



Project Charter

The project charter is a document that authorizes the manager to apply organizational resources to project activities and to proceed with finalizing the project scope and developing the project plan.

Program: CA07 - Capital Improvement

Project SAP PS ID 100306

Project ID (other) N/A

Project Title: C23 Bank Stabilization at G79 and G78

Project Manager: To Be Assigned by ERCP

Project Sponsor(s): Larry Carter

Mandate(s): SFWMD Strategic Plan 2009-2019

Level of Empowerment:

This Project Charter is a document that authorizes the project manager to apply organizational resources to project activities and to proceed with executing and controlling the project plan.

Approvals:



Larry Carter, Project Sponsor

11-17-09

Date

Jeff Kivett, Engineering Department Director

Date



Doug Bergstrom, Program Manager

Date
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Revision Sheet

<i>Release No.</i>	<i>Date</i>	<i>Revision Description</i>
<i>Rev. 0</i>	11/10/2009	Initial
<i>Rev. 1</i>		
<i>Rev. 2</i>		
<i>Rev. 3</i>		

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PROJECT TEAM

The project team is the list of team members directly supporting the project and may be responsible for developing the strategies to deliver the project such as developing the plan elements, including WBS, schedule, resource requirements, and skills. Identify the team below. The form may be modified to meet additional needs.

Name	Role	Responsibility
Lucine Dadrian	O&M Canals	O&M Canal Program Lead
To be assigned by ERCP	Project Manager	ERCP
To be assigned by ERCP	Project Design	ERCP
To be assigned by ERCP	Construction Manager	ERCP

