

State of Louisiana Coastal Protection and Restoration Authority

2017 Annual Inspection Report

for

Jonathan Davis Wetland Protection

State Project Number BA-20 Priority Project List 2

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2017 Annual Inspection Report for Jonathan Davis Wetland Restoration (BA-20)

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I. Introduction

The Jonathan Davis Wetland Protection (BA-20) project is located in Jefferson Parish within the Barataria Basin. The 7,462-acre (3,020 ha) project area is bounded on the north by the Pailet Canal, on the east by La. Hwy. 301, on the south by Bayous Perot and Rigolettes, and on the west by the Gulf Intracoastal Waterway (GIWW) (Appendix A).

II. Project Description and History

Overall, 1,393 ac (557 ha) of land within the Jonathan Davis Wetland Protection project area were converted to open water between 1945 and 1989 (Coastal Environments Inc. 1991). The average rate of change of marsh to non-marsh (including loss to both open water and commercial development) has increased since the 1940s (Dunbar et al. 1992). National Biological Survey (NBS) Geographic Information System (GIS) habitat data from 1956 characterized the majority of the area as fresh marsh. However, the 1978 and 1990 data indicate that the area had become more saline. In 1978, 1988, and 1990, the area was classified as primarily intermediate marsh (NBS 1994a; NBS 1994b; NBS 1994c; Chabreck and Linscombe 1988).

Large scale factors influencing degradation in the Barataria Basin include subsidence, lack of sedimentation, and reduced freshwater influx due to the levee system on the Mississippi River and its major distributaries. To compound this problem, there are no major external sources of inorganic sediment into the project area although some sediment does enter via the GIWW. Moreover, storm surges moving through numerous oil field canals within the area have caused erosion and the loss of organic sediments.

Other factors influencing wetland loss within the project area are increased water exchange, saltwater intrusion, tidal scour, and shoreline erosion along Bayous Perot and Rigolettes. Shoreline erosion from 1945 to 1989 caused primarily by wave action along Bayou Perot has been measured at 20 ft/yr (6.1 m/yr) (Coastal Environments Inc. 1991). Saltwater intrusion and tidal scour are believed to have been enhanced with the construction of various oil field canals that were dredged in the 1940s when oil companies were not responsible for maintaining a continuous spoil bank along the canals. As a result, the breaches that occurred were not repaired and subsequently exposed the interior marsh to increased tidal flows and salinity during storm surges (U.S. Department of Agriculture, Soil Conservation Service 1994).

Project features consist of shoreline protection, rock armored plugs, rock weirs, and weirs with boat bays (Appendix A). Construction Unit 1, which consists of project features 12, 13, 14, 15, 16, 17, 19, 20, and 21, was completed in September 1998. Construction Unit 2 was completed in May 2001, which included a weir at structure 22, and shoreline protection from structures 20 to 22. Construction Unit 3, which consists of shoreline protection extending from project feature 12 to the Gulf Intracoastal Waterway, was





completed on July 7, 2003. Construction Unit 4, completed in January 2012, consists of rip-rap and pre-cast concrete shoreline protection extending across the northern edge of Bayou Rigolettes and Bayou Perot, from just east of Structure 12 to Structure 20. Construction of features 1, 2, 3, 6, 8, 9, 10, and 11 in the northern project area has been postponed due to the anticipated positive influence of the Davis Pond Diversion, a lack of funding, and land rights issues.

On January 30, 2002, Stone Energy Corporation was issued a Coastal Use Permit to plug and abandon existing wells within the Jonathan Davis Wetland Protection Project. This work was completed on 7/18/02 and consisted of removing and replacing structures 13 & 19 and to plug and abandon several existing wells located behind these structures. The cost associated with removing and replacing these structures was incurred entirely by Stone Energy Corporation. However, at the request of NRCS, CPRA (formerly OCPR) was required to provide inspection services for this project. CPRA obtained the services of GSE Associates, Inc. to inspect construction activities and prepare a project completion report and as-built drawings. These services were performed for a total cost of \$9,394.13.

As part of the construction documents prepared by NRCS for this project, Stone Energy Corporation was required to reconstruct structure 13, increasing the boat bay crest from 50' to 100' in width and raising the crest elevation from -5.0' NGVD to -2.5' NGVD.

