U.S. Army Corps of Engineers
New Orleans District
ATTN: CEMVN-ERO

Project Information Report
PL 84-99 Rehabilitation of Damaged Flood Control Works

NON-FEDERAL PUMP STATIONS FLOOD CONTROL

PLAQUEMINES PARISH, LA

January 2006

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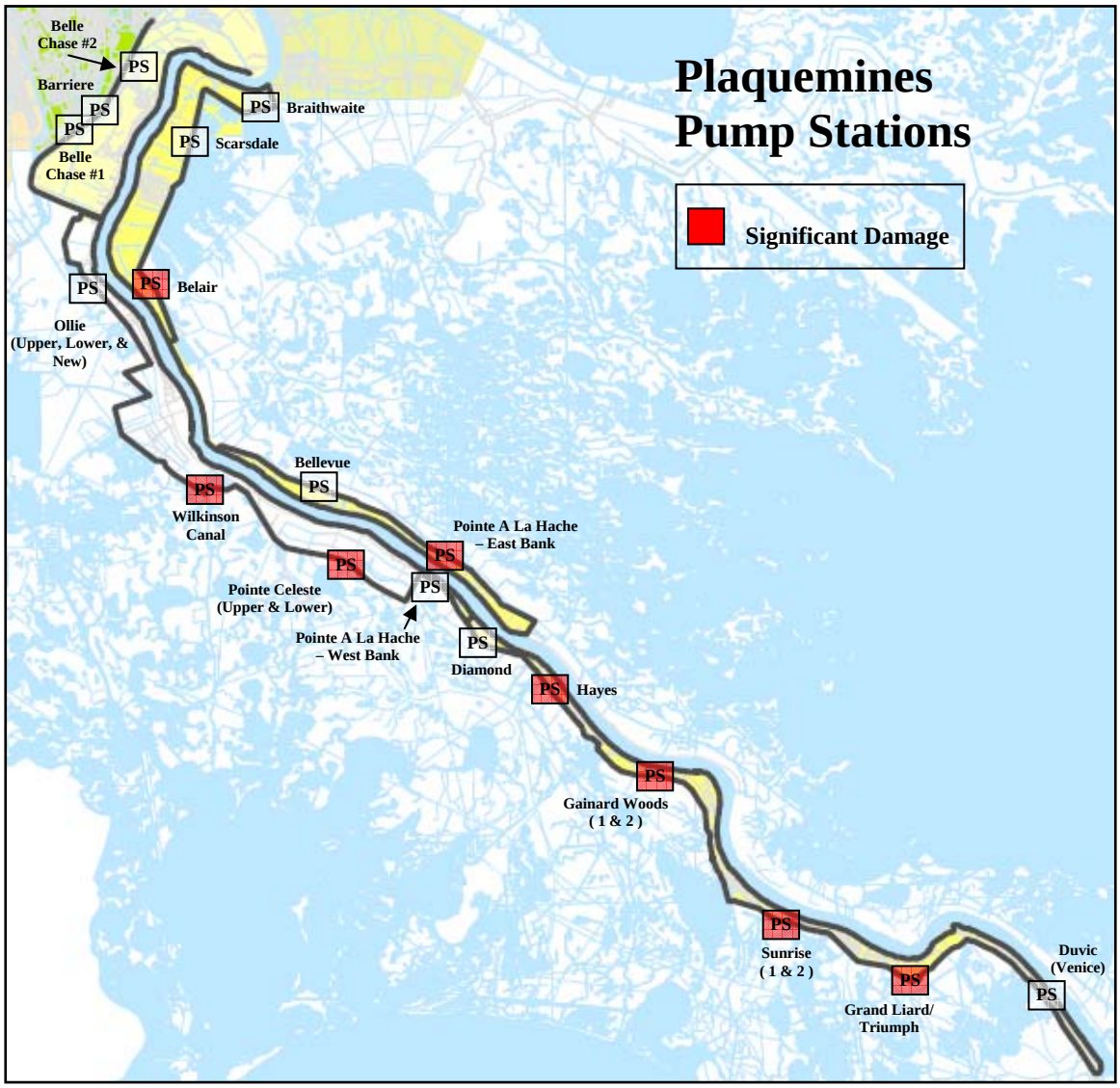
EXECUTIVE SUMMARY

Plaquemines Parish is located in southeast Louisiana. The parish is divided by the Mississippi River into the east and west banks. The major urban area of Plaquemines Parish is the city of Belle Chasse. It lies within the inside of an oxbow of the Mississippi River. The remaining portion of the parish follows the Mississippi River to the Gulf of Mexico. The area has a subtropical marine climate, which is influenced by the water surfaces of many surrounding lakes, streams, and the Gulf of Mexico. Throughout the year, these water bodies modify the relative humidity and temperature conditions, decreasing the range between the extremes. When southern winds prevail, these effects are increased, imparting the characteristics of a marine climate. Precipitation is heavy in two fairly definite rain seasons. Summer showers last to mid-September, and heavy winter rains generally occur from mid-December to mid-March. The total annual rainfall is 59 inches of which 33 inches falls between April and September.

Because most of the area is below sea level, it is protected from storm surge and tidal inflows by a network of levees. While protecting the lands from tidal flow, these levees leave the area vulnerable to flooding from accumulated rainfall. Natural drainage in the area is from the higher ground along the river to the lower areas. To alleviate flooding from rainfall, pump stations were constructed along the storm surge levees. A network of canals and subsurface drainage features collect and deliver storm water runoff to the pump stations. The stations discharge the storm water over the hurricane protection levees into the adjacent wetlands.

Plaquemines Parish Government has 16 pumping stations located in drainage districts on the east and west banks of the Mississippi River. Five pump stations are located on the east bank of the Mississippi River and 11 pump stations on the west bank of the Mississippi River. In addition, there are two pump stations on the west bank owned and operated by private interest, Citrus Lands Corporation.

Nine of the parish owned pump stations are located within and pump water out of the area protected by the New Orleans to Venice, Louisiana Hurricane Protection Project (NOV). The NOV straddles the Mississippi River in Plaquemines Parish between approximate river miles 59 and 10. On the West Bank, it includes 37 miles of back levee divided into 4 reaches: Reaches A, B-1, B-2, and St. Jude to City Price; and 34 miles of enlarged West Bank Mississippi River Levees. On the East Bank, the project includes 16 miles of enlarged back levees (Reach C). This project is a Federal system designed to provide protection from hurricane tidal overflow for 100-year frequency storms in the lower Mississippi River delta region. It protects about 75 percent of the population and 75 percent of the improved lands in the project area. The nine non-Federal pumps stations are required to adequately drain rainfall runoff from the protected area.


Plaquemines
Pump Stations
Significant Damage
Belle
Chase #2
PS
Barriere
PS
PS
Belle
Chase #1
PS
Scarsdale
PS
Braithwaite
PS
Belair
PS
Ollie
(Upper, Lower, &
New)
Bellevue
PS
PS
Wilkinson
Canal
PS
Pointe Celeste
(Upper & Lower)
Pointe A La Hache
– East Bank
PS
PS
Pointe A La Hache
– West Bank
PS
Diamond
PS
Hayes
PS
Gainard Woods
(1 & 2)
PS
Sunrise
(1 & 2)
PS
Grand Liard/
Triumph
Duvic
(Venice)
PS

Three-parish operated pump stations are located within and pump water out of the area leveed by the Gulf Intracoastal Waterway, Algiers Alternate Route and the West Bank and Vicinity, New Orleans, Louisiana, Hurricane Protection Project. The remaining four parish owned pump stations and two privately owned pump stations are located within and pump water out of areas protected by non-Federal levees.

The pump stations and the levees were damaged by Hurricane Katrina, a Category 3 hurricane on August 29, 2005, when it made landfall near Buras-Triumph, which is in Reach B-1 on the NOV. The "extraordinary storm" produced storm surge levels that exceed the level of the constructed protection. Numerous breaches occurred along the back levees on both the east and west bank sides of the NOV project. Levees were overtopped and breached along both the back levees and the Mississippi River levees (as enlarged for hurricane protection) causing significant flood damage to the pump stations. The pump stations also experienced damage from the high winds and wind driven water.

Rehabilitation assistance is necessary to a pre-storm condition and level of protection. Plaquemines Parish requested, in writing, rehabilitation assistance for flood damages to the levees and pump stations on October 8, 2005 (Appendix A).

The estimated cost for the recommended alternative for rehabilitating the non-Federal pump stations in Plaquemines Parish is $8,177,000 with an overall benefit cost ratio of 2.4 to 1. The table below presents a summary of the project costs and benefits. The non-Federal sponsor is responsible for the removal of asbestos insulated exhaust piping and transit building panels. The estimated cost of this work is $199,000.

Plaquemines Parish Non-Federal Pump Stations
Cost and Benefit Cost Ratios

Location	Drainage Area	Pump Station Name	Cost ($)	Benefit Cost Ratio
East Bank	Braithwaite			
		Braithwaite	101,000	2.2
East Bank	Belair/Scarsdale			
		Belair	538,000	
		Scarsdale	413,000	
		Subtotal	951,000	3.6
East Bank	Reach C			
		Bellevue	281,000	
		East Point a la Hache	876,000	
		Subtotal	1,157,000	2.4
West Bank	Area 7 West			
		Belle Chasse 1	6,000	
		Belle Chasse 2	0	
		Barriere Road	0	
		Subtotal	6,000	n/a
West Bank	Area 6 West			
		Ollie (Upper, Lower and New)	2,000	n/a
West Bank	St. Jude to City Price			
		West Point a la Hache	121,000	
		Diamond	212,000	
		Subtotal	333,000	2.2
West Bank	Reach A			
		Hayes	1,411,000	
		Gainard Woods (1 and 2)	1,881,000	
		Subtotal	3,292,000	1.6
West Bank	Reach B-1			
		Sunrise (1 & 2)	841,000	
		Grand Liard/Triumph	536,000	
		Subtotal	1,377,000	2.2
West Bank	Reach B-2			
		Duvic	144,000	3.7
West Bank	Area 5 West			
		Wilkinson Canal	338,000	2.4
West Bank	Area 4 West			
		Pointe Celeste (upper and lower)	476,000	6.4
Total			8,177,000	2.4

1. Project Identification.

a. Project Name. Non-Federal Pump Stations, Plaquemines Parish, Louisiana

b. Project Funding Classification. FCCE 320 Non-Federal

c. Project CWIS Number. 030725

2. Project Authority.

a. Classification. Non-Federal

b. Authority. Non-Federal, See Section 15.

c. Estimated original cost of project. unknown

d. Construction start date of project. circa 1950

e. Construction completion date of project.

Braithwaite	1974
Belair	1950
Scarsdale	1965
Bellevue	1972
East Point a la Hache	1972
Belle Chasse No. 1	1955 (additions to station 1963)
Belle Chasse No. 2	1994
Barriere Road	Unknown
Ollie (upper)	1964
Ollie (lower)	Unknown
Ollie (new)	1983
West Point a la Hache	Unknown
Diamond	1978
Hayes	1963
Gainard Woods No. 1	1960
Gainard Woods No. 2	1986
Sunrise No. 1	1960
Sunrise No. 2	1981
Triumph	1965
Grand Laird	1976
Duvic	1976
Wilkinson	Unknown
Pointe Celeste	Unknown

f. Major modifications/improvements/betterments since beginning of project. n/a

g. Need for PL84-99 Rehabilitation. FCW Rehabilitation Assistance is necessary to return the system to adequate functioning of the project and reduce the immediate threat to life and improved property. Planned rehabilitation will return the system to a pre-storm condition and level of protection. While the next Atlantic hurricane storm season will begin on June 1 2006, significant rainfall can occur at any time.

3. Public Sponsors.

a. Sponsor Identification. The Plaquemines Parish Government is responsible for the pump stations with the exception of the pump station at Wilkinson Canal and Pointe Celeste. These stations are owned and operated by the Citrus Lands Corporation. Plaquemines Parish Government has expressed intent in becoming the Public Sponsor for the two privately owned and operated pump stations.

b. Application for Assistance. On September 15, 2005, the New Orleans District Engineer, Colonel Richard P. Wagenaar issued a Notice to Public Sponsors notifying them that the application period to request Rehabilitation Assistance for Flood Damaged Flood Control Projects expires on October 15, 2005. A request for assistance was received from the Plaquemines Parish Government on October 8, 2005, signed by Benny Rousselle, Parish President (See Appendix A).

c. Sponsor Coordination Summary. Multiple inspections for the Damage Survey Report (DSR) were conducted between September 8, 2005 and November 21, 2005 to inspect damages to the pump stations resulting from Hurricane Katrina. The following team members conducted and/or coordinated the inspections.

