SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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	100311
Project ID (other)	N/A
Project Title:	C25 Bank Stabilization at S50 and S99
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	Date 11-17-09
Jeff Kivett, Engineering Department Director	Date
Ulrich Cordon, Construction Department Director	Date
Doug Bergstrom, Program Manager	Date 11/17/09

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Revision Sheet

Release No.	***Date***	***Revision Description***
Rev. 0	11/17/2009	Initial
Rev. 1		
Rev. 2		
Rev. 3		

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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

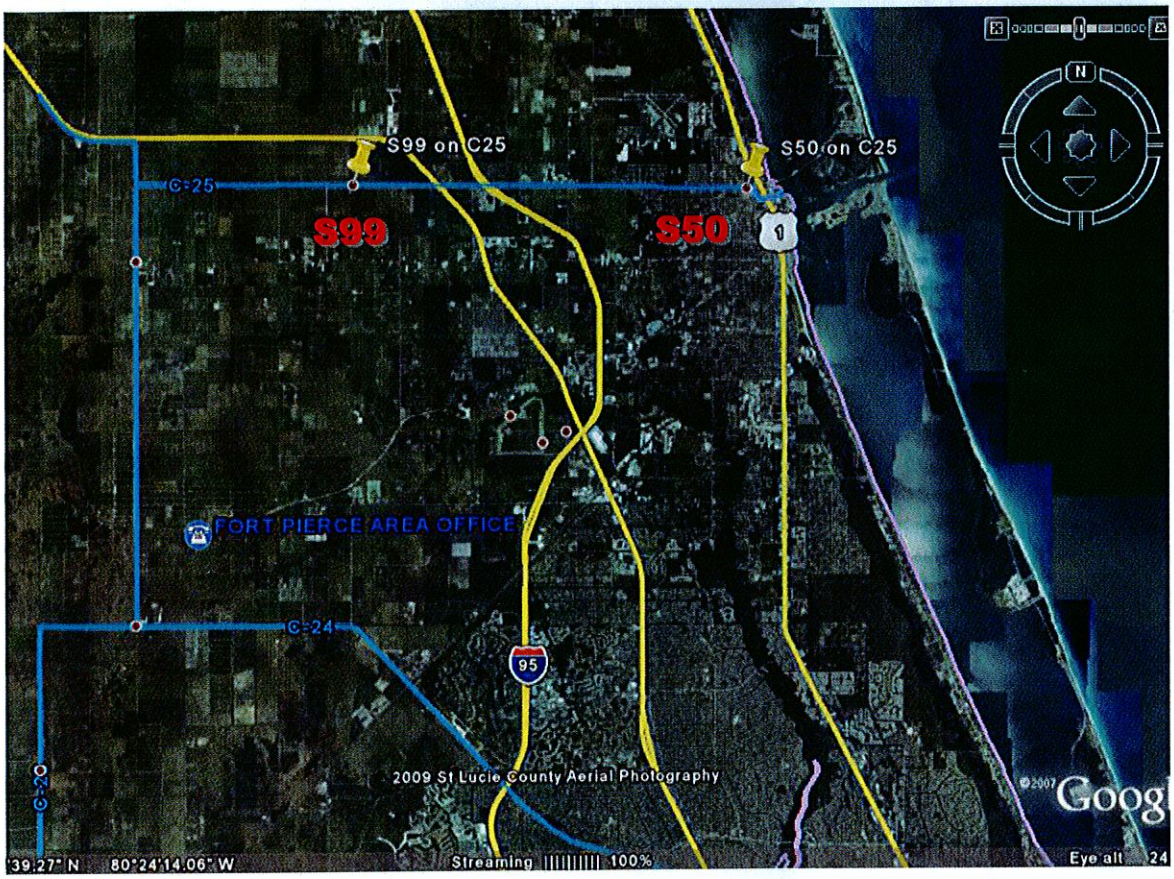
PROJECT MANAGEMENT OVERSIGHT TEAM

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.

