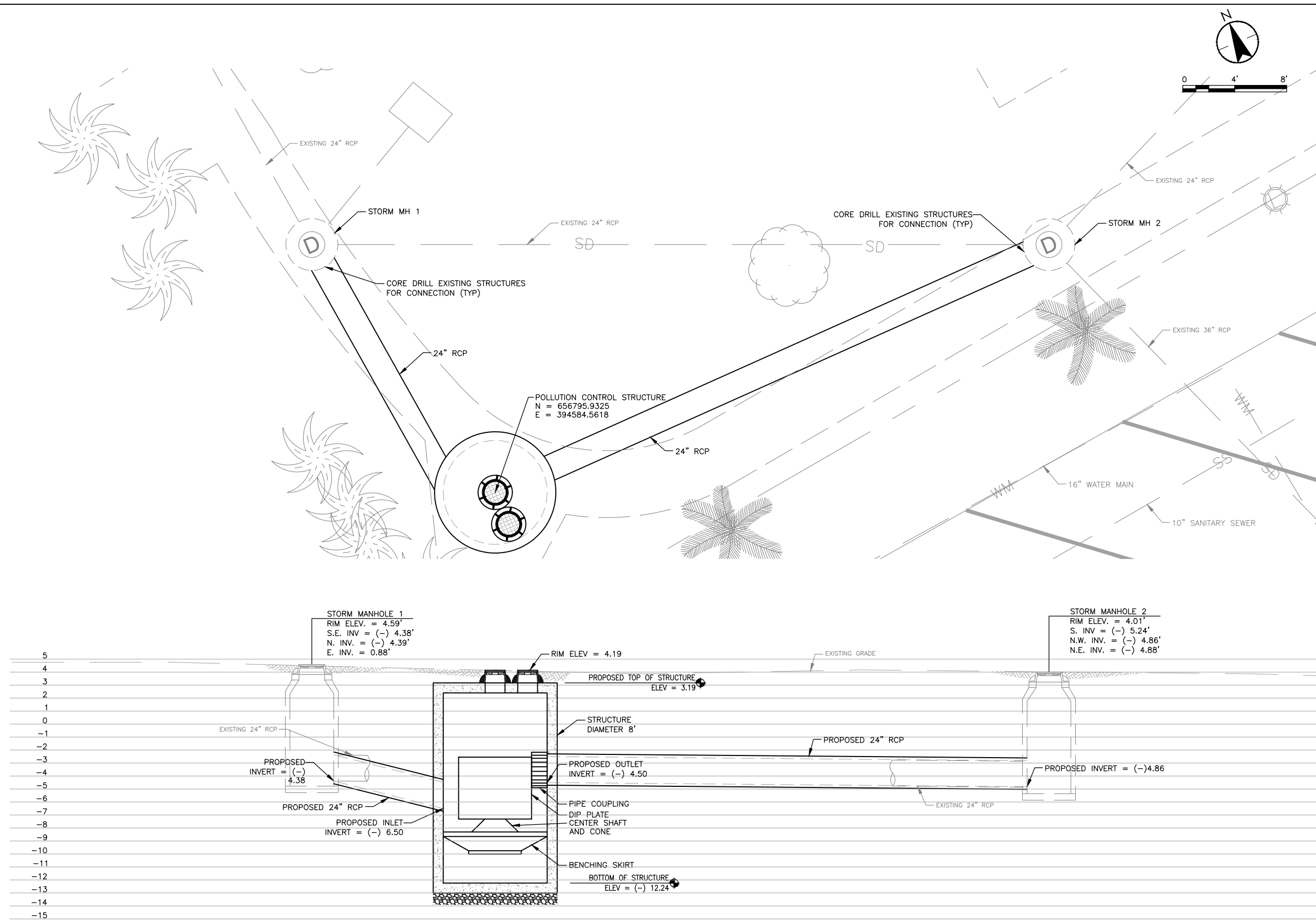
KELLY K. BLAKE, PE	69876
Engineer	Reg No.

POLLUTION CONTROL STRUCTURE AT CAMBIER PARK

PROPOSED IMPROVEMENT PROFILE

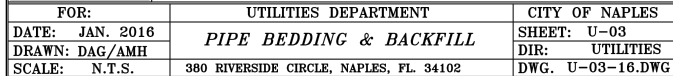
Project No. 177310582	Scale	
Project Phase	Sheet	Drawing No.

60% SUBMITTAL 6 of 8 C-103



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2016/09/23 9:19 AM By: Popham, Scott

ORIGINAL SHEET - ANSI D



3. INLET PIPE ENTERS UNIT TANGENT TO INSIDE OF DEFENDER MANHOLE. CUT PIPE OFF AT 30 DEGREE ANGLE. (SEE INSTALLATION INSTRUCTIONS.)
4. GROUT INLET AND OUTLET PIPES WITH NON-SHRINK GROUT TO ENSURE A WATERTIGHT CONNECTION.
5. BACKFILL STRUCTURES AND PIPES PER PROJECT SPECIFICATIONS.

[illegible]

File Name: 10582-C-501.dwg	SRP	KKB	LA	SEPTEMBER 20
	Dwn.	Chkd.	Dsgn.	DATE

Permit-Seal

KELLY K. BLAKE, PE	69876
Engineer	Reg No.

Client/Project
CITY OF NAPLES

POLLUTION CONTROL STRUCTURE AT CAMBIER PARK

Title

DETAILS

Project No. 177310582	Scale	
Project Phase	Sheet	Drawing No.