Project Manager	Jim St. Germain;
Structural Engineer	Larry Mickal
Electrical Engineer	Dan Bradley
Mechanical Engineer	Dennis Strecker

4. Project Location.

a. Location. The non-Federal pump stations are located throughout Plaquemines Parish (See Appendix B). The stations are located adjacent to either Federal or non-Federal hurricane protection levees.

b. Description. The flood control system in Plaquemines Parish contains 16 non-Federal pumping stations located in drainage districts on the east and west bank of the Mississippi River. There are also 2 private pump stations located at Pointe Celeste and Wilkinson Canal.

5. Project Design. The area is divided into 11 drainage areas identified in this section. The pump stations providing drainage for each area are also identified.

a. East Bank.

1) **Braithwaite Drainage Area**. The Braithwaite drainage area is approximately 335 acres and is drained by 1 pump station with a total pumping capacity of 110 cfs: Braithwaite.

2) **Belair/Scarsdale Drainage Area**. The Belair/Scarsdale drainage area is approximately 9,042 acres. The area is drained by 2 pump stations with a total pumping capacity of 1,930 cfs: Belair and Scarsdale.

3) **Reach C Drainage Area**. The Reach C drainage area is approximately 4,476 acres and includes 16 miles of enlarged back levees from Phoenix to Bohemia (between approximate river miles 59.3 and 44.3 AHP). The area is drained by 2 pump stations with a pumping capacity of 1,000 cfs: Bellevue and East Point La Hache.

b. West Bank.

1) **Area 7 West Drainage Area**. The Area 7 West drainage area is approximately 13,620 acres and is drained by 3 pump stations with a total pumping capacity of 4,590 cfs: Barrier Road, Belle Chasse No. 1, and Belle Chasse No. 2.

2) **Area 6 West Drainage Area**. The Area 6 West drainage area is approximately 2,924 acres and is drained by 1 pump station with a total pumping capacity of 690 cfs: Ollie (New, Upper and Lower). There are actually three pump buildings at Ollie: Ollie New , Ollie Upper, and Ollie Lower.

3) **St. Jude to City Price Drainage Area**. The St. Jude to City Price area is approximately 1,110 acres and includes 3 miles of enlarged back levees from St. Jude to City Price (between approximate river miles 47.1 and 43.9 Above Head of Passes (AHP)). The area is drained by 2 pump stations with an approximate pumping capacity of 323 cfs: West Point La Hache and Diamond.

4) **Reach A Drainage Area**. The Reach A drainage area is approximately 4,503 acres and includes 13 miles of enlarged back levees from City Price to Tropical Bend (between approximate river miles 43.9 and 30.7 AHP). The area is drained by 2 pumping stations with a total pumping capacity of 1,338 cfs: Hayes and Gainard Woods (1 and 2). There are two separate building at Gainard Woods: Gainard Woods No. 1 and Gainard Woods No. 2.

5) **Reach B-1 Drainage Area**. The Reach B-1 drainage area is approximately 4,231 acres and includes 12 miles of enlarged back levees from Tropical Bend to Fort Jackson (between approximate river miles 30.7 and 20.5 AHP). The area is drained by 2 pump stations with a total pumping capacity of 1,580 cfs: Sunrise (1 and 2), Grand Liard/Triumph. There are two separate buildings at Sunrise: Sunrise No. 1 and Sunrise No. 2. Additionally, there are two separate buildings at Grand Liard/Triumph: Grand Liard and Triumph.

6) **Reach B-2 Drainage Area**. The Reach B-2 drainage area is approximately 1,892 acres and includes 9 miles of enlarged back levees from Fort Jackson to Venice (between approximate river miles 20.5 and 10.4 AHP). The area is drained by 1 pump station with a total pumping capacity of 500 cfs: Duvic.

7) **Area 5 West Drainage Area**. This area is approximately 6,712 and is bound on the west by the non-Federal hurricane protection levee and on the east by the Mississippi River levee. The area is drained by the Wilkinson Canal Pump Station with a total capacity of 440 cfs.

8) **Area 4 West Drainage Area**. This area is approximately 6,091 acres and is bound on the west by the non-Federal hurricane protection levee and on the east by the Mississippi River levee. The area is drained by the Pointe Celeste Pump Station (Upper and Lower) with a total capacity of 400 cfs. Point Celeste consists of two separate buildings: Upper Celeste and Lower Celeste.

c. Summary. The Plaquemines Parish Drainage system consists of approximately 55,000 acres. Sixteen parish-owned and operated pump stations utilizing 46 pumps with at total capacity of 12,061 cfs drains storm water runoff from the area. Two privately owned and operated stations utilize 8 pumps with a capacity of 840 cfs assist in the drainage.

Table 1
Summary of Drainage Area and Pump Capacity

Drainage Area	Pump Station	Number of Pumps	Drainage Area ac	Full Capacity (cfs)
Parish Owned				
Braithwaite				
	Braithwaite	2		110
	Subtotal	2	335	110
Belair/Scarsdale				
	Scarsdale	4		1,800
	Belair	1		130
	Subtotal	5	9,042	1,930
Reach C				
	Bellevue	2		500
	East Point a la Hache	2		500
	Subtotal	4	4,476	1,000
Area 7 West				
	Barriere Road Pump Station	1		
	Belle Chasse No. 1	5		3,600
	Belle Chasse No. 2	3		990
	Subtotal	9	13,620	4,590
Area 6 West				
	Ollie (New, Upper & Lower)	5		690
	Subtotal	5	2,924	690
St. Jude to City Price				
	West Point a la Hache	3		48
	Diamond	2		275
	Subtotal	5	1,110	323
Reach A				
	Hayes	2		500
	Gainard Woods (1&2)	4		838
	Subtotal	6	4,503	1,338
Reach B-1				
	Sunrise (1&2)	4		480
	Grand Liard/Triumph	4		1,100
	Subtotal	8	4,231	1,580
Reach B-2				
	Duvic	2		500
	Subtotal	2	1,892	500
Non-Federal Pump Station Subtotal		46	42,113	12,061
Private (Citrus Lands)				
Area 5 West				
	Wilkinson Canal	4	6,712	440
Area 4 West				
	Pointe Celeste (upper & lower)	4	6,091	400
Private Pump Station Subtotal		8	12,803	840
Total		54	54,916	12,901

6. Disaster Incident.

The non-Federal pump stations were damaged by Hurricane Katrina in 2005. Katrina made landfall in Louisiana on August 29, 2005, as an upper level Category 3 hurricane on the Saffir-Simpson Hurricane Scale with sustained winds of 125 mph (201 km/h) with higher gusts, at 6:10 a.m. CDT near Buras-Triumph, which is in Reach B-1 of the NOV. The flood event produced storm surge levels that exceeded the level of the constructed Mississippi River Levee, which exceeds the back levees in elevation. The height of the existing hurricane protection on the back levees ranges from a low of 12.1-12.5 on the St. Jude – City Price reach to 17 on Reach C. This meets the criteria of an "extraordinary storm" as noted in paragraph 5-20.e. in Engineering Regulation (ER) 500-1-1, Emergency Employment of Army and Other Resources - Civil Emergency Management Program based on its being a category 3 hurricane or stronger and its having caused significant amounts of damage.

7. Project Damages.

a. General.

A separate DSR is based on damages at these facilities from Hurricane Katrina, August 29, 2005. The DSR was produced by New Orleans District personnel and the firm KBR. The DSR is on file at the New Orleans District with a summary of the DSR presented in Appendix D.

b. Summary.

For the non-Federal pump stations, the damage summaries are noted below. For additional damage information on those non-Federal stations noted, see Appendix D. Six pump stations were flooded to a level above the diesel engine air intakes. The salt water damaged the diesel engines in the station beyond normal repair. These pump stations, Belair, East Point a la Hache, Hayes, Gainard Woods No. 1, Sunrise No. 1 and Triumph will not be operational without engine replacement.

An impeller at the Wilkinson Canal Pump Station was broken during the storm and one engine failed. At Pointe Celeste two diesel engines had mechanical failures.

There has been significant wind and flood damage to the structure and/or site at every pump station in Plaquemines Parish with the exception of Belle Chasse No. 1, Belle Chasse No. 2, Barriere Road and Ollie.

Preliminary investigations indicate that four stations, Belair, Gainard Woods, Sunrise, and Triumph, contain transite (asbestos) siding. These four stations and East Point a la Hache and Hayes contain asbestos wrapped pipe. Finally, Belle Chasse No. 1 has an asbestos shingle roof.

The flooding caused non-repairable damages to the stand-by electric generators, air compressors and other auxiliary equipment at the following stations: Braithwaite, Bellevue, East Point a la Hache, West Point a la Hache, Hayes, Gainard Woods, Sunrise No. 1, and Grand Liard/Triumph.

8. Project Performance Data.

a. Inspection Results.

(1) Date of Last Inspection. Because the pump stations are not active in the RIP, inspections of the stations were not performed prior to the disaster. Therefore, a project condition code was not assigned by the Corps. The current rehabilitation assistance is a one-time policy deviation as identified in Appendix Q.

(2) Type of Last Inspection. n/a

(3) Project Condition Code of Last Inspection. No code assigned.

b. Sponsor's Annual O&M Cost. Unknown

c. Estimated cost to repair maintenance deficiencies. Unknown

d. Previous PL84-99 Assistance. There has not been any previous PL84-99 assistance provided to this project.

NOTE: The majority, if not all, of the maintenance and inspection records were lost as a result of the damages caused by the hurricane event.

9. Project Repair Alternatives Considered.

a. Description.

(1) No Action. This alternative consists of providing no emergency repairs to the flood control system under PL 84-99 authority or funding sources. The area would be vulnerable to flooding caused by rainfall events and would not be suitable for residential, industrial and other urban usage.

(2) Non-Structural Flood Recovery / Floodplain Management. This alternative consists of non-structural strategies generally involving change in land use offered by other federal and state programs. Such strategies would include: (1) acquisition, relocation, elevation, and flood proofing existing structures; (2) acquisition of fee interest and/or conservation or other types of land easements and acquisitions; and (3) restoration of wetland. The sponsors have not requested any consideration of a non-structural alternative.

(3) Repair and rehabilitate the pump stations to pre-storm conditions. This alternative consists of repairing the pump stations to pre-storm conditions.

(4) Repair and rehabilitate pump stations to pre-storm condition and elevate the engines that require replacement because of damage caused by the storm above the flood

levels caused by Katrina. Elevating the engines will prevent damage during future flood events.

b. Discussion.

(1) The no action alternative is not acceptable to the Sponsor because the area would be subject to flooding from rainfall events. This situation would prevent reliable residential and industrial use of the land.

(2) The non-structural flood recovery / floodplain management alternative is not acceptable due to the numerous industrial uses for the lands within the protected area. In addition, there will be residents who will want to and will be allowed to rebuild their homes. The sponsors have not requested a non-structural alternative.

(3) The structural repair alternative restores the flood control system to the pre-storm condition and capacity. Without the repairs, the area would be subject to flooding from rainfall events. Repairs would consist of replacing flooded, damaged, and non-operational diesel engines, rebuilding chain drives, replacing air compressors, starters and generators, and miscellaneous repairs to the pump station buildings and the surrounding site.

(4) The structural repair and elevating alternative includes the items identified in the structural repair alternative and elevates the pump station engines and associated equipment for those stations that require engine replacement because the engine was flooded. This alternative would prevent critical equipment from being damaged in the event of significant storm surges in the future. Specifically, the engines that were damaged from the flood waters would be elevated within the existing building (with the exception of Belair). A hydraulic pump system would be used to drive the pump impellers, negating the need for the engine shaft to align with the pump shaft. Because the structural integrity of the Belair pump station house and foundation are questionable, a new foundation and building would be constructed to house the engine. The engines would be elevated at the following pump stations: Belair, East Point a la Hache, Hayes, Gainard Woods No. 1, Sunrise No. 1, and Grand Liard/Triumph. All other pump stations would be repaired as identified in the structural repair alternative. The new elevation of the engines was determined by using the flood level produced by Katrina.