As part of the construction contract for Construction Unit 4, maintenance was performed on structures 14, 15, and 17. Due to the location and activity of a pipeline in the vicinity of Structure 16 no work was performed there.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Jonathan Davis Wetland Protection (BA-20) project is to evaluate the constructed project features, to identify any deficiencies, and to prepare a report detailing the condition of project features and recommended corrective actions. Should it be determined that corrective actions are needed, CPRA shall provide a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan March 18, 2002). The annual inspection report also contains a summary of maintenance projects and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance projects completed since construction of the project are outlined in Section II.

An inspection of the Jonathan Davis Wetland Protection (BA-20) project was held on November 2, 2017, by Clay Worley and Barry Richard of CPRA, along with Quin Kinler of National Resources Conservation Service (NRCS). Photographs taken during the inspection are included in Appendix B of this report.





IV. Inspection Results

Construction Unit No. 1

Structure No. 12 – Rock rip-rap armored plug

Minor settlement has occurred, but the structure is in good condition. No maintenance needs were identified at this location.

Structure No. 13 – Rock rip-rap armored weir w/ boat bay

Structure settlement prevented a detailed inspection of the weir. Signs and timber supports were generally in good condition. No maintenance will be required at this time.

Structure No. 14 – Rock rip-rap armored plug

Structure was in good condition, with some settlement noted. There is currently no need for maintenance on this structure.

Structure No. 15 – Rock rip-rap weir w/ boat bay

Weir was converted to a rock plug structure as part of the work effort for Construction Unit 4. No defects were noted during the inspection.

Structure No. 16 – Rock rip-rap channel plug

Rip-rap and warning signs appeared to be in good condition. No immediate maintenance requirements were identified at this structure.

Structure No. 17 – Rock rip-rap channel plug

Plug appeared to be in good condition, with no maintenance needed at this time.

Structure No. 19 – Rock rip-rap weir w/ boat bay

Weir has experienced some settlement, but is performing as designed. Signs and timber supports were generally in good condition. No maintenance will be required at this time.

Structure No. 20 - Rock rip-rap armored plug

The rock plug was heavily vegetated at the time of inspection, but appeared to be in good condition. No maintenance needs were identified at this location.





Structure No. 21 – Rock rip-rap armored plug

No significant defects were noted. Structure is generally in good condition and requires no maintenance at this time.

Construction Unit No. 2

Structure No. 22 A - Canal bank stabilization

The structure appeared to be in good condition. No immediate maintenance concerns were noted at this site.

Structure No.22 – Steel sheet pile weir w/ boat bay

Weir was partially obscured by aquatic vegetation, but no significant defects were noted on the visible portion of the structure. Warning signs and supports were in good condition. No maintenance is required at this time.

Bayou Rigolettes Bank Stabilization

The rock appears to be in good condition. Minor settlement was observed near the western end of this feature, but the shoreline protection function was being adequately performed. This area should be monitored on future inspections, but no immediate maintenance is required.

Construction Unit No. 3

Bayou Perot Bank Stabilization

No significant changes were noted since the last inspection. The rock shoreline protection appeared to be in good condition, with minor settlement in some areas. The areas of lower elevation deserve continued observation on future inspections, but no maintenance needs were identified at this time.

Construction Unit No. 4

Concrete Panel Wall Shoreline Protection

No defects in the concrete panel wall sections were noted; the structure appeared to be in good condition. Minor damage/vandalism to some warning signs was noted and one sign was missing, but all other signs and timber supports are in place and performing as designed. No immediate maintenance needs were identified at this construction unit.





V. Conclusions

The project is protecting the shoreline as intended. Structures appeared to be in generally good condition, with the exception of the one missing sign along the concrete panel wall.

VI. Recommendations

Maintenance repairs should be performed on the concrete panel wall warning sign at the earliest opportunity. Continue to inspect and assess project conditions annually.

Immediate Repairs

• Rehabilitate the warning signs at the concrete panel wall.

Programmed Maintenance

• None at this time.

VII. References

- Chabreck, R. H., and G. Linscombe 1988. Vegetative type map of the Louisiana coastal marshes. New Orleans: Louisiana Department of Wildlife and Fisheries. Scale 1:62,500.
- Coastal Environments, Inc. 1991. Stabilization and restoration of erosion and wetland deterioration resulting from oil and gas activities on the Jonathan Davis Plantation property, Jefferson Parish, Louisiana. Unpublished report to Baton Rouge Bank and Trust Company. Baton Rouge, La.
- Dunbar, J. B., L. D. Britsch, and E. B. Kemp III 1992. Land loss rates: Louisiana coastal plain. New Orleans, La.: U.S. Army Corps of Engineers. Technical Report GL90-2. 62 pp.
- National Biological Survey (NBS) 1994a. 1956 habitat type maps for the Louisiana coastal marshes. Baton Rouge, La.: Southern Science Center. Map ID Number 94-4-056. Scale 1:17,270.
- National Biological Survey (NBS) 1994b. 1978 habitat type maps for the Louisiana coastal marshes. Baton Rouge, La.: Southern Science Center. Map ID Number 94-4-057. Scale 1:17,270.