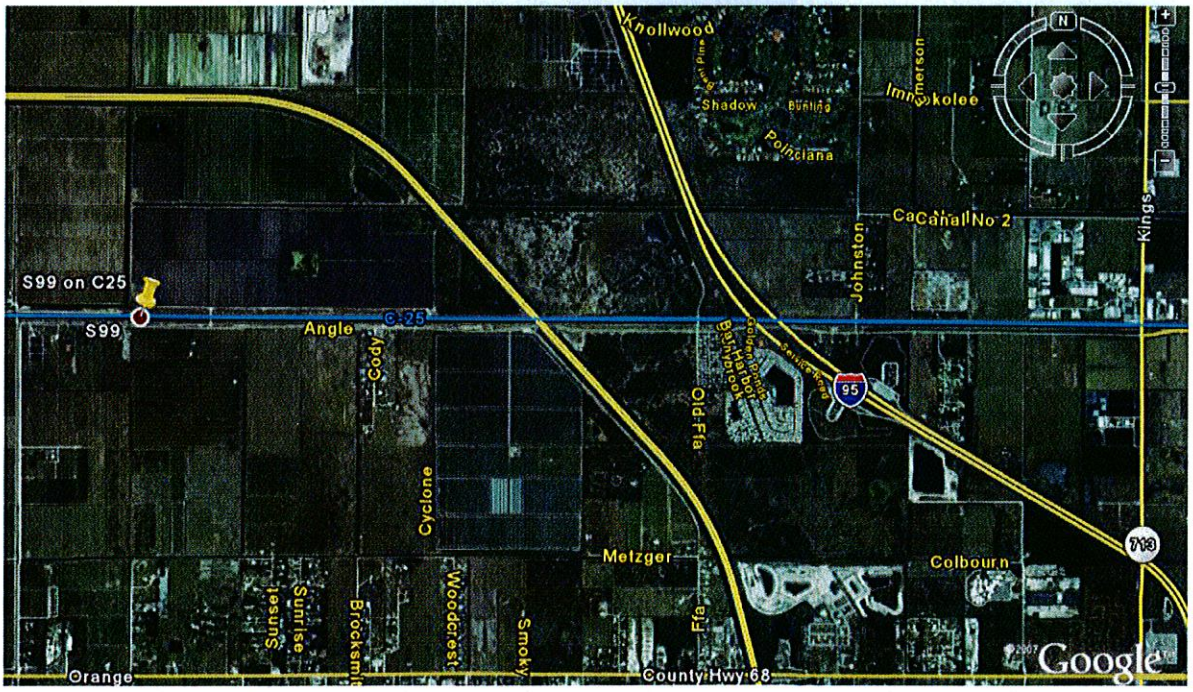
Name	Role	Responsibility
Ralph Hayden	O&M Infrastructure Systems	Oversight of Project for O&M
John Mitnik	ERCP Engineering Project Management	Oversight of Project Manager
Greg Cantelo	ERCP Engineering & Technical Services	Oversight of Project Design
Michael Hiscock	ERCP Construction	Oversight of Project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

PROJECT LOCATION

The structures S50 and S99 are located on the C25 canal in St Lucie County. The S50 coastal structure is located near the mouth of C25, about 1/2 mile west of U.S. Highway #1 bridge. The S99 structure is located about 1/2 mile west of the Sunshine State parkway, and about 8½ miles west of S50.



To access the S50 structure, take FL Turnpike to SR70, east to Kings Highway, north to Angle Road, right on Angle Road, left on Juanita Avenue, east to Martin Luther King, south to first left Barcelona, first right to Canal, and east 0.6 miles to structure.



To access the S99 structure, take FL Turnpike to SR70, east to Kings Highway, north to Angle Road, left on Angle Road, and west 4.5 miles to structure.

PROJECT SCOPE, ESTIMATE, & BACKGROUND

Project Scope:

The project scope is to stabilize the canal banks of the C25 Canal inside the boat barriers upstream and downstream of structures S50 and S99. This scope includes:

Design Work: (2011)

1. S50 Design Work
   - Topographic survey (Use 2008 Survey Stationing)
   - Bank stabilization design
   - Fix fence foundation on upstream side, north bank
   - Security fencing around wingwalls (coordinate w/ Okeechobee FS)
2. S99 Design Work
   - Topographic survey (Use 2008 Survey Stationing)
   - Bank stabilization design
   - Guardrail replacement approximately 60 feet
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 similar approach as sections below (Figures 2 – 4). Top of rubble riprap to extend to the top of bank. This is per the Okeechobee Field Station because of maintenance.