ER 500-1-1 paragraph 5-2 b (1) allows for the improvements to design and equipment that are a result of state of the art technology, and are commonly incorporated into current designs in accordance with sound engineering principles. Elevating the equipment when the engine requires replacement is practical and sound engineering. Three pumping facilities sites, Gainard Woods, Sunrise, and Grand Liard/Triumph, each have multiple stations. The older stations Gainard Woods No. 1 (constructed 1960), Sunrise No. 1 (constructed 1960), and Triumph (constructed 1965) flooded approximately 7 to 8 feet above the equipment operating floor. The newer stations, Gainard Woods No. 2 (constructed 1986), Sunrise No. 2 (constructed 1981), and Grand Laird (constructed 1976), constructed adjacent to the older stations, received only minor flooding and do not require major engine overhaul or replacement because the operating floors are at higher elevations than the older stations.

Similarly, Duvic and Bellevue Pump Stations did not flood because the operating floors are also elevated. Elevating stations to a height near the elevation of the hurricane protection level is common practice for new construction in Plaquemines Parish and is the current design standard for the parish.

Figures 1 shows a schematic of an existing pump station. Figure 2 identifies the method used to elevate the diesel engine within the existing building and the addition of the hydraulic drive.

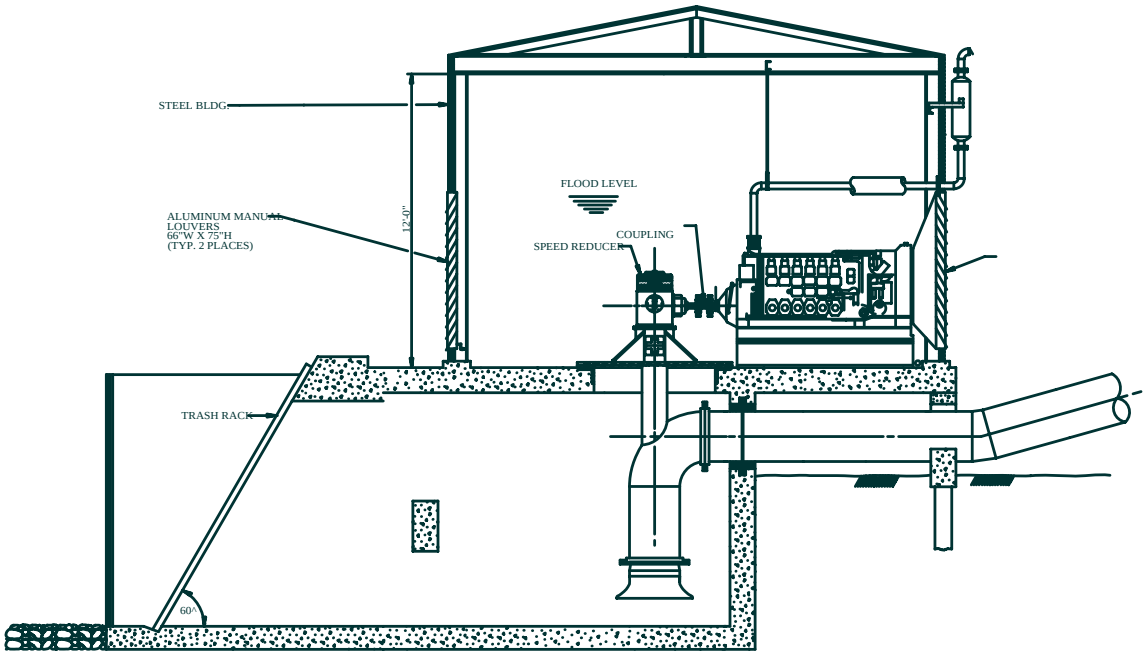


Figure 1. Existing Pump Station Configuration

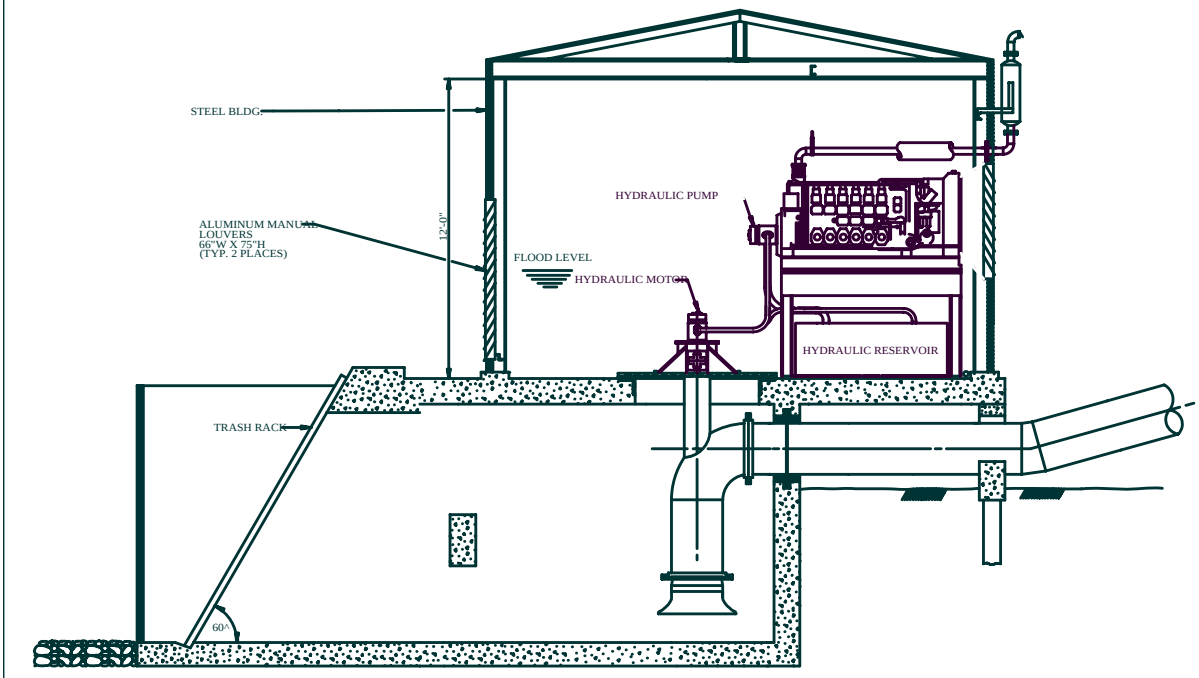


Figure 2. Elevated Engine with Hydraulic Drive Motor

10. Comparison of Alternatives.

Table 2 is a comparison of the cost to repair all of the stations to the cost to repair the damaged stations and elevate the engines above the Katrina flood elevation. The percent increase in cost to the overall project is 5 percent. The additional $389,000 to elevate the engines is a small increase to ensure that damages during future flood events will be minimized. Not only will the pump station damages be reduced, but damages to residential and commercial properties should also be reduced.

Table 2
Alternative Cost Comparison

Pump Station	Repair ($)	Repair and Elevate ($)	Difference ($)	Percent Increase
East Bank				
Braithwaite				
Braithwaite	101,000	101,000	0	0
Belair/Scarsdale				
Belair	446,000	538,000	92,000	20.6
Scarsdale	413,000	413,000	0	0
Subtotal	859,000	951,000	92,000	10.7
Reach C				
Bellevue	281,000	281,000	0	0
East Point a la Hache	862,000	876,000	14,000	1.6
Subtotal	1,143,000	1.157,000	14,000	1.2
West Bank				
Area 7 West				
Belle Chasse 1	6,000	6,000	0	0
Belle Chasse 2	0	0	0	0
Barriere Road	0	0	0	0
Subtotal	6,000	6,000	0	0
Area 6 West				
Ollie	2,000	2,000	0	0
St. Jude to City Price				
West Point a la Hache	121,000	121,000	0	0
Diamond	212,000	212,000	0	0
Subtotal	333,000	333,000	0	0
Reach A				
Hayes	1,332,000	1,411,000	79,000	5.9
Gainard Woods	1,817,000	1,881,000	64,000	3.5
Subtotal	3,149,000	3,292,000	143,000	4.5
Reach B-1				
Sunrise	709,000	841,000	132,000	18.6
Grand Liard/Triumph	528,000	536,000	8,000	1.5
Subtotal	1,237,000	1,377,000	140,000	11.3
Reach B-2				
Duvic	144,000	144,000	0	0
Private				
Wilkinson	338,000	338,000	0	0
Pointe Celeste	476,000	476,000	0	0
Subtotal	814,000	814,000	0	0
Total	7,788,000	8,177,000	389,000	5.0

11. Recommended Alternative. For an itemized list of repairs see Appendix D.

FEMA tasked the Corps to repair the roofs of the pump stations under Mission Assignment Number 21, Critical Facilities Program (JFO-973 Tasker, see Appendix I). The repair work began in November and is scheduled to conclude in December 2005.

a. EAST BANK.

(1) Braithwaite Drainage Area.

Braithwaite Pump Station. Repairs to this station will include mechanical and electrical equipment items consisting of generator, engine cooling system repair, fuel tanks and fuel piping. Pump station building and site repairs will consist of handrail and intake screen repairs.

(2) Belair/Scarsdale Drainage Area.

Belair Pump Station. The engine at the Belair Pump Station was flooded and can not be repaired. The new engine can not be elevated within the existing station; therefore, a new pump house will be constructed adjacent to the existing stations. The elevation of the slab will be at approximately the same elevation as the back levee. The dimensions of the building slab will be approximately 15 feet by 20 feet and include a prefabricated metal building to house the replacement engine. The pumping system will be converted to a hydraulic pump system allowing the use of the existing pump, and intake and discharge piping. Associated electrical equipment will be added along with the fuel tank and fuel piping system. Intake screens will be repaired and the perimeter fence will be replaced. The roof is being repaired under FEMA Tasker JFO-973 dated October 4, 2005. Work on the roof was initiated prior to approval of this PIR. Finally the access bridge to the station was damage and has been rebuilt by the National Guard.

Scarsdale Pump Station. Repairs to this station will include mechanical and electrical equipment items consisting of basement sump, electrical panel and wiring replacement, fuel line replacement, and rebuilding the chain drives. Pump station building and site repairs will consist of door and window repair, general site clean up, intake screen repairs, and perimeter fence repair. The roof is being repaired under FEMA Tasker JFO-973 dated October 4, 2005.

(3) Reach C Drainage Area.

Bellevue Pump Station. Repairs to this station will include mechanical and electrical equipment items consisting of basement sump, grease lube motor, rebuilding the lower bearing in the chain drive, and replacing the heating and lighting system. Pump station building and site repairs will consist of replacing the roll-up door, window repairs, perimeter fence repair and

entrance gates, and intake screen repair. The roof is being repaired under FEMA Tasker JFO-973 dated October 4, 2005.

East Point a la Hache Pump Station. Repairs to this station will include repairing mechanical and electrical equipment items consisting of drain pump, basement sump, generator, heating system, electrical panel and wiring replacement, diesel engine replacement, and fuel lines replacement. Pump station building and site repairs will consist of door and window repair, intake screen repairs, general site clean up, the addition of fill material eroded by the storm, and perimeter fence and entrance gate repair. The engines will be raised within the existing building approximately 6 to 7 feet above the floor slab. The roof is being repaired under FEMA Tasker JFO-973 dated October 4, 2005. The masonry block wall will be repaired under a separate FEMA Tasker.

b. WEST BANK.

(1) Area 7 West Drainage Area.

Barrier Road Pump Station. No repairs to this station are anticipated.

Belle Chasse Pump Station No. 1. Pump station building damage consists of damage to the roof, missing roof vents, windows and storm shutters. The roof is being repaired under FEMA Tasker JFO-973 dated October 4, 2005.

Belle Chasse Pump Station No. 2. Pump station building and site repairs will consist of building roof and trim repair. These repairs are being performed under FEMA Tasker JFO-973 dated October 4, 2005.

(2) Area 6 West Drainage Area.