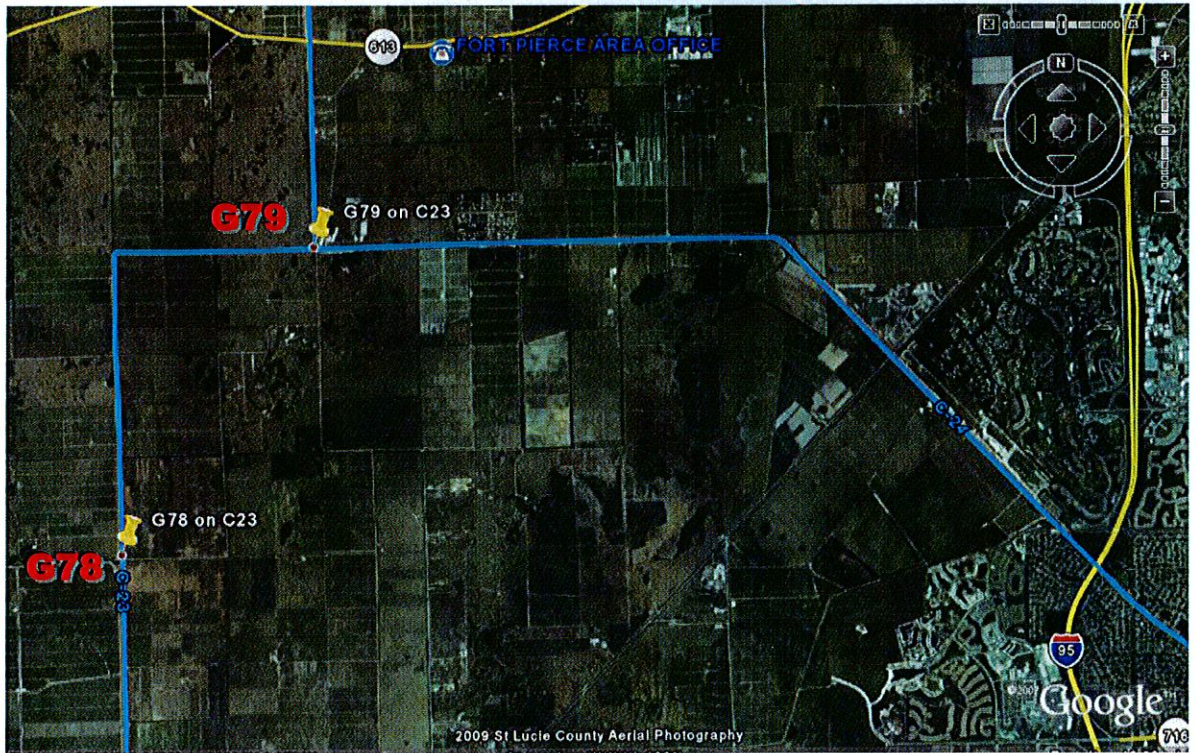
PROJECT MANAGEMENT OVERSIGHT TEAM

The oversight team provides guidance to the project manager. This team is responsible for approving policies, plans, standards, and procedures including quality assurance, risk management, and performance measurement plans. The oversight team approves changes, monitors performance and assists the project manager in resolving issues escalated by the project manager. If applicable, identify the name(s), role(s), and responsibilities of the Project Oversight Team. The form may be modified to meet additional needs.

Name	Role	Responsibility
Ralph Hayden	O&M Infrastructure Systems	Oversight of Project for O&M
John Mitnik	ERCP Engineering Project Management	Oversight of Project Manager
Greg Cantelo	ERCP Engineering & Technical Services	Oversight of Project Design
Michael Hiscock	ERCP Construction	Oversight of Project Construction

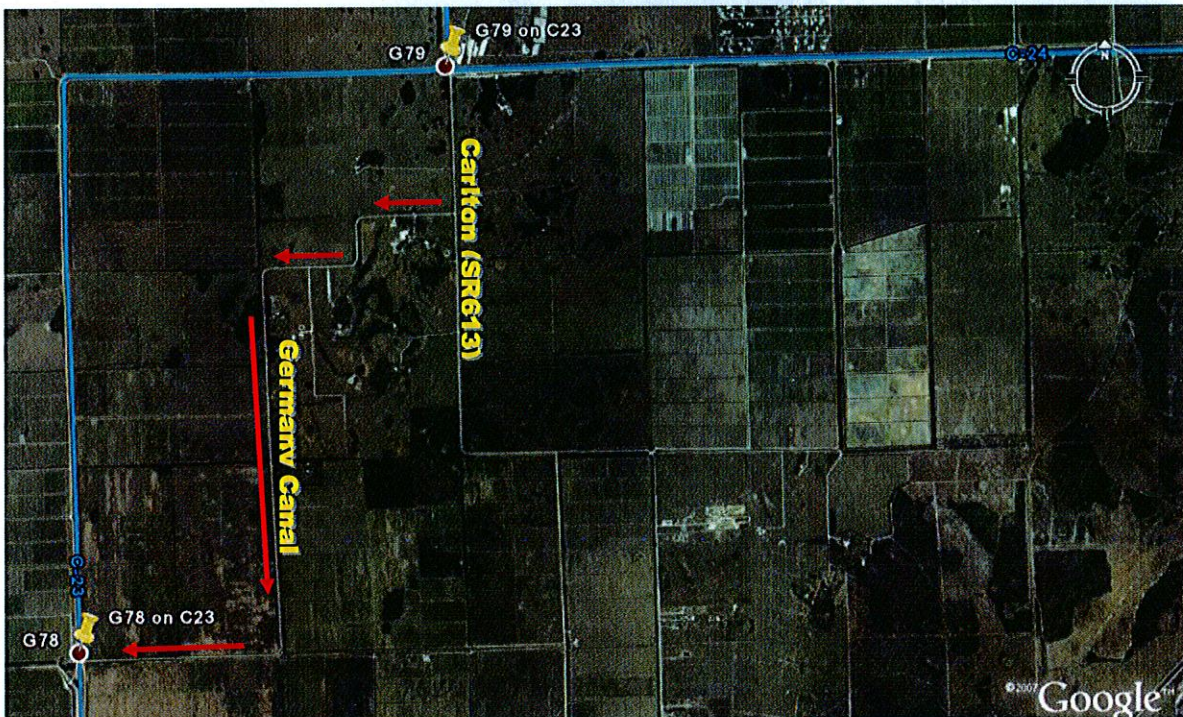
PROJECT LOCATION

The structures G79 and G78 are located on the C23 canal in St Lucie County. G79 is located at the junction of C23 and C24, about 15 miles southwest of Fort Pierce. G78 is located on C23 about 15 miles southwest of Fort Pierce.





To access the G79 structure, take I-95 North to SR712 (Midway), west on SR712 to SR70, west on SR70 (SR613) to Carlton (SR613), take Carlton south to C24, go over bridge and take right, and structure is on the right.