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- National Biological Survey (NBS) 1994c. 1990 habitat type maps for the Louisiana coastal marshes. Baton Rouge, La.: Southern Science Center. Map ID Number 94-4-058. Scale 1:17,270.
- U.S. Department of Agriculture, Soil Conservation Service 1994. Marsh plan and environmental assessment for Jonathan Davis wetland restoration. Report to Louisiana Department of Natural Resources, Coastal Restoration Division. Alexandria, La.: Soil Conservation Service.

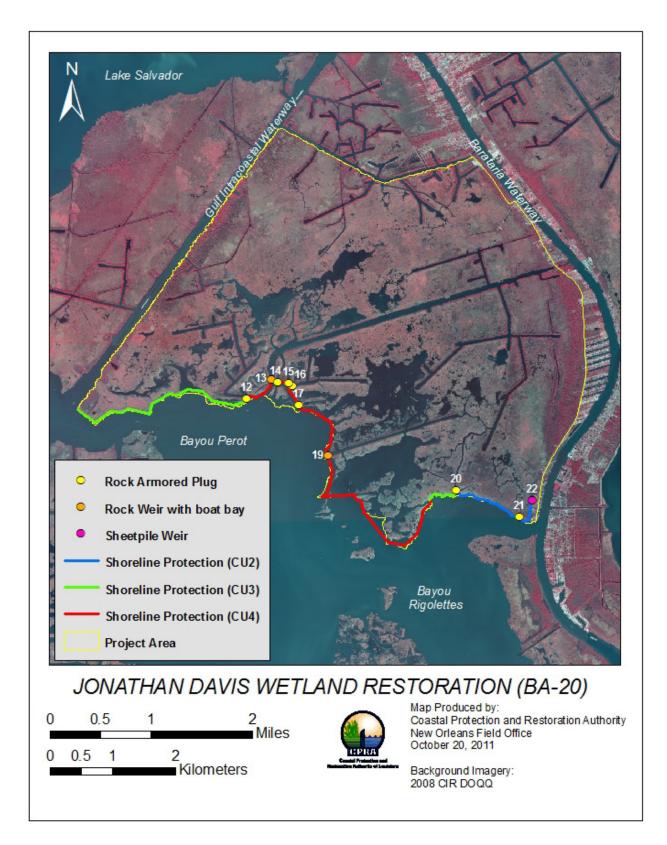




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Appendix A

Project Features Map



Appendix B

Photographs



Photo #1 – Bayou Perot Shoreline Protection (CU3)



Photo #2 – Structure #13



Photo #3 – Structure #14



Photo #4 – Structure #15



Photo #5 – Structure #16



Photo #6 – Structure #17



Photo #7 – Damaged Signs at Structure #19



Photo #8 – Missing Sign (CU4)



Photo #9 – Panel Wall Shoreline Protection (CU4)



Photo #10 – Bayou Rigolettes Shoreline Protection (CU2)



Photo #11 – Structure 21

Appendix C

Three Year Budget Projection

Jonathan Davis Wetland Restoration Project (BA-20)

Federal Sponsor: NRCS Construction Completed : 5/29/2001 PPL 2

Current Approved O&M Budget	Year 0	Year-1	Year-2	Year-3	Year -4	Year-5	Year-6	Year-7	Year -8	Year-9	Year-10	Year-11	Year -12	Year -13	Year-14	Year -15	Year -16	Year-17	Year-18	Year -19	Currently
June 2009	FY02	FY03	FYO4	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	Funded
State O&M																					\$7,287,736
Corps Admin																					\$0
Federal S&A																					\$0
Total																					\$7,287,736

													Remaining
Projected O&M Expenditures													Project Life
Maintenance Inspection									\$6,333	\$6,498	\$6,667	\$6,840	\$26,337
General Maintenance													\$0
Surveys				ļ									\$0
Sign Replacement													\$0
Federal S&A										\$132,980			\$132,980
Maintenance/Rehabilitation													\$0
E&D										\$198,005			\$198,005
Construction										\$3,000,000			\$3,000,000
Construction Oversight										\$120,000			\$120,000
Total									\$6,333	\$3,457,482	\$6,667	\$6,840	\$3,477,322