Ollie Pump Stations. Damage at the Ollie Pump Stations is limited to repairing the security fence. The roof and siding is being repaired under FEMA Tasker JFO-973 dated October 4, 2005.

(3) St. Jude to City Price Drainage Area.

Diamond Pump Station. Repairs to this station will include replacement of damaged electrical equipment items consisting of a generator, compressor motor, and electrical service and lighting. Pump station site repairs will consist of repairing or replacing intake screen, guard railing, fence and the addition of fill and gravel to repair eroded areas. Roof and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

West Point la Hache Pump Station. Repairs to this station will include mechanical and electrical equipment items consisting of electric motor for

pump, electrical panel and wiring replacement, and intake screen replacement. Pump station building and site repairs will consist of security fence, walkway repair, and site clean-up. Roof and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

(4) Reach A Drainage Area.

Hayes Pump Station. Repairs to this station will include mechanical and electrical equipment items consisting of vacuum pump, air compressors, generator, diesel engine replacement, electric panel and wiring replacement, heating system replacement, and canal screen replacement. Pump station building and site repairs, including some undermining of the building foundation, will consist of door and window repairs, and perimeter fence and gate repairs. The two diesel engines will be elevated approximately 6 to 7 feet within the existing building. A hydraulic motor and pump will be added negating the need for engine shaft to align with the pump shaft. Roof and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

Gainard Woods Pump Station. The Gainard Woods Pump Station consists of two separate buildings, Gainard Woods No. 1 and Gainard Woods No. 2. Repairs to these stations will include mechanical and electrical equipment items consisting of air compressors, generator, diesel engine replacement, fuel tank structure, electrical panel and wiring replacement, area lighting, heating system replacement, and intake racks replacement. The two diesel engines in Gainard Woods No. 1 will be elevated approximately 6 to 7 feet within the existing building. A hydraulic motor and pump will be added negating the need for engine shaft to align with the pump shaft. Roof, wall and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

(5) Reach B-1 Drainage Area.

Sunrise Pump Station. The Sunrise pumping facility consists of two separate buildings, Sunrise No. 1 and Sunrise No. 2. Repairs to these stations will include mechanical and electrical equipment items consisting of air compressors, generator, diesel engine replacement, fuel tank structure, electrical panel and wiring replacement, area lighting/utilities, and intake racks replacement. Pump station building and site repairs will consist of building roof and roof trim, wall, door and window repair, handrails, and perimeter fence and gate repairs. The two diesel engines in Sunrise No. 1 will be elevated approximately 6 to 7 feet within the existing building. A hydraulic motor and pump will be added negating the need for engine shaft to align with the pump shaft. Roof, wall and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

Grand Liard/Triumph Pump Station. This facility consists of two stations, Grand Liard and Triumph. Repairs to these stations will include mechanical

and electrical equipment items consisting of air compressors, generator, diesel engine replacement, fuel tank structure, electrical panel and wiring replacement area lighting/utilities, and intake racks replacement. The single diesel engine at Triumph will be elevated approximately 6 to 7 feet within the existing building. A hydraulic motor and pump will be added negating the need for engine shaft to align with the pump shaft. Roof and trim damage will be repaired under FEMA Tasker JFO-973 dated October 4, 2005.

(6) Reach B-2 Drainage Area.

Duvic Pump Station. Repairs to this station will include replacing electrical service. Site repairs will consist of perimeter fence and gate repairs and intake screen repairs. Pump station building repairs will be repaired under FEMA Tasker JFO-973 dated October 4, 2005. The damaged bridge approach slab will be repaired by the National Guard.

(7) Citrus Lands Drainage Area (Private).

Pointe Celeste Pump Station. Repairs will consist of replacing two diesel engines.

Wilkinson Canal Pump Station. Repairs will consist of replacing one diesel engine and one broken impeller.

(8) The parish uses a backhoe to remove debris from the trash racks. This backhoe is used a multiple stations. During the storm event the backhoe was flooded with salt water. The parish maintains that the backhoe is critical to efficient pump station operations by clearing debris for the trash racks at the various stations. Further investigation will determine if it is repairable. If repairable, repairs will be made. If not repairable, new equipment will be purchased and the damaged equipment salvaged by the Government. The cost to replace the backhoe is included in the repair cost for the Gainard Woods Pump Station.

c. Presence of HTRW Material. The presence of HTRW material consisting of asbestos wrapped exhaust piping and transite (asbestos) building siding has been identified. A portion of the siding will require removal to install the new diesel engines and will be replaced with new siding. The asbestos wrapped exhaust piping and siding will be removed by the non-Federal sponsor prior to granting right of entry for construction to the Government. Table 3 identifies the effected stations and the associated removal and disposal costs. These costs are the responsibility of the non-Federal sponsor and are not included in the project's total cost. The Belair Pump Station site has an underground diesel storage tank. The tank will not be disturbed by the proposed repairs.

Table 3
Sponsor Cost (HTRW)

Pump Station	Description	Cost ($)	
East Point a la Hache	Asbestos Pipe Insulation	8,600	
Hayes	Asbestos Pipe Insulation	6,500	
Gainard Woods No.1	Asbestos Pipe Insulation	4,300	
	Transite Wall Panel	43,000	
Sunrise No. 1	Asbestos Pipe Insulation	4,300	
	Transite Wall Panel	43,000	
Triumph	Asbestos Pipe Insulation	4,300	
	Transite Wall Panel	11,500	
Subtotal		125,500	
Contingency (30%)		37,700	
Subtotal		163,000	See note
E&D (10%)		16,000	See note
S&A (12%)		20,000	See note
Total		199,000	

Note: costs are rounded to the nearest thousand dollars.

d. Standard Limits for Cost. ER-500-1-1, Section 5-2, paragraph v(1) limits the construction contingency to 10%; however, because of the emergency conditions under which the design and contract documents will be prepared, the short amount of time allowed for construction completion, and the high level of competition for construction contractor resources in the area, a 30% construction contingency is used. Additionally, because of the nature of rehabilitating mechanical and electrical work, including the uncertainty of rebuilding equipment and hidden damage, E&D of 10 percent and S&A of 12 percent of the construction cost is used.

ASSESSMENT OF SELECTED ALTERNATIVE

12. Economic Analysis.

a. General. The economic feasibility analysis for the non-Federal pump stations in Plaquemines Parish, Louisiana was conducted in accordance with the requirements EP 500-1-1 in support of the repair and reconstruction of non-Federal pump stations as provided for under Public Law 84-99.

b. Benefit Analysis. The total average annual benefits associated with the 11 reaches for Plaquemines Parish were based on 100 percent inventory collections performed for the Braithwaite Feasibility Study and the Plaquemines Parish Urban Flood Control Feasibility Study. These two studies represent approximately 35 percent of the total housing units in Plaquemines Parish. Therefore, assuming that the housing is similar throughout the parish, this 35 percent was applied to the total number of housing units. There are 10,481 housing

units within Plaquemines Parish with a total population of 26,757. Inundation damage reduction benefits include those associated with avoided losses to residential, commercial, and industrial structures, their contents, and vehicles associated with these structures. This figure is estimated using October 2005 price levels.

Two sets of hydraulics were provided for each of the 11 reaches. The without project condition is the post-Katrina pumping capacity. The with-project condition is the pumping capacity with repairs made to the pump stations to bring the system to 100 percent or pre-Katrina conditions. The without project condition was defined as without pumps. The benefits reflect the difference between 100 percent pumping capacity and post-Katrina pumping capacity.

These benefits are based upon an expectation that all damaged or destroyed facilities will be fully restored and is consistent with current planning guidance that requires adjustments if there is specific information that indicates such restoration will not occur. No adjustments thus far were made to account for the partial replacement of structures that have been damaged or destroyed by Hurricane Katrina.

c. Cost Analysis. The total first costs and total average annual cost associated with repair of the damaged non-Federal pump stations in Plaquemines Parish is identified in Table 4. The total first cost for all work to be performed is $8,177,000. This estimate includes construction costs, contingencies, engineering and design costs, and supervision and administration costs. The total first costs reflect October 2005 price levels and were amortized at the FY 2006 Federal discount rate of 5.125 percent over a 50-year period of analysis. Since the repairs to the pumping stations are expected to be completed within one year, no interest during construction accrues. No incremental operations and maintenance costs are expected since the scope of the original project design has not changed.

d. Summary. The degree to which the average annual project benefits exceed the average annual project costs is the measure of positive average annual net project benefits and is consistent with a benefit-to-cost ratio of 1.0 or greater. Net benefits for the rehabilitation project and the associated benefit-to-cost ratio are identified in Table 4. All of the individual rehabilitation projects have positive net benefits and benefit to cost ratios greater that 1.0. The overall benefit to cost ratio is 2.4 with total net benefits of $641,115. The total non-Federal cost is $199,000. The non-Federal funds are required to remove and dispose asbestos pipe insulation and transite building panels affected by the repairs. This work will be performed by the non-Federal sponsor prior to granting the government right-of-entry for construction.

Table 4
Cost and Benefit Cost Ratios

Drainage Area / Pump Station Area / Station	Average Annual Benefits ($)	First Cost ($)	Average Annual Cost ($)	Net Benefits ($)	Benefit Cost Ratio
Braithwaite					
Braithwaite	12,610	101,000	5,640	6,970	2.2
Belair/Scarsdale					
Belair		538,000			
Scarsdale		413,000			
Subtotal	190,370	804,000	53,104	137,266	3.6
Reach C					
Bellevue		281,000			
East Point a la Hache		876,000			
Subtotal	153,640	1,157,000	64,607	89,033	2.4
Area 7 West					
Belle Chasse 1		6,000			
Belle Chasse 2		0			
Barriere Road		0			
Subtotal	0	6,000	335	(335)	na
Area 6 West					
Ollie (Upper, Lower and New)	0	2,000	112	(112)	na
St. Jude to City Price					
West Point a la Hache		121,000			
Diamond		212,000			
Subtotal	41,080	333,000	18,595	22,485	2.2
Reach A					
Hayes		1,411,000			
Gainard Woods (1 & 2)		1,881,000			
Subtotal	292,810	3,292,000	183,825	108,985	1.6
Reach B-1					
Sunrise (1 & 2)		841,000			
Grand Liard/Triumph		536,000			
Subtotal	166,570	1,377,000	76,892	89,678	2.2
Reach B-2					
Duvic	25,500	144,000	8,041	17,459	3.7
Area 5 West					
Wilkinson Canal	45,010	338,000	18,874	26,136	2.4
Area 4 West					
Pointe Celeste (Up & Low)	170,130	476,000	26,580	143,550	6.4
Total	1,097,720	8,177,000	456,605	641,115	2.4

e. Construction Cost Estimate. The estimate construction cost is $8,177,000. Appendix H contains a detailed construction cost estimate for each pump station.

13. Environmental

The New Orleans District Commander has considered the probable environmental consequences of the proposed work under this PIR and does not anticipate that this work will result in significant environmental impacts. No adverse impacts to endangered species, important fish and wildlife resources, waters of the United States subject to Section 404 permitting including wetlands, water quality, floodplains, or other natural and cultural resources are expected. The pump stations to be repaired are not part of any Federal project, although many of the pump stations are located within the levee alignment of the New Orleans to Venice, Louisiana, Hurricane Protection project. The environmental effects of the pump station work will be included in an after-the-fact environmental assessment that is under preparation for all of the flood protection repair work being undertaken by the Corps in the Metropolitan New Orleans area. The authority for this approach is per ER 500-1-1, Paragraph 2-3.k(1), and ER 200-2-2, Paragraph 8, and a determination made by the New Orleans District Commander on January 5, 2006, that this work prevents or reduces an imminent risk of life, health, property, or severe economic losses. (See Appendix G).