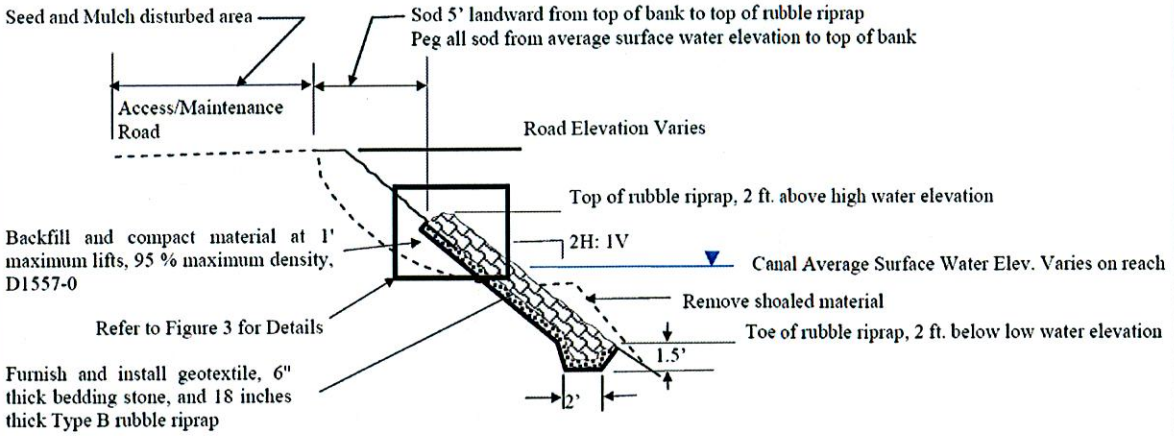


Figure 2. Typical Canal Bank Repair with Rubble Riprap

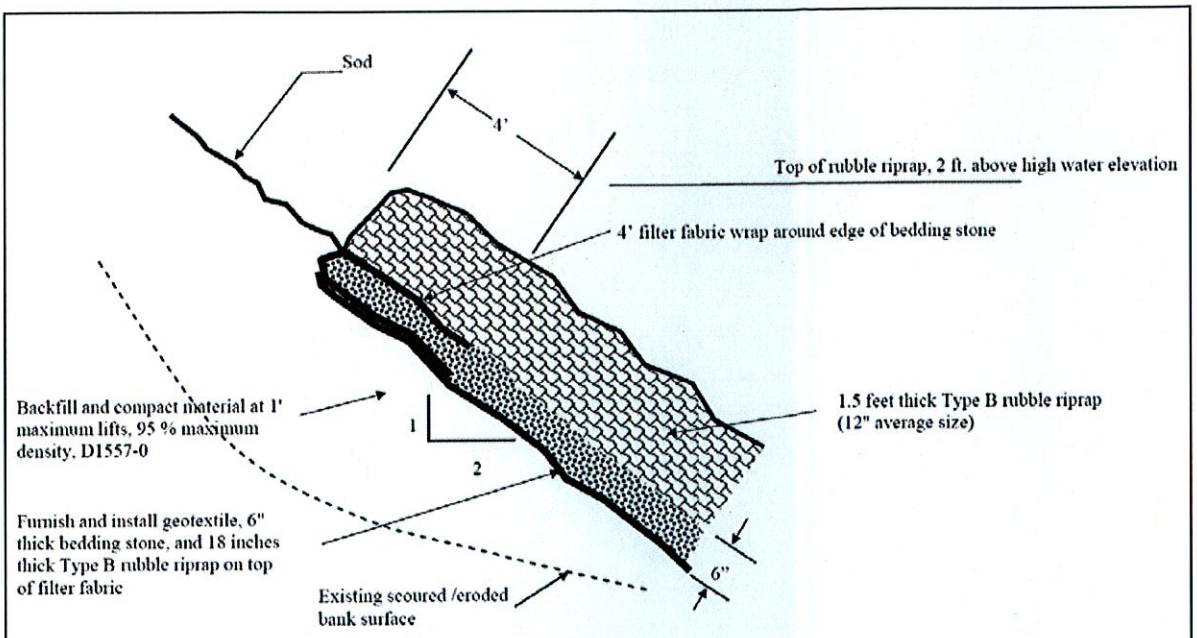


Figure 3. Rubble Riprap Detail.