O&M Expenditures from COE Lana Report	\$1,282,166	Current O&M Budget	\$7,287,736	Currently Funded Budget \$7,287,736
State O&M Expenditures not submitted for in-kind credit	\$0	Total Estimated Expenditures	\$1,292,563	Current + Projected Expenditures \$4,769,884
Federal Sponsor MIPRs (if applicable)	\$10,397	Remaining Available O&M Budget	\$5,995,173	Project Life Budget Surplus (Shortfall) \$2,517,852
Total Estimated O&M Expenditures (as of October 2017)	\$1,292,563			

Appendix D

Field Inspection Forms

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 12

Structure Description: Rock rip-rap armored plug

Type of Inspection: <u>A</u>

Annual

Date of Inspection: 11/2/2017

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water LevelInside: N/AOutside: 1.90'

ltem	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None		
Armored plug	Good	None	N/A		No change since last inspection; maintenance not required at this time.
Construction Uni			ok fillod olve lov	noted in a	
		ock rip-rap armored ro , west of Bayou Barata			
	•	vation of +3.9 ft. NGV			

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 13

Structure Description: Rock rip-rap armored weir

Date of Inspection: <u>11/2/2017</u>

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Type of Inspection:

<u>Annual</u>

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good			2	
Armored Weir	Fair			2	Structure has experienced some settlement, but maintenance is not required at this time.
Construction Uni	t No.1				
wide boat bay loc	ated north of Bayou	rock rip-rap armored I Perot and Site 12, v eir is set at an elevatio	vest of Bayou B	Barataria, and	

Project No. /	Name:	BA-20	Jonathan	Davis	Wetland

Structure Description: Rock rip-rap armored plug

Annual

Type of Inspection:

Date of Inspection: <u>11/2/2017</u>

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: 1.90'

Weather Conditions: Mostly sunny, light wind

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good			3	Observations:
Armored Plug	Good			3	Slight settlement noted, but no repairs needed at this time.
located in a pipelir	ion: 138 linear ft. ne channel north of	of rock rip-rap armo Bayou Perot, west of lug was constructed to	Bayou Baratar	a and east of	

Structure No. Construction Unit No.1 -Site No. 14

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 - Site No. 15

Structure Description: Rock rip-rap armored weir w/ boat bay

Type of Inspection: <u>A</u>

<u>Annual</u>

Date of Inspection: 11/2/2017

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None	4	
Armored Plug	Good	None	N/A	4	This structure was converted into a channel plug as part of the completed CU4 maintenance work.
Construction Uni	t No.1				
bay located in a pi	peline channel north	f rock rip-rap armored n of Bayou Perot, wes f the rock weir was co	t of Bayou Bara		

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 16

Structure Description: Rock rip-rap armored plug

Type of Inspection: <u>A</u>

<u>Annual</u>

Date of Inspection: <u>11/2/2017</u>

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None	5	
Armored Plug	Fair	None	N/A	5	No maintenance needs identified at this time.
Construction Uni		al filled alva leasted	in a ninalina ah	anal	
north of Bayou Per crest of the plug w plug contains 6,48	rot, west of Bayou B as constructed to ar 3 tons of rock fill and	ock filled plug located arataria, east of the G n elevation of +4.0 ft. I d 1,766 tons of rock ri rough the rock plug e	WW and Site NGVD. The rock p-rap armor. Tw	15. The filled	

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 - Site No. 17

Structure Description: Rock rip-rap armored plug

Type of Inspection:

Annual

Date of Inspection: <u>11/2/2017</u>

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None	6	
Armored Plug	Good	None	N/A	6	No maintenance is required at this time.
channel north of B	ion: 197 linear ft. ayou Perot, west of	of rip-rap armored ro Bayou Barataria, and ation of 3.8' NAVD. T	east of the GIW	/W. The crest	

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 19

Structure Description: Rock rip-rap armored weir

Date of Inspection: 11/2/2017

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Type of Inspection:

<u>Annual</u>

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Fair	See remarks	Minor	7	Signage replaced since last inspection; no maintenance needs were identified.
Armored Weir	Good	None	N/A	7	No change since last inspection; no maintenance needs were identified.
Construction Unit					
		of rock rip-rap armore			
	•	n a pipeline channel aria. The crest of the			
Bayou Ferol, and t	west of Dayou Dafat		WEII WAS CUIISII	UCI	