In order to comply with other applicable laws and regulations, the New Orleans District has coordinated the proposed action with appropriate Federal and state agencies. The Louisiana State Historic Preservation Officer has agreed, in correspondence dated January 5, 2006, with the New Orleans District that the pump stations are not eligible for inclusion in the National Register of Historic Places and therefore are not significant historic properties. The U.S. Fish and Wildlife does not object to the proposed action, and they have agreed with the New Orleans District's determination that the proposed action would not adversely affect threatened or endangered species, by email dated November 10, 2005. No threatened or endangered species or critical habitats under the purview of the National Marine Fisheries Service occur in the proposed work areas. The National Marine Fisheries Service has determined that proposed work will not adversely affect essential fish habitat or associated marine fishery resources by email dated November 10, 2005. The Corps will not need to apply for a storm water pollution prevention permit from the Louisiana Department of Environmental Quality (LDEQ) pursuant to Section 402 of the Clean Water Act since LDEQ has granted the Corps blanket authority to discharge storm water runoff from construction activities related to hurricane response activities in the declared disaster areas. A State Water Quality Certification pursuant to Section 401 of the Clean Water Act will not have to be obtained from the LDEQ since that office sent a letter to the New Orleans District dated September 7, 2005, which waives and dispenses with the requirement of State Water Quality Certification prior to performing such work as needed to repair, replace, or restore public infrastructure damaged or destroyed by 2005 hurricanes. The Louisiana Department of Natural Resources, Coastal Management Program office has stated in an email dated December 14, 2005 that it appears there would be no impacts of concern to their office, but they reserve their final determination until additional information is provided.

14. Interagency Levee Task Force.

Not applicable.

15. Project Management.

a. Funding Authority

(1) Program and Appropriation: FCCE, 96x3125
(2) Class: 320
(3) CWIS Number: 030725

b. Project Funds. Cost of Field Investigations /PIR Preparation: $110,000

c. Project Repair Schedule.

DSR Complete	11/21/05
PIR Complete	01/09/06
Begin Construction	01/30/06
Complete Construction	06/01/06

16. One-Time Deviation from the Policy Requirements of Cooperation for the Rehabilitation Effort.

Pursuant to CECW-HS, Memorandum for Assistant Secretary of the Army for Civil Works (ASA(CW)), SUBJECT: Recommendations for One-Time Deviations to Certain Policies Regarding Use of P. L. 84-99 (33 U.S.C. 701n) in New Orleans and Vicinity following Hurricane Katrina-FOR APPROVAL, dated October 7, 2005 (a copy of which is attached hereto as Appendix Q), approved by the ASA(CW) on October, 12, 2005 (Appendix R), and affirmed by the Office of Management and Budget on October 17, 2005, the Government shall utilize Flood Control and Coastal Emergencies (FCCE) funds, at full Federal expense pursuant to the provisions of P. L. 84-99, to fund the performance of the following activities as a one-time exception of policy specific to flood control works in St. Bernard, Orleans, Jefferson, and Plaquemines Parishes, Louisiana, following Hurricane Katrina, as follows:

a. For federally authorized and constructed projects that have been turned over to the non-federal sponsor, use FCCE funds at full federal expense to fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

b. For non-federal flood damage reduction projects, including pumps and pump stations, not active in the RIP, at full federal expense use FCCE funds, to 1) undertake permanent rehabilitation to pre-storm conditions and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the

non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

c. For those segments of federally authorized projects not be officially "turned over" but for which the sponsors are performing operation and maintenance, use FCCE funds at full federal expense to 1) undertake permanent rehabilitation to pre-storm conditions and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

d. For those segments of federally authorized projects under active construction, use FCCE funds at full federal expense to 1) undertake permanent rehabilitation to pre-storm conditions and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are need for the rehabilitation.

Only the exception to policy relating to non-Federal flood damage reduction projects applies to the rehabilitation effort described in this Project Information Report.

17. Requirements of Federal and Public Sponsor Cooperation for the Rehabilitation Effort.

The Public Sponsor, at no cost to the Government, shall use its best efforts to provide right of entry, as requested by the Government, to lands, easements, rights-of-way, and disposal or borrow areas (LERD) that were owned, controlled or claimed by other non-Federal Government entities on the date of the Government's request for right of entry (hereinafter "Other Non-Federal Governmental LERD"). If the Public Sponsor, despite diligent efforts, is unable to acquire right of entry to Other Non-Federal Governmental LERD, the Government shall obtain right of entry to the Other Non-Federal Governmental LERD from the non-Federal governmental entity who owns, controls or claims said LERD.

a. Owned by Private Interests.

For the rehabilitation efforts described herein, excluding private pump stations, the Government shall fund the acquisition of LERD that are not owned, claimed or under the control of the Public Sponsor or any other non-Federal governmental entities on the date of the Government's request for right of entry (hereinafter "Private LERD"). The Government's responsibility to fund the acquisition of Private LERD shall be in accordance with the following procedures and requirements.

1) Exercise of Commandeering Powers. Immediately upon the Government's request that the Public Sponsor provide Private LERD, the President of the Plaquemines Parish Government, without cost to the Government, shall sign an executive order commandeering the Private LERD (hereinafter "Commandeering Order"), pursuant to his/her powers under La. R.S. 29:721, et seq., for the construction of the permanent rehabilitation efforts herein described. The exercise of

such commandeering powers and authorities is subject, under the cited state law, to the requirement that the owners of any commandeered interest that is compensable under the law, be identified and justly compensated under the law.

2) Provision of Right of Entry. At no cost to the Government, the Public Sponsor shall promptly provide right of entry to the Government to the Private LERD for the construction, operation and maintenance of the rehabilitation efforts described herein.

3) Responsibility for Acquisition of Private LERD. After receipt of the executed Commandeering Order and right of entry from the Public Sponsor, the Government will perform, or cause to be performed, the acquisition of the Private LERD determined by the Government to be necessary for the construction, operation and maintenance of the LERD described herein. The acquisition of LERD by the Government will be subject to the availability and receipt of P. L. 84-99 appropriations and the provision by the Public Sponsor, at no cost to the Government, of the Commandeering Order and right of entry referenced in Paragraph 17.a.1 and 17.a.2, respectively.

4) Acquisition in the Name of the Public Sponsor. The Government shall acquire, as appropriate, any Private LERD and Other Non-Federal Governmental LERD and relocations, as well as any subordinations or releases of interest required to be obtained from third parties in the name of the Public Sponsor. Provided however, that if the Government is required to acquire said interests through the exercise of its Federal powers of eminent domain authority, the Government shall file such proceedings in a Federal district court, such that possession and ownership of the condemned LERD and interests shall be in the name of the United States of America. The Government shall thereafter quitclaim such interest to the Public Sponsor and the Public Sponsor shall agree in the Cooperation Agreement to accept the quitclaim of any LERD and interests so acquired by the Government for the purposes of the Rehabilitation Effort herein described.

b. Construction.

The Government will expeditiously construct the Rehabilitation Effort described herein, subject to the provision of P. L. 84-99 funds by the Congress, and subject to the commandeering of Private LERD by the chief executive officer of the parish or city where the Private LERD are located and to the provision by the Public Sponsor of a right of entry to the LERD determined by the Government to be necessary for the construction, operation and maintenance of the Rehabilitation Effort.

c. Relocations

The Government will determine and accomplish or assure accomplishment of all the relocations necessary for the construction, operation and maintenance of the Rehabilitation

Effort described herein, including those necessary to enable the removal of borrow materials and the proper disposal of dredged or excavated material; provided however, that the Public Sponsor, without cost to the Government, shall commandeer the privately-owned relocated facilities or utilities in accordance with its powers under La. R.S. 29:721, et seq.; shall diligently exercise its rights and authority to secure a subordination or release of third party interests on Public Sponsor LERD; and shall use its best efforts to secure a subordination or release of third party interests on Other Non-Federal Governmental LERD. If the Public Sponsor, despite diligent efforts, is unable to secure the release or subordination of third party interests in Other Non-Federal Governmental LERD, the Government shall obtain such subordination or release from the owners of such interests.

d. Hazardous Substances.

The Government shall perform, or cause to be performed, such investigations for hazardous substances as are determined to be necessary by the Government to identify the existence and extent of hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C. 9601-9675, on all lands that are determined by the Government to be necessary to the construction, operation, and maintenance of the subject Rehabilitation Effort. In the event that hazardous substances are determined to exist on lands acquired for the Rehabilitation Effort and the Government and the Public Sponsor determine to proceed or continue with the construction after considering liability that may arise under CERCLA, the Public Sponsor shall be responsible, as between the Government and the Public Sponsor, for any and all necessary clean up and response costs, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall not be considered a part of the total Rehabilitation Effort for the subject project.

Preliminary investigations have determined the presence of asbestos insulation on exhaust piping and transite (asbestos) building panels. The non-Federal sponsor will remove the pipe asbestos and any transite panels that are required to be removed to gain access for repairs or altered to affect the repairs to the pump stations prior to tendering authorization for entry for construction.

e. Indemnification.

The Public Sponsor shall hold and save the Government free from all damages arising from the construction, operation, and maintenance of the subject Rehabilitation Effort and any related betterments, except for damages due to the fault or negligence of the Government or the Government's contractors.

f. Betterments.

The Public Sponsor may request the Government to accomplish betterments and shall be solely responsible for any increase in costs resulting from the betterments. All such increased costs will be paid in advance by the non-Federal sponsors.

g. Operation and Maintenance.

The Public Sponsor shall operate and maintain those portions of the Rehabilitation Effort herein described at no cost to the Government, in accordance with specific directions prescribed by the Government in Engineer Regulation 500-1-1 and any subsequent amendments thereto and other applicable authorities.

h. Private Pump Stations.

The Plaquemines Parish Government (PPG) has stated its desire for PL 84-99 rehabilitation work to be accomplished on two pumping stations in the private ownership of Citrus Lands Corporation. In accordance with the requirements of 33 CFR Chapter 11, Subpart G, Section 203.81, the Plaquemines Parish Government (PPG) will be the non-Federal sponsor for the work to be accomplished on the privately owned pumping stations. Under the Cooperative Agreement (CA) between the Government and PPG, PPG will be responsible for accomplishment of all work, conditions, and requirements as though the pumping stations were owned by PPG, including but not limited to supplying, at no cost to the Government, a right of entry to the Government for the pumping stations for the work to be accomplished, removal of all HTRW material and the costs associated therewith, hold harmless and indemnification to the Government, and OMRR&R of the pumping stations. Any and all agreements between the private owner of the pumping stations and PPG, regarding work to be accomplished under this PIR and the CA, must be reviewed and approved by the Government. Additionally, any and all agreements between the private owner of the pumping stations and PPG, regarding work to be accomplished under this PIR and the CA, must be executed by the private pump station owner and PPG prior to execution of the Cooperative Agreement between PPG and the Government. The private pumping station owner will also be required to give affirmative assurances to PPG and the Government that the private owner will not file, and has not filed, a claim with, requested a loan from, or received funds from the Federal Emergence Management Agency, the Small Business Administration, or any insurer or under any insurance policy, regarding damages to the pump stations, and transferring to the Government any and all rights the private owner may have to any and all proceeds regarding damages to the pumping stations as a result of Hurricanes Katrina and/or Rita. While PPG has stated its desire for PL 84-99 rehabilitation work to be accomplished on the two private Citrus pumping stations, PPG has indicated that it will not commandeer the pumping stations, nor pay for any right-of-entry to the pumping stations. PPG has indicated that Citrus must voluntarily, at no cost to PPG or the Government, enter into agreements with PPG as indicated above, before any work may be accomplished on the Citrus pumping stations. As such, PPG is contacting Citrus Lands Corporation to arrange for all necessary and/or required agreements between Citrus Lands Corporation and PPG. Should the voluntary agreements between Citrus Lands Corporation and PPG not come to fruition, then no PL 84-99 rehabilitation work will be accomplished on the private Citrus pumping stations under this Project Information Report or its associated Cooperative Agreement.

18. Real Estate Requirements.

All applicable Rights of Entry will be provided by the appropriate Public Sponsor prior to each construction contract in accordance with the procedures set forth in Section 17 above.

PROJECT SUMMARY

19. Recommendations/Project Authentication.

a. It is recommended that this project should be repaired under PL84-99. The recommended alternative of structural repair and elevating diesel engines as described should be implemented. Without repairs to the flood control project, the threat of flooding from rainfall events would continue to leave the area unusable for residential and commercial use.

b. It is recommended that this project be approved. The project first cost is $8,177,000 with a benefit-to-cost ratio of 2.4 to 1. The Federal cost is $8,177,000. The non-Federal sponsor is responsible for the removal and disposal of asbestos pipe insulation and transite building panels affected by the rehabilitation work. The estimate cost of this work is $199,000. This cost is not included in the total project first cost. The final design will be completed with contract award scheduled to ensure repairs are completed as soon as practical.