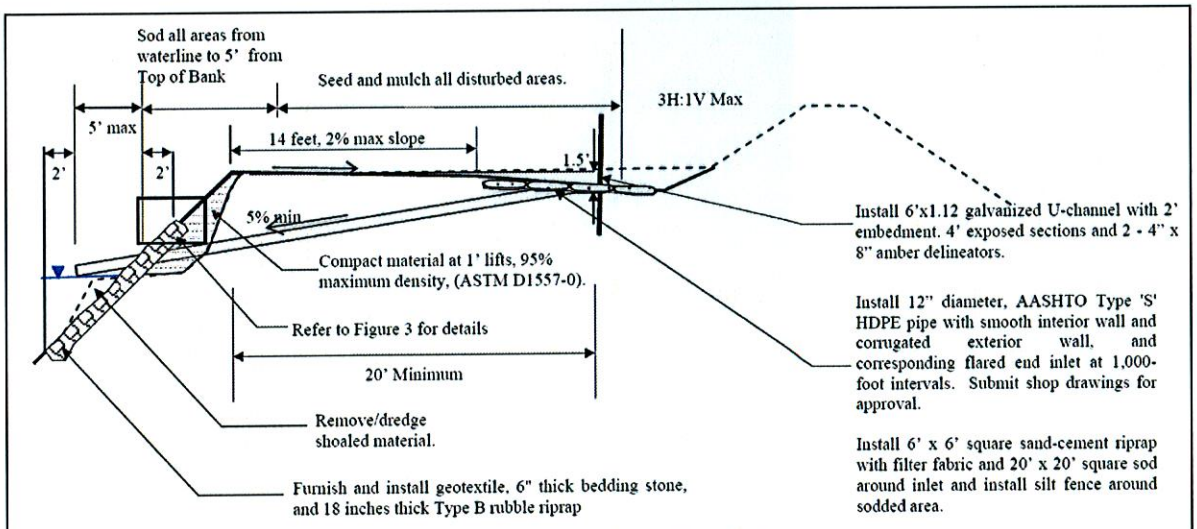
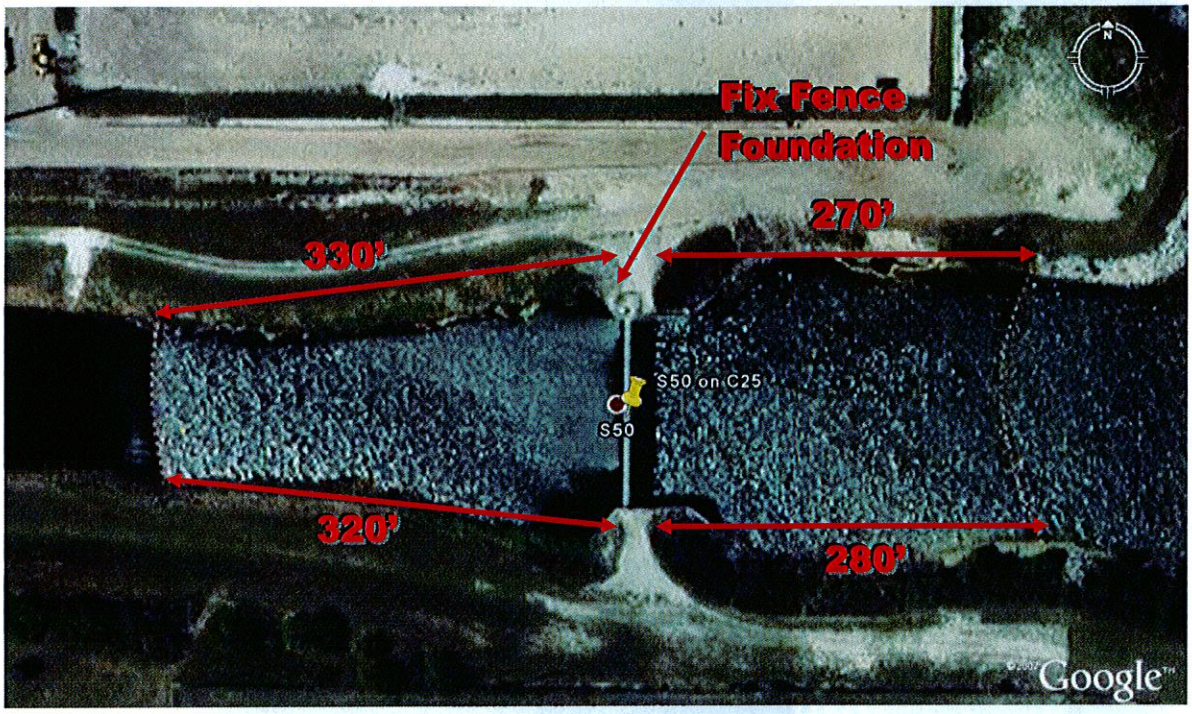


Figure 4. Typical Berm Drain Installation

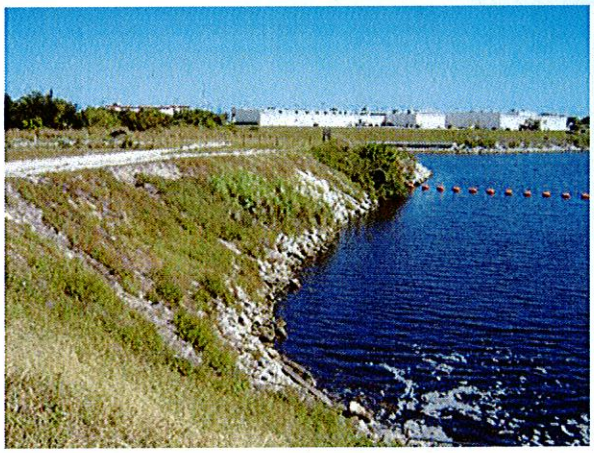
Bank Stabilization Lengths: (lengths and heights are for cost estimates: survey to verify)

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)
S60 N	330	8	270	30
S60 S	320	8	280	30
S99 N	240	18	285+260	34
S99 S	265	18	330+250	34