To access the G78 structure, take I-95 North to SR712 (Midway), west on SR712 to SR70, west on SR70 (SR613) to Carlton (SR613), take Carlton south past C24 to second right (Germany Canal), and take Germany Canal to structure.

PROJECT SCOPE, ESTIMATE, & BACKGROUND

Project Scope:

The project scope is to stabilize the canal banks of the C23 Canal inside the boat barriers upstream and downstream of structures G79 and G78. This scope includes:

Design Work: (2011)

1. G79 Design Work
 - Topographic survey
 - Bank stabilization design
 - Stabilize around PC31
 - Install catwalk to stilling well structure
2. G78 Design Work
 - Topographic survey
 - Bank stabilization design
3. Permitting - FDEP, USACE as required

Construction Work: (2012)

Design Assumptions:

For the canal bank stabilization, place geotextile fabric, bedding stone, riprap, sod, and berm drains in a similar approach as sections below (Figures 2–4). Top of rubble riprap shall extend to the top of bank per the Okeechobee Field Station for ease of maintenance. The bottom of the rubble riprap will extend to the bottom of the slope. Size rubble riprap for canal bank area, type C is a minimum preference for site conditions around structures.

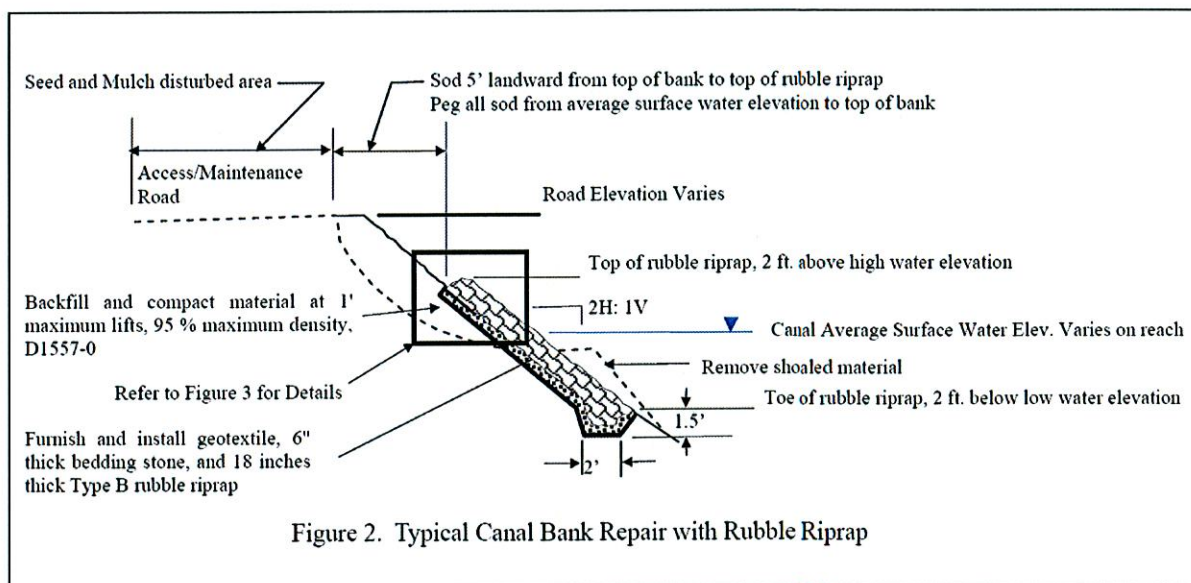
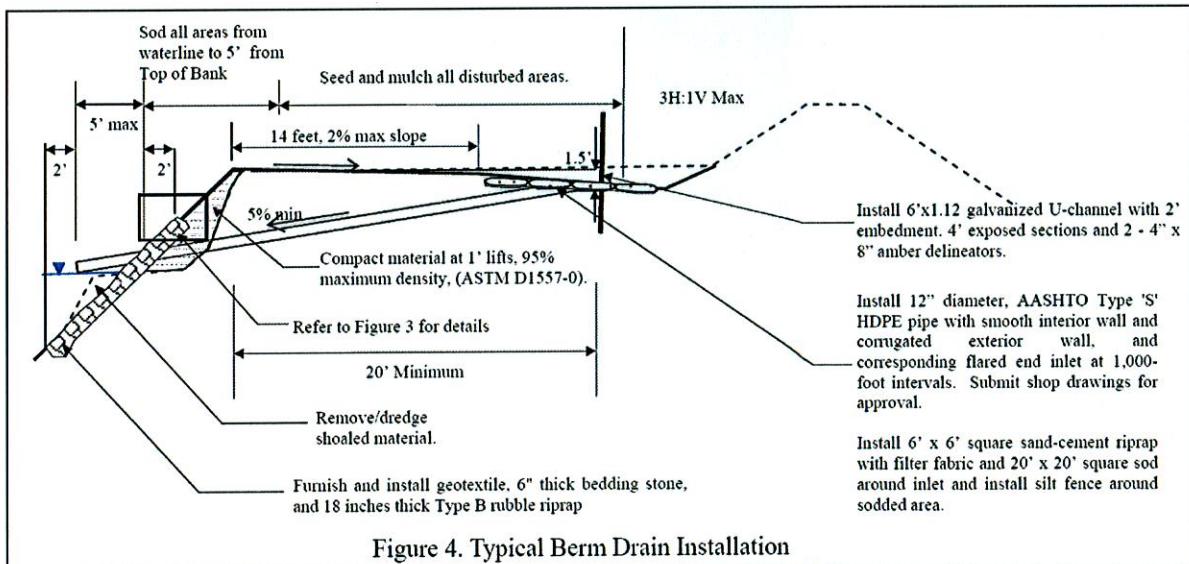
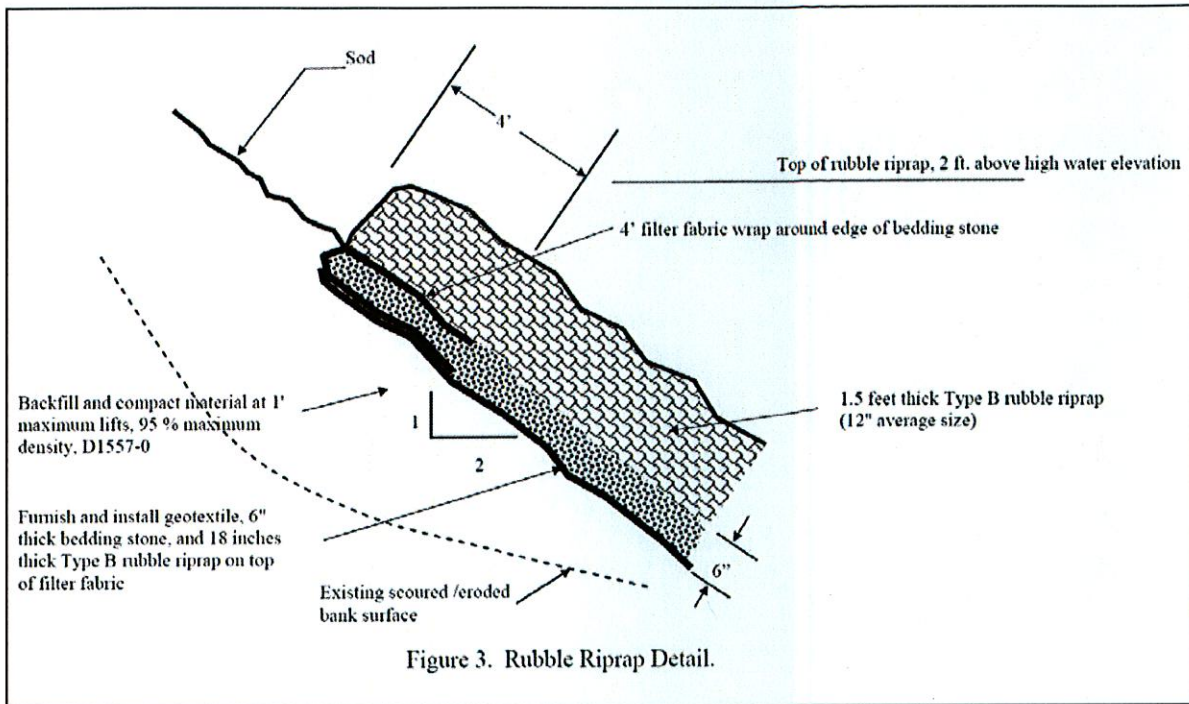