DISTRICT PROJECT AUTHENTICATION
Project Information Report, NON-FEDERAL PUMP STATIONS, Plaquemines Parish

Report Prepared By: James J. St. Germain 1/5/06
James J. St. Germain
Project Manager
Date

Emergency Management
Approval By: Thomas M Hall 1/06/06
FOR Herbert J. Wagner
Acting Chief, Emergency Operations
Date

CERTIFICATION OF LEGAL REVIEW

The Project Information Report (PIR) for repair of the non-Federal Pump Stations in Plaquemines Parish, Louisiana has been reviewed by the Office of Counsel, New Orleans District and is approved as a legally sufficient document for commencement of construction.

Reviewed by: Dcaryl G. Glorioso 6 January 2006
Assistant District Counsel
Date

Certified by: for Gary Kinsey 6 January 2006
District Counsel
Date

District-Level Approval By: 8 Jan 06
Richard P. Wagenaar
Colonel, U.S. Army
District Engineer
LTC, EN
Deputy District Engineer
Date

Revisions to the Project Information Report (PIR), for the rehabilitation effort for the non-Federal pump stations in Plaquemines Parish, Louisiana have been reviewed by the Office of Counsel, New Orleans District and are approved as legally sufficient.

Reviewed by: _____ 15 January 2006
Assistant District Counsel — Date

Certified by: _____ 15 January 2006
District Counsel — Date

DIVISION PROJECT APPROVAL
Project Information Report, NON-FEDERAL PUMP STATIONS, Plaquemines Parish

Emergency Management
Approval By: _____ 1/18/06
for Chief, MVD Emergency Operations — Date

CERTIFICATION OF LEGAL REVIEW

The Project Information Report (PIR) for repair of the non-Federal Pump Stations in Plaquemines Parish, Louisiana has been reviewed by the Office of Counsel, Mississippi River Division and is approved as a legally sufficient document for commencement of construction.

Certified by: _____ 1/20/06
Division Counsel — Date

Division-Level Approval By: _____ 22JAN2006
Albert M. Bleakley — Date
Colonel, Engineer
Deputy Division Commander

TECHNICAL POINTS OF CONTACT

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Emergency Management			
Emergency Mgmt Approval	Herbert Wagner	CEMVN-OD-R	504-862-7434
Engineering			
Electrical Engineer	Dan Bradley	CEMVN-ED-GE	504-862-2696
Mechanical Engineer	Dennis Strecker	CEMVN-ED-GE	504-862-2694
Structural Engineer	Larry Mickal	CEMVN-ED-T	504-862-2711
Hydraulic Engineer	Clyde Barre	CEMVN-ED-HD	504-862-2429
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Attorney	Mary V. Kinsey	CEMVN-OC	504-862-2828
Executive			
DDPM Chief	Greg Breerwood	CEMVN-EX	504-862-2204
District Engineer	Col R. Wagenaar	CEMVN-DE	

Sponsor Points of Contact

Plaquemines Parish Government

President, Plaquemines Parish Government Benny Rousselle 504-394-4080
106 Avenue G, Belle Chase, LA 70037

APPENDICES

APPENDIX A

October 8, 2005

Corps of Engineers, New Orleans District
Attn: Operations Division, Readiness Branch (Herbert J. Wagner)
7400 Leake Avenue
New Orleans, Louisiana 70118-3651

This letter is a written request for rehabilitation assistance for the following flood control project constructed by the non-Federal sponsor in Plaquemines Parish(es), Louisiana: Levee Construction and Pump Station Repairs project(s).

1) Name of Requesting Agency: Plaquemines Parish Government

Points of Contact:	Phone Number:
Benny Rousselle	(504) 394-4080

2) Corps assistance with Levee damage assessment: ✓ Yes ____ No
Corps assistance with Pump Station damage assessment: ✓ Yes ____ No

3) Flood Control Project Location (Section, Township, Range, City and Parish):
Plaquemines Parish, LA, Grand Pacific Levee District, Bucas Levee District and Plaquemines Parish West Bank Levee District.

4) Locations of damage: Throughout Plaquemines Parish

5) Waterway causing the damage: Mississippi River and Gulf tidal flow from Hurricane Katrina.

6) Financial Capability of the Non-Federal Sponsor: Hurricane Katrina, August 29, 2005, was a devastating hurricane of catastrophic proportions. The undersigned non-Federal Sponsor requests that the Federal Government assume responsibility and/or cost of the following items of non-Federal responsibility under the requirements of Public Law 84-99: [SIGNIFY REQUEST BY PLACING AN "X" IN THE SPACE PROVIDED.]

a. After required new real property interests identified by the Federal Government are commandeered by or on behalf of the non-Federal sponsor, assume responsibility for acquisition and funding of land payments and incidental cost thereof, of newly acquired lands, easements, rights-of-way, relocations, and disposal areas (LERRDs), including credit/reimbursement for fair market value, settlement or final judgment for LERRDs

commandeered by or on behalf of the non-Federal sponsor, subject to the requirement that the Federal Government must provide prior approval of fair market value and settlement determinations prior to the non-Federal tender of an offer to land owner: X

b. All reasonable, allocable and allowable cost of the project Rehabilitation Effort: X

c. Costs of Hazardous, Toxic, Radioactive Waste (HTRW) Investigation: X

7) The need for Federal Government assumption of cost-sharing responsibility for the above items of local obligation is requested due to the extraordinary demands upon the fiscal resources of the undersigned non-Federal sponsor, as follows: Non existent revenue source due to extensive damage to manufacturing and residential tax base.

8) Despite current and anticipated future non-Federal fiscal constraints, the non-Federal sponsor can provide the following services and/or items of local obligation, without credit or reimbursement: minimal resources available at this time.

9) It is in the national interest to provide permanent rehabilitation of the above described projects for the following reasons: This area is the gateway to America for Shipping and the oil & gas industry. We also have critical infrastructure such as oil and gas refineries gas plants and the Joint Reserve Military Base.

10) It is understood and agreed that the Government's decision regarding the request in Paragraph 6 above will be within the Government's sole discretion, and will be determined based on the facts and circumstances applicable to each project.

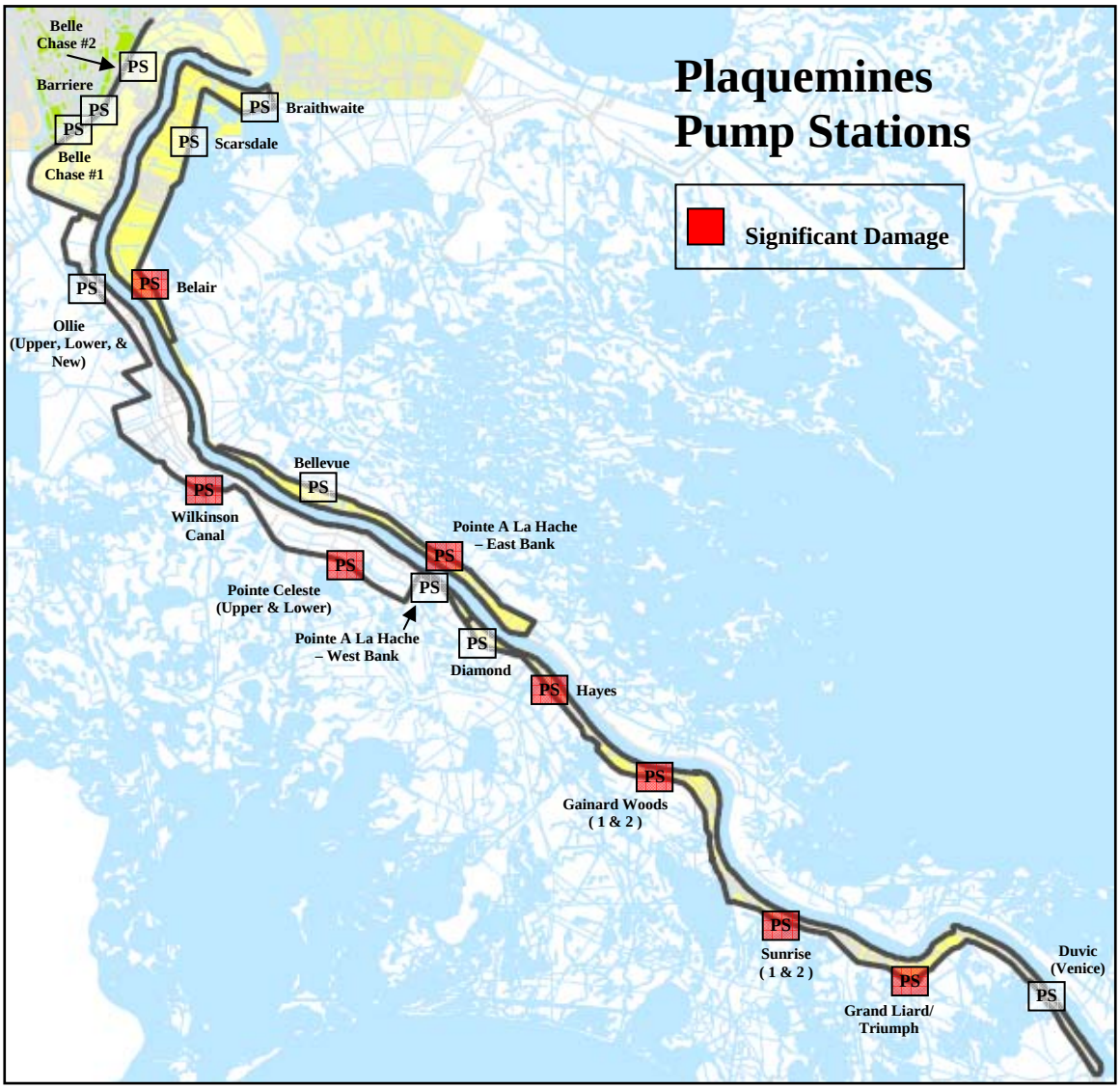
Sincerely,

Benny Rousselle, Parish President
Plaquemines Parish Government
Governing Body, Grand Prairie Levee District

Benny Rousselle, Parish President
Plaquemines Parish Government
Governing Body, Buras Levee District

Benny Rousselle, Parish President
Plaquemines Parish Government
Governing Body, Plaquemines Parish West Bank Levee District

Appendix B



Plaquemines Pump Station Locations

(NOTE: Wilkinson Canal and Pointe Celeste Pump Stations are private stations)

Appendix C

Disaster Incident

See Section 6 of Main Report

Appendix D
Damages
Table of Contents

Braithwaite Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, East Bank

A. Number of Pumps

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks – Lo-lift Vertical Pump 30"x13' HIF, 900 RPM, 30" discharge; Engine GM Diesel 4-71 85 HP

Pump No. 2: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks - Lo-lift Vertical Pump 30"x17' HIF, 900 RPM, 30" discharge; Engine GM Diesel 6-71 140 HP

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:**
Incoming Electric Power Service:

Standby Backup Power Equipment: 5 kW Genset was submerged in salt water.

Switchgear and/or Motor Control Centers:

Motor Feeder Power Cables and wiring: (motor cables and splice seals)

Pump Controls Systems: Manual

Pump Lubricator:

Fuel Systems and Supply: Main supply tank swept off of support

Compressed Air System: NA

Vacuum System:

Trash Racks: Damage to timber racks; possibly missing slats.

Trash Raking Equipment: NA

Trash Rakes: Manual

Discharge Pipe Flap Gates: None

Pump Engines:

Pump Chain/Gear Drives:

Pump Station Building Structure: Acceptable

Pump Station Building Roof: Missing roof panels on north structure

Pump Station Building Doors & Windows: Windows missing on south sides of both bldgs.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications):

Scarsdale Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, East Bank

A. Number of Pumps - 4

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks – see attached data sheet

Pump No. 2: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks - see attached data sheet

Pump No. 3 Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks - see attached data sheet

P ump No 4: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:**
Incoming Electric Power Service: 400A safety switch on meter pole submerged in salt water.

Standby Backup Power Equipment: Control panel on Gen set was damaged by rain water unit was repaired by Parish contract.