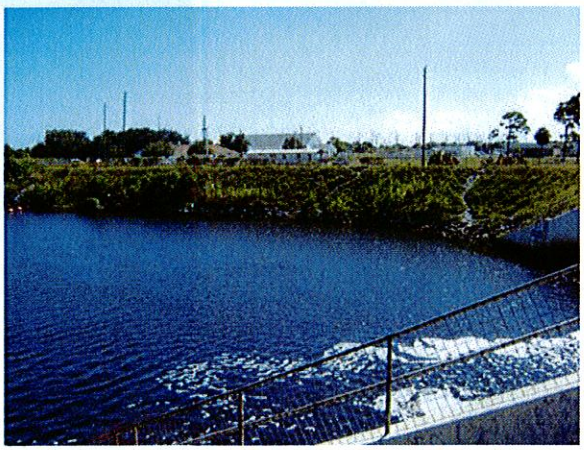
S50 Plan View



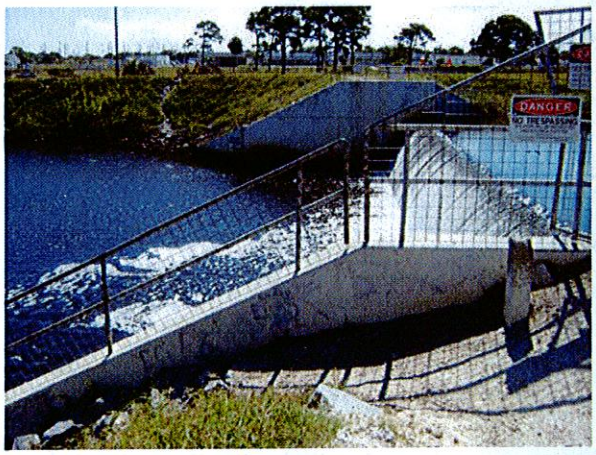
See Typical Conditions for S50

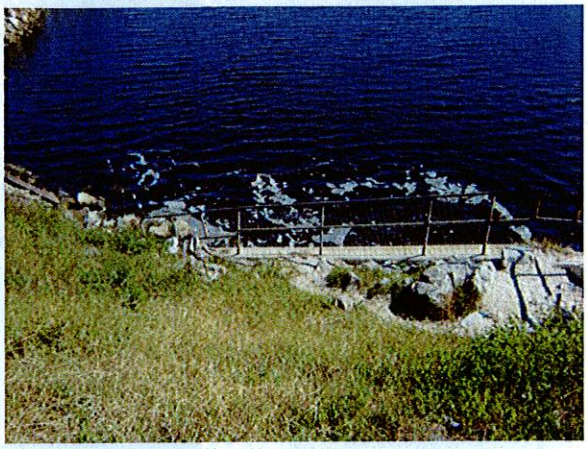


Downstream – North Bank

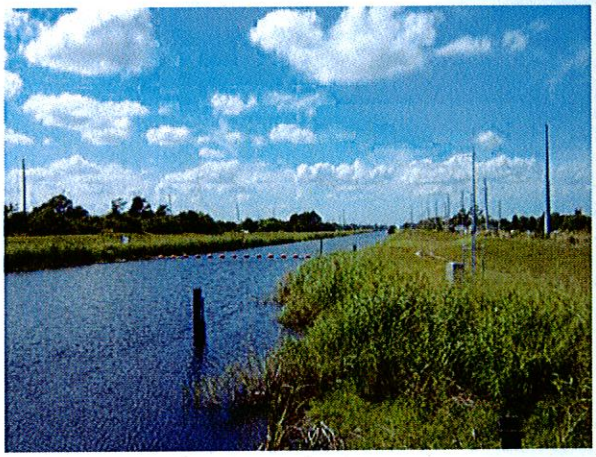


Downstream – South Bank



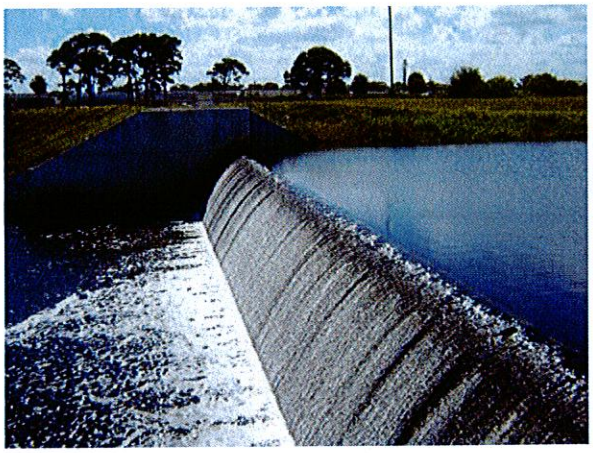


Downstream – North Bank

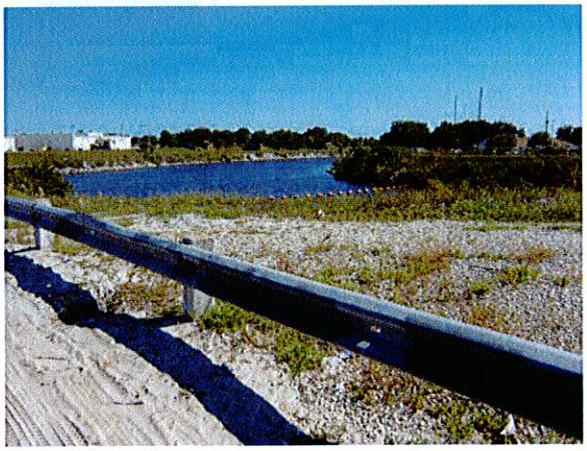


Upstream – North Bank