Figure 2. Typical Canal Bank Repair with Rubble Riprap





Bank Stabilization Lengths: (lengths and heights are for cost estimates: survey to verify)

Structure	Bank Stab Length Upstream (ft)	Height from Waterline to TOB Upstream (ft)	Bank Stab Length Downstream (ft)	Height from Waterline to TOB Downstream (ft)
G79 S	95	15	122	25
G79 N	95	15	0	-
G79 W	0	-	120	20
G79 E	0	-	93	25

WEED
BARRIER

SHEET
PILE BY FIELD
STATION

CHK UNDER ROAD
- NEEDS WORK
BY US?

JERRY
OK ES

See Typical Conditions for G79



Upstream – G79 Structure



Upstream – S Bank – Existing Riprap



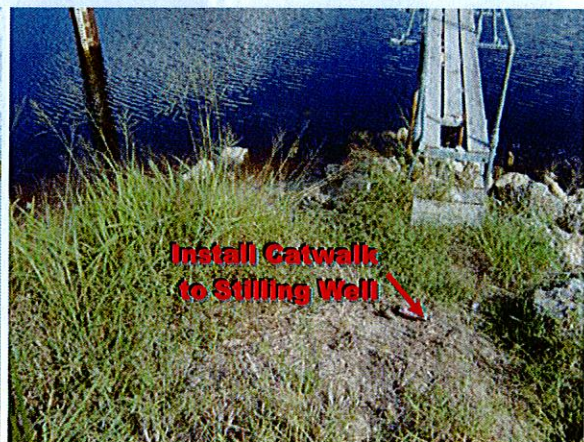
Upstream – Both Sides – Stabilize from End of Existing Riprap to west side of PC31



Downstream – S Bank - Existing Riprap – Stabilize from Riprap to Carlton Overpass



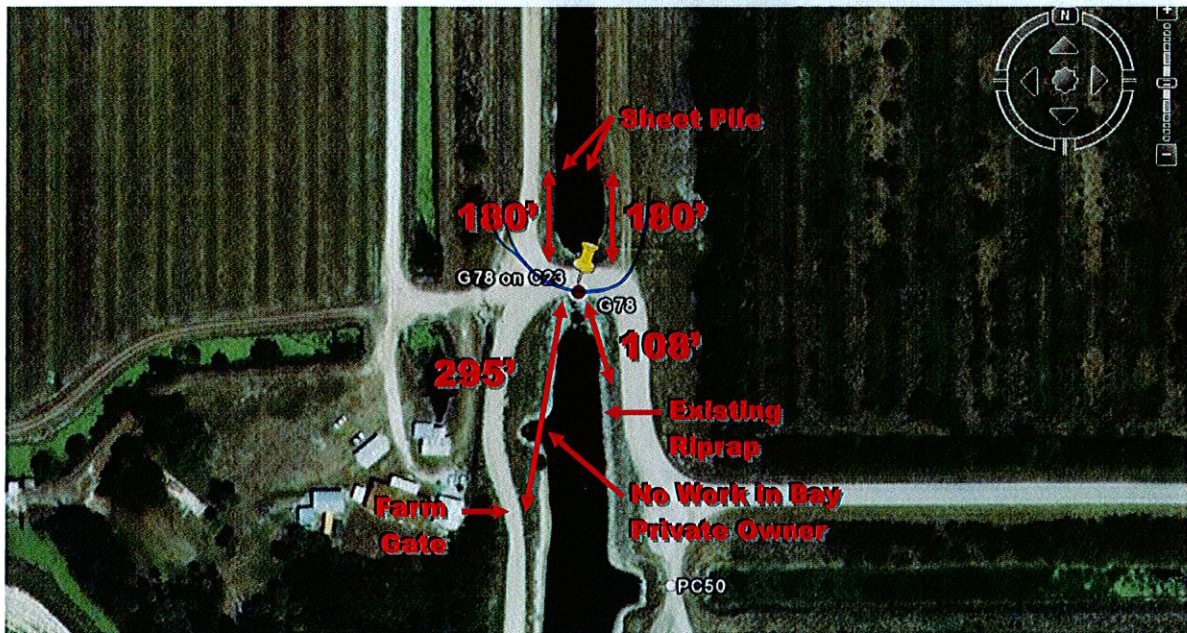
Downstream – E Bank — Stabilize from Carlton Overpass to Gate