Switchgear and/or Motor Control Centers: Not damaged but is subject to future rain storms until roof is repaired

Motor Feeder Power Cables and wiring: (motor cables and splice seals) not damaged but are subject to future damage until roof is repaired.

Pump Controls Systems: Manual

Lubricator: A grease lubricator stopped working during the storm.

Fuel Systems and Supply: Operational. Fuel transfer pumps were partially submerged.

Compressed Air System: Operational

Vacuum Systems: Operational

Trash Racks: Canal racks are missing slats and have organic debris. Several steel trash racks are damaged or missing.

Trash Raking Equipment: NA

Trash Rakes: Manual

Discharge Pipe Flap Gates: NA

Pump Engines: Operational

Pump Chain Drives: Operational. Due to prolong pumping after Katrina and Rita the chain drives showed signs of distress. One unit ran hot enough to burn the paint off of the housing. A second unit had a bad bearing that ran noisy. One of the couplings between the chain drive and pump was sling grease. The lower half of the chain drive was submerged.

Pump Station Building Structure: Minor damage to CMU (south) wall.

Pump Station Building Roof: Roofing/insulation damaged; new roof covering required. Gutter required across face of building (tied to cistern); fascia damaged or missing.

Pump Station Building Doors & Windows: Several storm shutters not working.

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: Four diesel space heaters were flooded with rain water due to roof failure. Basement Sump pump and controls were flooded.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): 2-10 Hp fuel transfer pumps were submerged in salt water. Sump pump motor remains submerged in salt water.

Pump Station Site: Portions of fence and gates damaged; replacement required.

Belair Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines East bank

A. Number of Pumps: 1

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks – diesel engine was flooded; restart procedures were unsuccessful

B. Auxiliary Equipment and Features (note damage and problems):

Incoming Electric Power Service: N/A

Standby Backup Power Equipment: 5k W Gen Set submerged in salt water

Switchgear and/or Motor Control Centers: Fused disconnect switch submerged in salt water.

Motor Feeder Power Cables and wiring: (motor cables and splice seals) Conduit and conductors submerged in salt water.

Pump Controls Systems: Manual

Pump Lubricator: Submerged

Fuel Systems and Supply: Fuel line damaged – day tank missing

Compressed Air System: Compressor flooded – replacement required

Trash Racks: Organic debris; timber racks damaged.

Trash Raking Equipment: NA

Trash Rakes: Manual

Discharge Pipe Flap Gates: NA

Pump Engine: Submerged

Pump Gear Drive: Submerged

Pump Station Building Structure:

Pump Station Building Roof: roof panels missing

Pump Station Building Doors & Windows: (2) windows damaged (missing)

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: NA

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): lights sustained wind damage.

Pump Station Site: Fence and gates damaged; replacement required. Timber vehicular bridge washed out and requires replacement.

Bellevue Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, East Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks – see attached data sheets

Pump No. 2: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks – see attached data sheets

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:**
Incoming Electric Power Service: Electric Service equipment sustained wind damage

Standby Backup Power Equipment: 15 kW GenSet removed for repairs prior to storm.

Switchgear and/or Motor Control Centers: NA

Motor Feeder Power Cables and wiring: (motor cables and splice seals)_NA

Pump Controls Systems: Manual

Pump Lubricator: Lubricator motor submerged.

Fuel Systems and Supply: Operational

Compressed Air System: Operational

Vacuum System: Operational

Trash Racks: Silt and Organic Debris; steel trash racks missing or damaged; timber trash racks damaged.

Trash Raking Equipment: NA

Trash Rakes: NA

Discharge Pipe Flap Gates: NA

Pump Engine: Operational. Pump engine clutches were partially submerged.

Pump Chain Drives: Operational. Chain drive bearings located below pump station floor were submerged.

Pump Station Building Structure: Acceptable

Pump Station Building Roof: Roofing/insulation damaged – fascia and ridge cap missing; gutter across face of building missing\; roof vents missing.

Pump Station Building Doors & Windows: Minor damage to doors and windows; overhead door needs replacing; storm shutter needs replacing.

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: Acceptable

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): Electrical dry-out required

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: None

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): Electric forced air heater partially submerged in salt water also sustained wind damage_. Sump motor submerged in salt water. Light poles and Lights at trash racks sustained wind damage. Exterior building lights sustained wind damage.

Pump Station Site: Approx. 200 ft. of fence and 2 sets of 2 gates each needs replacing. Soil erosion under discharge pipes.

East Point a la Hache Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, East Bank

A. Number of Pumps :

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - ~~Yes~~ No

Remarks – This engine was flooded; restart procedures were unsuccessful – replacement required

See attached data sheets

Pump No. 2: Drive Type - Diesel Engine ~~Electric Motor~~ Operable - ~~Yes~~ No

Remarks – This engine was in shop for major rebuild; will be re-installed when completed.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:**
Incoming Electric Power Service: Service pole, meter pan, disconnect switch, conductors and conduit lost to wind damage.

Standby Backup Power Equipment: 15 kW Genset submerged in salt water.

Switchgear and/or Motor Control Centers: NA

Motor Feeder Power Cables and wiring: (motor cables and splice seals) - NA

Pump Controls Systems: Manual. Control panels were submerged. Control air compressor was submerged.

Pump Lubricators: Pump lubricators were submerged damaging gear boxes and gages.

Fuel Systems and Supply: Operational

Compressed Air System: Electric and diesel driven compressor and drives were submerged.

Vacuum Systems: Electric and diesel driven vacuum pumps were submerged.

Trash Racks: Steel racks and timber racks damaged and require repair.

Trash Raking Equipment: NA

Trash Rakes: Manual

Discharge Pipe Flap Gates: NA

Pump Engines: One engine and engine clutch was submerged. One engine was removed for overhaul prior to the storm. The clutch of the removed engine was submerged.

Pump Chain Drives: Both pump chain drives were submerged including bearings and coupling.

Pump Station Building Structure: Significant damage to non-load bearing masonry walls – south and west walls.

Pump Station Building Roof: Some metal deck is missing and needs replacement; roofing/insulation had significant wind damage and needs to be replaced.

Pump Station Building Doors & Windows: Front doors and back door damaged – replacement required. Overhead door damaged - replacement required. Most windows need replacement and new storm shutters are required.

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: Diesel-fired. Basement sump pump and controls were submerged.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): _____

__switches, receptacles, conduit conductors submerged in salt water, sump pump motor submerged in salt water, blower heater units submerged in salt water, exterior building lighting sustained wind damage, Double thro disconnect switch and light and power panel submerged in salt water.

Pump Station Site: Fence replacement required; significant soil erosion under discharge pipes.

Belle Chasse #2 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 3

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks -

Pump No. 3: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks -

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Power lines are intact.

Standby Backup Power Equipment: Operational

Switchgear and/or Motor Control Centers: NA

Motor Feeder Power Cables and wiring: NA

Pump Controls Systems: Manual

Pump Lubricators: Operational

Fuel Systems and Supply: Gravity feed is operational

Compressed Air System: Operational

Vacuum System: Operational

Trash Racks: OK

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A

Pump Engines: Operational

Pump Gears/Chain Drive: Operational

Pump Station Building Structure: Side and corner panel have minor damage

Pump Station Building Roof: Metal decking is missing on the end of a roof.

Pump Station Building Doors & Windows: One window is broken.

Pump Station Mechanical Building Systems: OK

Pump Station Electrical Bldg. Systems: OK

Belle Chasse #1 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 5

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Horizontal Propeller. Engine rated at 1200 HP. Pump rated at 800 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Horizontal Propeller. Engine rated at 1200 HP. Pump rated at 800 CFS.

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Vertical Propeller. Engine rated at 240 HP. Pump rated at 150 CFS

Pump No 4: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Horizontal Propeller. Engine rated at 1440 HP. Pump rated at 903 CFS.

Pump No. 5: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Horizontal Propeller. Engine rated at 1440 HP. Pump rated at 903 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Power lines are intact.

Standby Backup Power Equipment: Operational

Switchgear and/or Motor Control Centers: NA

Motor Feeder Power Cables and wiring: NA

Pump Controls Systems: Manual

Pump Lubricators: Operational

Fuel Systems and Supply: Gravity feed is operational

Compressed Air System: Operational

Vacuum System: Operational

Trash Racks: 1 section is damaged but operational.

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A

Pump Station Building Structure: Siding is missing on the north side of the south building.

Pump Station Building Roof: Metal decking is missing on the end of the roof of the south building. 1/3 of the shingles are missing on the roof of the north building. Vent stacks are missing on the south bldg.

Pump Station Building Doors & Windows: Windows are broken in both buildings. Storm shutters are broken on the north building.

Pump Station Mechanical Building Systems: OK

Pump Station Electrical Bldg. Systems: OK

Upper Ollie Pump Station Observation Sheet

Parish (drainage basin) where pump station is located Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~N~~

Remarks – Single stage vertical propeller. Engine rated at 225 HP. Pump rated at 122 CFS

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Single stage vertical propeller. Engine rated at 300 HP. Pump rated at 138 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Operational

Standby Backup Power Equipment: Supplied by Lower Ollie #2

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: Manual ok

Pump Lubricators: Operational

Fuel Systems and Supply: Gravity feed ok.

Compressed Air System: Supplied by Lower Ollie #2 (Under Ground)

Vacuum System: N/A

Trash Racks: Trash booms are ok.

Trash Raking Equipment: N/A

Trash Rakes: None on site.

Discharge Pipe Flap Gates: N/A

Pump Engines:

Pump Chain Drive/ Reducer: Operational

Pump Station Building Structure: South back corner panel is missing

Pump Station Building Roof: 1 sky light missing.

Pump Station Building Doors & Windows: No apparent damage.

Pump Station Mechanical Building Systems: Louvers are clear, no screens.

Pump Station Electrical Bldg. Systems: Operational except for phone lines.

Pump Station Site: Portions of fence need replacement (used for Upper, Lower, and New Ollie)

Lower Ollie New & Lower Ollie Old Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 3

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Ollie #1 Single stage vertical propeller. Engine rated at 225 HP. Pump rated at 132 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Ollie #2 Single stage vertical propeller mixed flow. Engine rated at 305 HP. Pump rated at 149 CFS.

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Ollie #2 Single stage vertical propeller mixed flow. Engine rated at 305 HP. Pump rated at 149 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Operational

Standby Backup Power Equipment: Generator in Ollie #2 is operational and supplies power to lower Ollie #1 and Upper Ollie.

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: Manual

Pump Lubricator: Operational

Fuel Systems and Supply: Gravity feed ok.

Compressed Air System: Compressors are operational and supplies air to the lower Ollie #1 and Upper Ollie.

Vacuum System: N/A

Trash Racks: Ollie #2 has operational bent metal racks. Trash booms are ok.

Trash Raking Equipment: Decommissioned before Katrina.

Trash Rakes: (2) on site in Lower Ollie #2.

Discharge Pipe Flap Gates: N/A

Pump Engines: Operational

Pump Chain/Reducer Drives: Operational

Pump Station Building Structure: #1 has hole in wall siding panel.

Pump Station Building Roof: #2 missing roof cap section; #1 missing corner trim on south back.

Pump Station Building Doors & Windows: #2 has damaged door knob in back.

Pump Station Mechanical Building Systems: Louvers clear, no screens.

Pump Station Electrical Bldg. Systems: Phone lines are down.

Pump Station Site: Portions of fence need replacement (used for Upper, Lower, and New Ollie)

West Point a la Hache Pump Station Observation Sheet

Parish (drainage basin) where pump station is located Plaquemines, West Bank

A. Number of Pumps - 3

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - ~~Diesel Engine~~ **Electric Motor** Operable - ~~Yes~~ **No**

Remarks – Electric motor was submerged. Shunt trip motor starter was submerged. Float controls were submerged.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Operational

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Operational

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:**
Incoming Electric Power Service: Electrical service has no damage

Standby Backup Power Equipment: N/A

Switchgear and/or Motor Control Centers: Motor starter and control submerged in water.

Motor Feeder Power Cables and wiring: (motor cables and splice seals) submerged in water.

Pump Controls Systems: Submerged in water

Pump Lubricator: Operational

Fuel Systems and Supply: Main tank and hand pump is operational.

Compressed Air System: N/A.