Upstream – North Bank – Fix Fence



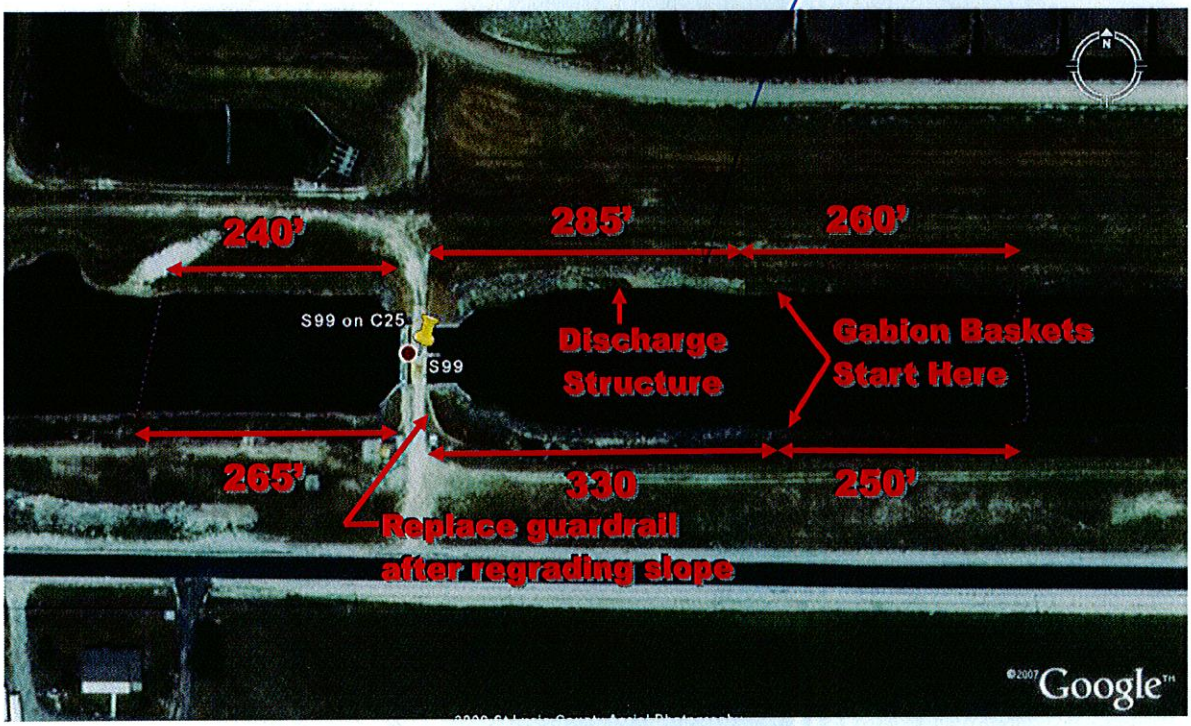
Upstream – S50 Weir Structure



Upstream – North Bank – Guardrail

PIPE

S99 Plan View



See Typical Conditions for S99

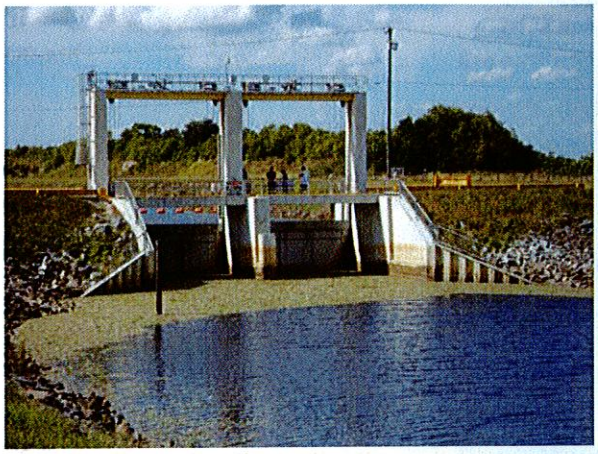
NEED GEOTECH

Upstream – South Bank

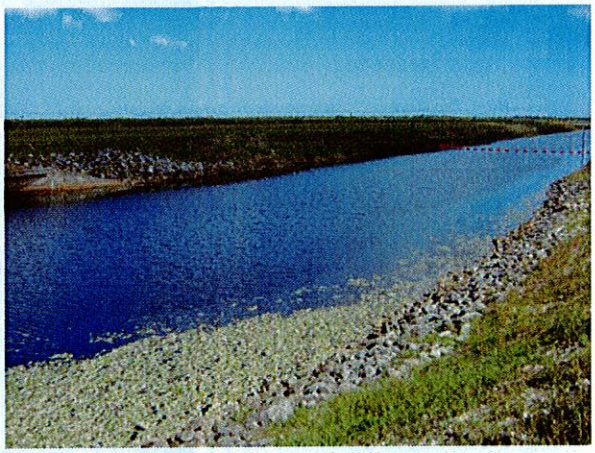
Upstream – North Bank

TIE IN TO GABION DOWN STR OF BARRIER?

ROOM TO MAKE 3:1