Downstream – W Bank – Stabilize from G79 Headwall to Gate – Catwalk Install

G78 Plan View

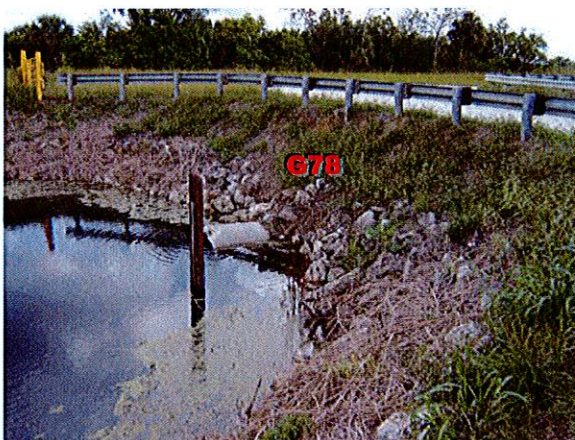
Keep Open



Bank Stabilization Lengths: (lengths and heights are for cost estimates: survey to verify)

Structure	Bank Stab Length Upstream (ft)	Height from Waterline to TOB Upstream (ft)	Bank Stab Length Downstream (ft)	Height from Waterline to TOB Downstream (ft)
G78 E	108	12	180	12
G78 W	295	12	180	12

See Typical Conditions for G78



Downstream – Culvert Pipe



W Bank – Stabilize: Culvert to Sheet Pile



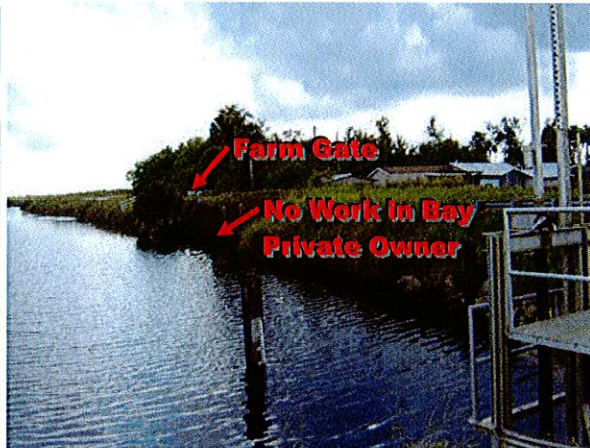
Downstream – E Bank



Downstream – Both Banks



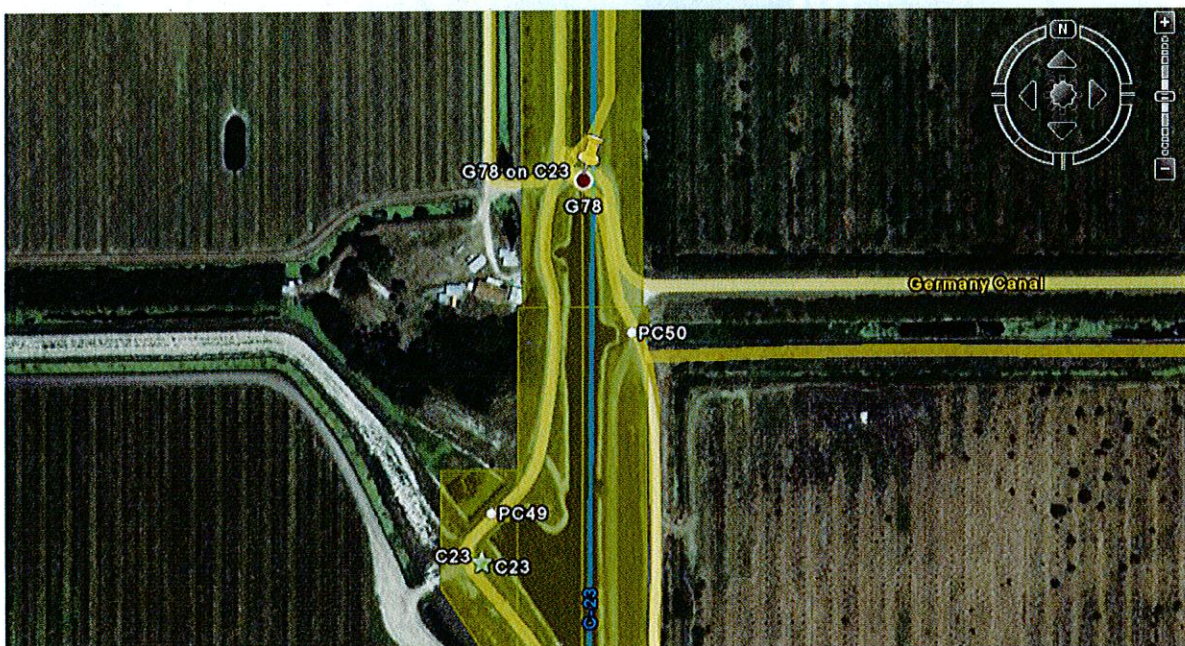
Upstream – E Bank - G78 Structure – PC50 – Stabilize to Existing Riprap