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 20

Structure Description: Rock rip-rap armored plug

Type of Inspection: <u>Annual</u>

Date of Inspection: 11/2/2017

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

ltem	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None		
Armored Plug	Good	None	N/A		No change since previous inspection; maintenance is not required at this time.
Construction Uni					
		f rock rip-rap armored			
	•	Barataria, and east of	•		
was constructed to	an elevation of +4.	0 ft. NGVD. The rock	filled plug cont		

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.1 -Site No. 21

Structure Description: Rock rip-rap armored plug

Type of Inspection: <u>Annual</u>

Date of Inspection: <u>11/2/2017</u>

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	None	None	11	
Armored Plug	Good	None	N/A	11	Maintenance is not required at this time.
Construction Unit No.1 Structure Description: 83 linear ft. of rock rip-rap armored rock filled plug located north of Bayou Rigolettes, west of Bayou Barataria, and east of Bayou Perot. The plug crest was constructed to an elevation of +4.0 ft. NGVD. The rock filled plug contains 285 tons of rock fill and 220 tons of rock rip-rap armor. Two (2) aluminum warning signs supported by galvanized pipe are located on each end of the structure through the rock embankment.					

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.2 -Site No. 22

Structure Description: Steel sheet pile structure w/ boat bay

Type of Inspection:

Annual

Date of Inspection: 11/2/2017

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Weather Conditions: Mostly sunny, light wind

Water Level Inside: N/A Outside: 1.90'

Physical Damage **Observations and Remarks** ltem Condition Corrosion Photo # Steel Bulkhead No significant defects noted. Structure does not require maintenance at this time. Good None Minor Handrails. Good None None Hardware, etc. Signage and Good None None supports Earthen None N/A Good Wingwalls Rock Armored Earthen N/A Good None Embankment **Construction Unit No.2** Structure Description: 58 linear ft. of steel sheet pile bulkhead with a crest elevation of +1.95 ft. and a 24' - 8-1/2" wide boat bay with a crest elevation of -0.93 ft. located off of Bayou Regolettes, west of Bayou Barataria and east of GIWW. The st

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.2 - Site No. 22A

Structure Description: Canal Bank Stabilization

Type of Inspection:

<u>Annual</u>

Date of Inspection: <u>11/2/2017</u>

Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water LevelInside: N/AOutside: 1.90'

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports					
Rock Armored Bank	Good	None			No maintenance needs were identified.
Earthen Embankment	Good	None			
rap protection on t	tion: Canal bank st	abilization consisting access channel at the vation of +3.0 ft.			

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.2

Structure Description: Rock dike along Bayou Rigolettes

Date of Inspection: <u>11/2/2017</u>

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Type of Inspection:

<u>Annual</u>

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Dike	Good; see remarks			10	Minor settlement observed in some areas, no repairs needed at this time.
Construction Unit No.2 Structure Description: The rock dike consist of 3,967 linear ft. of rock dike with a 6 ft. top width and a crest elevation of +3.5 ft. The shoreline stabilization extends from Site 22A west to Structure No.20.					

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No.3

Structure Description: Rock dike along Bayou Perot

Type of Inspection:

<u>Annual</u>

Date of Inspection: <u>11/2/2017</u> Time: <u>11:20 am</u>

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Dike	Good; see remarks	None	N/A	1	Minor settlement observed in some areas, no repairs needed at this time.
6 ft. top width and	ion: The rock dike o	consist of 13,088 linea +3.5 ft. The shoreline stal Waterway			

Project No. / Name: BA-20 Jonathan Davis Wetland

Structure No. Construction Unit No. 4

Structure Description: Concrete panel wall

Type of Inspection:

<u>Annual</u>

Date of Inspection: <u>11/2/2017</u>

Time: 11:20 am

Inspector(s): Richard, Worley, Kinler

Water Level Inside: <u>N/A</u> Outside: <u>1.90'</u>

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good	See remarks	Minor	8	Some fading noted, minor spray-paint vandalism to border of one sign was observed, and one sign was missing. Sign faces and text were legible; no repairs needed at this time.
Concrete wall panels, piles, hardware	Good	None	None	9	No defects noted; structure was performing as designed.
Rock Dike	Good	None	N/A		No defects noted; structure was performing as designed.
concrete wall secti approx. 4,290 linea C.U. #4 extends ac	on: The wall consis ons supported by 84 ar feet of rock rip-rap	ts of approx. 12,850 li 18 pre-cast concrete p 5 bank stabilization/sh dge of Bayou Rigolett 50 Structure #20.	iles, in addition oreline protection	to	