Downstream – S99 Structure



Downstream – Both Banks

Downstream – North Bank

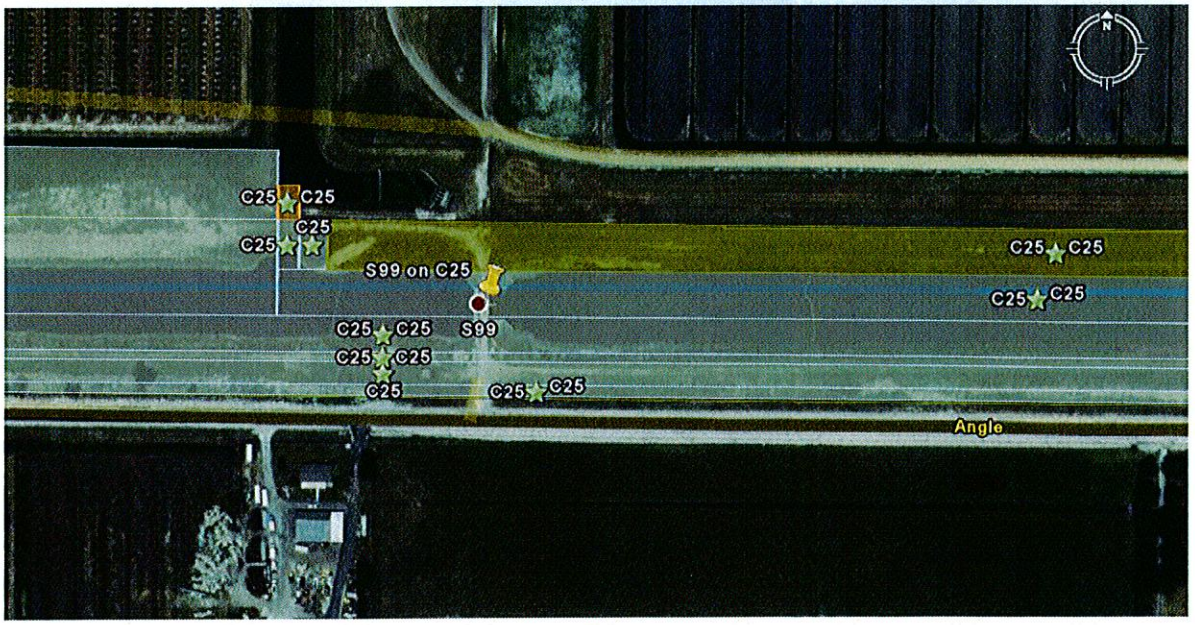
Downstream – South Bank

Downstream – North Bank – Failed Gabion

Downstream – South Bank – Gabion

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 cost for security fencing at S50 has not been included in the construction cost. The estimated costs assume all work to be completed from land.