Upstream – W Bank – Stabilize to Farm Gate – No Work Inside Bay

Right of Way:

The District has multiple right of way uses (fee simple and permanent easement) along the entire canal. Right of way is sufficient to complete bank stabilization upstream and downstream of both structures. Light green denotes fee simple and dark green denotes permanent easement. See Google maps below.



Estimated Quantities & Costs per Final Design:

The tables below include costs for construction only. The quantities are an estimate and a design should be completed to determine actual quantities and cost. The estimated costs assume all work to be completed from land.

Construction Costs:

G79 Bank Stabilization				
Narrative	Unit	Quantity	Unit Price	Cost
Slope Vegetation Removal includes removal from site (Low Density)	SY	1,764	0.48	\$847
Regrade Slope (1V:2H)	SY	1,764	0.82	\$1,446
Geotextile	SY	1,764	3.15	\$5,556
Bedding Stone 6" & Riprap 2' (Type C Min)	CY	1,470	62	\$91,134
Sodding	SY	875	3.12	\$2,730
Install Catwalk to Stillwell (grating system)	SF	45	144	\$6,480
Catwalk Handrail (both sides)	LF	30	26	\$780
Total Direct Construction Cost:				\$108,974

G78 Bank Stabilization				
Narrative	Unit	Quantity	Unit Price	Cost
Slope Vegetation Removal includes removal from site (Low Density)	SY	1,865	0.48	\$895
Regrade Slope (1V:2H)	SY	1,865	0.82	\$1,529
Geotextile	SY	1,865	3.15	\$5,875
Bedding Stone 6" & Riprap 2' (Type C Min)	CY	1,554	62	\$96,364
Sodding (Repair Construction Zone)	SY	1,272	3.12	\$3,968
Total Direct Construction Cost:				\$108,631

Background:

G79 structure is a triple barreled corrugated metal pipe culvert. Control is affected by gates mounted on a riser pipe on the west (C23) end of the culverts. The new structure was completed in June 1999 to replace an existing structure at this location.

This structure acts as a drainage structure for C23 between G78 and G79, and it permits flow to be transferred from C23 to C24 as required. This structure is used to control stage in C23 and adds flexibility to the system by allowing transfers of water from C-23 to C-24 when the western portion of the former basin is well in excess of optimum and the C-24 basin has capacity to spare. It is also used during dry periods when the C-23 basin has ample water and the C-24 and/or C-25 basins are deficient.

Flood Condition, normally May 15 to October 15: Set the top of the upper gate at elevation 19.5, or other position as needed. Low-Water Condition, normally October 15 to May 15: Set the top of the upper gate at elevation 22.0, or other position as needed.

G78 structure is a single-barreled, corrugated metal pipe culvert located at C23. Originally, control was affected by flashboards mounted on a riser pipe at the south end of the culvert. In 1998, the District replaced flashboards with the two upper and two lower gates.