Construction Costs:

S50 Bank Stabilization				
Narrative	**Unit**	**Quantity**	**Unit Price**	**Cost**
Slope Vegetation Removal includes removal from site (Low Density)	SY	3,744	0.48	$1,797
Regrade Slope (1V:2H)	SY	3,744	0.82	$3,070
Geotextile	SY	3,744	3.15	$11,795
Bedding Stone 6" & Riprap 2' (Type C Min)	CY	3,120	62	$193,463
Sodding	SY	2,000	3.12	$6,240
Total Direct Construction Cost:				**$216,366**

S99 Bank Stabilization				
Narrative	**Unit**	**Quantity**	**Unit Price**	**Cost**
Slope Vegetation Removal includes removal from site (Low Density)	SY	7,071	0.48	$3,394
Regrade Slope (1V:2H)	SY	7,071	0.82	$5,798
Geotextile	SY	7,071	3.15	$22,274
Bedding Stone 6" & Riprap 2' (Type C Min)	CY	5,893	62	$365,341
Sodding (Repair Construction Zone)	SY	2,717	3.12	$8,476
Guardrail (5 sections of 12')	LF	60	43.5	$2,610
Total Direct Construction Cost:				**$407,893**

Background:

The S50 structure is a reinforced concrete, uncontrolled, fixed crest weir. The structure is located near the mouth of C25, about 1/2 mile west of U.S. Highway #1 bridge. The structure discharges the flood runoff from the tributary basin, prevents overdrainage by maintaining optimum water levels above the structure, and prevents saltwater intrusion.

Discharge begins when the upstream water surface elevation exceeds 12.0 feet; design discharge of 3800 cfs occurs when the head on the weir reaches 4.0 feet, or elevation 16.0 feet. Control of the drainage basin is affected by S99, located on C25 about 8 miles upstream.

The S99 structure maintains optimum upstream water control stages in C25; it passes the design flood (30% of the Standard Project Flood) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels.

A summary of the hydraulic design data for both structures is shown in table 6 below from the Detail Design Memorandum, Part III - Suppl. 4.

TABLE 6

Control Structures 50, 98, and 99

Summary of hydraulic-design data

Item	Design		
Structure No.	S-50	S-98	S-99
Station (approximate)	429+50(E)	292+60(W)	2+40(E)
Design conditions	30% SPF	Irrigation	30% SPF
Discharge (c.f.s.)	4,040	2,000	3,860
Headwater elev. (ft.)	16.0	21.5	20.6
Tailwater elev. (ft.)	0.0 to 0.7	21.0	19.5
Optimum conditions (no flow)			
Headwater elev. (ft.)	12.0	25.0	20.0
Tailwater elev. (ft.)	Tidal	20.0	12.0
S.P.F. conditions (estimated)			
Discharge (c.f.s.)	4,040	0	3,860
Headwater elev. (ft.)	16.0	29.0	26.0
Tailwater elev. (ft.)	0.7	20.0	19.5
Minimum water-surface elev. (ft.)			
Headwater elev. (ft.)	12.0	-	16.0
Tailwater (no flow) elev. (ft.)	-0.5	16.0	10.0
Crest			
Shape	Ogee	Trapezoidal	Trapezoidal
Elevation (ft.)	12.0	11.2	5.6
Width (ft.)	126.0	40.0	50.0
Gates			
Number	None	2	2
Width and height (ft.)	-	20.0 x 11.3	25.0 x 15.4
Clearance elev. (ft.)	-	(1) 22.5	21.0
Elevation of overflow slots (ft.)	-	-	(2) 19.0
Piers			
Number	None	1	1
Width (ft.)	-	3.0	3.0
Training wall elev. (ft.)	0.7	21.0	19.5
Angle of wingwalls with axis of flow	45°	45°	45°
Apron			
Elevation (ft.)	-7.5	10.0	2.5
Length (ft.)	25.0	20.0	33.0
Width (ft.)	126.0	43.0	53.0
Elevation of endsill (ft.)	-6.0	11.0	4.0
Elevation of baffle blocks (ft.)	-6.0	-	4.0
Riprap			
Length downstream (ft.)	30.0	25.0	60.0
Downstream elev. (ft.)	3.7	24.0	22.5
Length upstream (ft.)	(3) 25.0	25.0	25.0
Upstream elev. (ft.)	-	-	23.0
Protection grade at structure (ft.)	20.0	32.0	28.0

NOTES: (1) Breast wall to be provided.
(2) Gated slots to be provided between elevation 19.0 and 20.5.
(3) At wingwalls.

References:

- USACE Drawings
- Right of Way Maps
- C&SF Project for Flood Control and Other Purposes, Part III, Upper St. Johns River Basin and Related Areas, Supplement 4 - Detail Design Memorandum, Canal 25 (Belcher Canal) and Control Structures 50, 98, and 99, December 10, 1959.

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 C25 Canal - S50 and S99 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:	$ 31,213
(2) Design (Internal):	$ 74,911
FY12	
(3) Construction:	$ 624,259
(4) Construction Management/EDC:	$ 62,426

(5) Contingency Cost:		$ 62,426
TOTAL:		**$ 855,235**

		FArea	Fund	Cost center	B/L	Amount
Funding:	FY11:	CA07	402000	5613222000	-	$ 106,124
	FY12:	CA07	402000	5613222000	-	$ 749,111

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