This structure acts as a drainage divide structure of C23 between the north and south sides of the structure. This structure is normally closed, but it adds flexibility to the system by allowing transfer of water from C23 to C24 when the western portion of the C23 basin is well in excess of optimum and the C24 basin has capacity to spare. It is also used during dry periods when the C23 basin has ample water and the C24 and/or C25 basins are deficient. This structure is designed to pass flood flows only if canal capacity is available.

References:

- Right of Way Maps
- SFWMD – Structure Files

PROJECT GOALS/OBJECTIVES

The project objective is to stabilize the canal banks to prevent further erosion and siltation.

PROJECT JUSTIFICATION

To support the continued operation of the Central and South Florida Flood Control System, the C23 Canal – G79 and G78 Bank Stabilization project will help maintain the canal system and provide a means of prevention for future erosion.

PROJECT DELIVERABLES & SCHEDULE

Deliverable	Schedule
Survey, Geotechnical, and Design	Complete by: September 30, 2011
Permitting	Complete by: September 30, 2011
Notice to Proceed	Start by: January 30, 2012
Construction	Complete by: May 30, 2012

PRELIMINARY METHODOLOGY

The Everglades Restoration Resource Area shall provide Project Management, Design, and Construction Services to implement the project. The Project Manager will use SAP Project System to set up the schedule for these efforts. The O&M Canals Program Lead, Lucine Dadrian will be included in all phases of the project.

BUSINESS AREA INVOLVED

1. ERCP Staff – ERCP will execute the project management, engineering, and construction services to implement the project.
2. O&M Staff - The program manager and project manager will be part of the project team and provide oversight and coordination with Operations and Field Stations Staff.

FUNDING/COSTS/RESOURCES

Select one: This project is budgeted. ☒ This project is not budgeted. ☐

FY11

(1) Survey/Geotechnical/Permitting:	\$ 10,880
(2) Design (Internal):	\$ 26,113

FY12

(3) Construction:	\$ 217,605
(4) Construction Management/EDC:	\$ 21,760
(5) Contingency Cost:	\$ 21,760

TOTAL:	\$ 298,119
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		FArea	Fund	Cost center	B/L	Amount
Funding:	FY11:	CA07	402000	5613222000	-	\$ 36,993
	FY12:	CA07	402000	5613222000	-	\$261,126

ASSUMPTIONS

1. The scope, as identified in this document, will not be modified unless the modifications are approved by the Sponsors and Management Oversight Committee.
2. The resources identified above as project team members will be made available at the time they are needed to execute their tasks.
3. The project will be fully funded through its duration
4. Cost estimates are based on conceptual information. Designer to refine cost estimates through field investigations and design phases.
5. The construction will be performed from land using District right of way.

CONSTRAINTS

1. Operational needs of the canal for water supply and flood protection shall be taken into consideration during construction.
2. Construction shall be completed during the dry season during times of low flow due to turbidity issues. If changes to the constraints are required, coordinate with Operations staff and advise team of the changes.
3. Coordinate with SFWMD Operations for intended releases from structures.

4. Coordinate with the permitting group for regulatory permits. The permits should include the entire canal between the boat barriers as the work zone for turbidity.

OTHER ROLES AND RESPONSIBILITIES

The **Project Sponsor** is responsible for:

- Communicating District objectives
- Providing a focal point to resolve issues escalated from the management oversight and guidance to the project manager

The **Project Manager** is responsible for:

- The project's overall performance and success
- Approving policies, processes, and procedures developed by project team members
- Being the focal point for communication between the project oversight team
- Escalating to the management oversight team issues that cannot be resolved at the project level
- Developing and maintaining the project plan

The **Functional Manager (Division Director or Division Leader)** is responsible to:

- Provide the resources for the project
- Ensure the quality of the resources provided to support the project
- Contribute to the performance evaluation of the project manager

The **Program Manager** is responsible for:

- Developing Annual Work Plan and Strategic Plan input for the Program
- Monitoring project status during the fiscal year
- In conjunction with the Department Director, reviewing and signing the Project Charter and Project Management Plan
- Leading the Program's team of project managers and professionals to accomplish programmatic objectives
- Reporting on, and communicating, Program and project status to Sr. Managers

The **O&M Program Leader** is responsible for:

- Monitoring project status through construction
- Reporting on, and communicating, project status to Program Manager
- Working with Program Manager