Vacuum System: N/A

Trash Racks: ¼ to ½ of slats are missing or damaged.

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A

Pump Station Building Structure: Electric pump structure wood walkway is damaged. Floor is damaged. Door is damaged.

Pump Station Building Roof: Electric pump structure - Roof is missing and needs to be replaced.

Pump Station Building Doors & Windows: Diesel pump structure, (2) windows and door are damaged.

Electric pump structure – Door is damaged.

Pump Engines: Motor on one pump was submerged

Pump Gear/Chain Drives: Operational

Pump Station Mechanical Building Systems: N/A

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications):

Main disconnect and load center submerged in water, 60 Hp pump motor submerged in water

Pump Station Site: Levee road to structure show signs of erosion on levee, at electric pump structure and at the tank. Fence and gates are damaged and need to be replaced.

Diamond Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Operational single stage vertical. Engine rated at 350 HP. Pump rated at 128 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS)**:** Incoming Electric Power Service: Electrical service equipment sustained wind damage. Meter pan and disconnect were submerged in salt water..

Standby Backup Power Equipment: 15 kW GenSet sustained rainwater damage

Switchgear and/or Motor Control Centers: N/AMotor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: Manual ok

Pump Lubricator: Operational

Fuel Systems and Supply: Gravity ok

Vacuum Systems: N/A

Compressed Air System: Electric generator subjected to rain and is not operational

Trash Racks: Canal rack missing supports at ends; has damage to walkway planking and hand rails; missing slats.

Trash Raking Equipment: N/A

Trash Rakes: Two on site.

Discharge Pipe Flap Gates: N/A

Pump Engines: Operational

Pump Gear/Chain Drives: Operational

Pump Station Building Structure: Damage to wall on south back corner. Erosion at base of bridge.

Pump Station Building Roof: Roof panels, 4 sky lights and roof cap are missing.

Pump Station Building Doors & Windows: Four window cranks are not operational.

Pump Station Mechanical Building Systems: Louvers clear.

Pump Station Electrical Bldg. Systems: OK

Pump Station Site: Needs approx. 600 ft. of fence; 3 sets of gates (2 gates each set).

Hayes (City Price) Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Engines were submerged. Oil was changed. Reported leak in head gasket and elevated noise coming from pump possibly bearings. Engine rated at 420 HP. Pump rated at 250 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Engines were submerged. Oil was changed. Engine rated at 420 HP; pump rated at 250 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electrical service sustained wind and water damage.

Standby Backup Power Equipment: 50 kW Genset was submerged in water.

Switchgear and/or Motor Control Centers: MDP and motors starters submerged in water.

Motor Feeder Power Cables and wiring: (motor cables and splice seals) Conduits and conductors submerged in water.

Pump Controls Systems: Manual ok

Pump Lubricators: Submerged

Fuel Systems and Supply: Gravity ok. Heavy corrosion is on drain valve at main tank.

Compressed Air System: Electrical compressor was submerged and is not operational. Diesel compressor was submerged and runs at elevated temperatures.

Vacuum Systems: Electric and diesel vacuum pumps were submerged.

Trash Racks: No pump house rack. Timber canal racks have planking and slats are missing and need to be replaced. Heavy debris at south canal rack.

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A

Pump Engines: Pump engines and clutches were submerged.

Pump Chain Drives: Chain drive bearing were submerge. Couplings were submerged. Lubricators were submerged.

Pump Station Building Structure: Building's south back corner is undermined. Main tank supports are undermined. Entrance to bridge is undermined. Wall panel is bent in south back corner.

Pump Station Building Roof: Trim on south roof is missing.

Pump Station Building Doors & Windows: Storm shutters and windows are damaged.

Pump Station Mechanical Building Systems: Louvers are clear, missing screen in back.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): Double throw safety switch, , receptacles, and switches were submerged in water. Building heating system was partially submerged in water. Emergency lights were submerged in water.

Pump Station Site: Fence and gates are damaged and require replacement.

Gainard Woods #1 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Engine and gear reducer were submerged. Oil has been changed. Engine can run for 2 hrs before overheating. Vertical propeller. Engine rated at 300 HP, Pump rated at 204 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Engine and gear reducer were submerged. Oil has been changed. Engine can only run at ½ speed. Vertical propeller. Engine rated at 300 HP, Pump rated at 204 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electric service sustained wind and water damage.

Standby Backup Power Equipment: 15 kW GenSet was partially submerged in water.

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: #1 and #2 automatic shutdowns are not operational.

Fuel Systems and Supply: Existing main tank and day tank were submerged. New fuel tank is on site. Fuel was gravity feed but temporary new fuel tank requires portable fuel pump.

Pump Lubricators:

Compressed Air System: Electrical and diesel compressors were submerged and are not operational. Compressed air is delivered by existing air system in Gainard #2

Vacuum System:

Trash Racks: One rack missing, one rack heavily damaged; damage to timber trash racks; slats missing. (used for Gainard Woods #1 and #2)

Trash Raking Equipment: N/A

Trash Rakes: None

Discharge Pipe Flap Gates: N/A

Pump Engines: Submerge, not fully operational

Pump Gear/Chain Drives: submerged

Pump Station Building Structure: Undermining of south wall. Undermining of both outlet pipe supports along building. Missing 12’ X 4’ wall panel at front. Small hole in south wall.

Pump Station Building Roof: (4) sky lights are severely damaged and require replacement. Missing (1) roof trim piece and roof ridge cap.

Pump Station Building Doors & Windows: (6) Windows are not operational. Several window panes and frames need replacement.

Pump Station Mechanical Building Systems: Louver Screens are gone. City water connection was damaged.

Pump Station Electrical Bldg. Systems: Disconnect was submerged but is operating. Exterior lights are not operational. Phone lines are out.

Pump Station Site: Fence and gates damaged and require replacement. (used for Gainard Woods #1 and #2)

Gainard Woods #2 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located; Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Engines are operational. Lubricators must be hand pumped.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Engines are operational. Lubricators must be hand pumped.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electric service sustained wind and water damage.

Standby Backup Power Equipment: GenSet was submerged in water.

Switchgear and/or Motor Control Centers: N/A

Motor Pump Controls Systems: Manual

Fuel Systems and Supply: Existing main fuel tank and fuel pump were submerged and are not operational. Redundant fuel pump was removed before Katrina. Temporary new fuel tank delivered after Katrina. Requires portable fuel pump.

Pump Lubricators:

Compressed Air System: Electric compressor was submerged and is not operable. Diesel compressor is operational but was submerged.

Vacuum Systems:

Trash Racks: One rack missing, one rack heavily damaged; damage to timber trash racks; slats missing. (used for Gainard Woods #1 and #2)

Trash Raking Equipment: Decommissioned before Katrina

Trash Rakes: None

Discharge Pipe Flap Gates: N/A

Pump Engines: Engine clutches and air starter were submerged.

Pump Gear/Chain Drives: Gears were submerged. Line shaft components were submerged.

Pump Station Building Structure: Two small holes in south and front walls; roll down door is damaged and requires replacement.

Pump Station Building Roof: Two sky lights are missing.

Pump Station Building Doors & Windows: Some glass is broken and requires replacement.

Pump Station Mechanical Building Systems:

Pump Station Electrical Bldg. Systems: Front light is not operational. Bridge light is damaged.

Motor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Pump Station Site: Fence and gates damaged and require replacement. (used for Gainard Woods #1 and #2)

Miscellaneous: Caterpillar 315 long boom excavator, used for cleaning trash racks, was submerged and requires replacement.

Sunrise #1 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks – Single stage vertical propeller. Engine and gear reducer were submerged. Engine rated at 150 HP. Pump rated at 89 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks - Single stage vertical propeller. Engine and gear reducer were submerged. Engine rated at 150 HP. Pump rated at 89 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electrical Service was damaged by wind and water.

Standby Backup Power Equipment: GenSet was submerged in water.

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Pump Controls Systems: Manual Controls

Pump Lubricators: Submerged

Fuel Systems and Supply: Main fuel tank was washed away. Day tanks have water in them.

Compressed Air System: Electric and diesel air compressors were submerged and are not operational.

Vacuum System: N/A

Trash Racks: Canal racks structures are missing 3 cross members. Planking was washed away.

Trash Raking Equipment: N/A

Trash Rakes: None

Discharge Pipe Flap Gates: NA

Pump Engines: Submerged

Pump Gears/Chain Drives: Submerged

Pump Station Building Structure: 15’ X 4’ portion of north wall is gone. South front corner panel is gone. Outlet pipe structure is damaged.

Pump Station Building Roof: Missing many roof panels (15), roof cap and trim.

Pump Station Building Doors & Windows: Hand cranks are not operational - pre Katrina.

Pump Station Mechanical Building Systems: Several blades on North and South louvers are gone.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications: Main disconnect and electrical panel were submerged in water. Exterior lighting was damaged by wind and water.

Pump Station Site: Fence and gates damaged and need to be replaced. (used for Sunrise #1 and #2)

Sunrise #2 Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Pressure relief water valve is leaking. Water was above dipstick. Oil was changed before operating equipment. Single stage vertical mixed flow engine rated at 320 H.P. Pump rated at 145 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Water was above dipstick. Oil was changed before operating equipment. Single stage vertical mixed flow engine rated at 320 H.P. Pump rated at 145 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Power lines were washed away.

Standby Backup Power Equipment: Associated battery charger is not operating._

Switchgear and/or Motor Control Centers: Light bulbs in control panels are not operating.

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: Manual

Pump Lubricators: Operational

Fuel Systems and Supply: Gravity feed system is operational.

Compressed Air System: Electric compressor was submerged and is not operational.

Vacuum System: Operational

Trash Racks: Refer to Sunrise #1

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A

Pump Engines: Operational

Pump Gears/Chain Drives: Operational

Pump Station Building Structure: Minor erosion at levee. Overhead door crank is broken.

Pump Station Building Roof: 4 sky light panels are missing. (1) piece of roof cap is missing.

Pump Station Building Doors & Windows: (5) window hand cranks do not operate.

Pump Station Mechanical Building Systems: Screen on south louver is missing.

Pump Station Electrical Bldg. Systems: ½ of overhead lights are shorted out. One front and one back exterior light does not work.

Pump Station Site: Fence and gates damaged and need to be replaced. (used for Sunrise #1 and #2)

Grand Liard Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - *3*

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks - _Pump bearings have failed. Vertical turbine. Engine rated at 1100 HP. Pump rated at 280 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks - _Pump bearings have failed. Vertical turbine. Engine rated at 1100 HP. Pump rated at 280 CFS.

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks - Vertical turbine. Engine rated at 1100 HP. Pump rated at 280 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: No damage

Standby Backup Power Equipment: Control panel damaged by rain water.

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Pump Controls Systems: Manual/ Operational

Pump Lubricators: Operational

Fuel Systems and Supply: Operational

Compressed Air System: Operational

Vacuum System: N/A

Trash Racks: Minor debris above main pump racks. One timber canal rack is missing planking and slats; the other timber canal rack requires complete rebuilding. (used for Grand Liard and Triumph)

Trash Raking Equipment: None

Trash Rakes: One damaged rake on site.

Discharge Pipe Flap Gates: N/A

Pump Engines: One engine is operational. Other two engines or pumps are down with maintenance problems.

Pump Gear Drives: Operational.

Pump Station Building Structure: Minor undermining under rain water tank.

Pump Station Building Roof: Missing several panels and skylights, including one over only operable pump.

Pump Station Building Doors & Windows: Four Windows not operable.

Pump Station Mechanical Building Systems: [Mechanical Ventilation (Louvers & Fans)]: _Louvers are clear.

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): Systems operational.

Pump Station Site: Fencing and gates required replacement. (used for Grand Liard and Triumph)

Upper and Lower Triumph Pump Station Observation Sheet

Parish (drainage basin) where pump station is located Plaquemines, West Bank

A. Number of Pumps - 3

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks – Upper engine was submerged and is not repairable. Single stage vertical propeller.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks - Lower pump #1 was decommissioned before Katrina.

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks – Lower pump #2 and #3 were decommissioned before Katrina.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electrical service damaged by wind and water

Standby Backup Power Equipment: Genset submerged in water

Switchgear and/or Motor Control Centers: _N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: Manual

Fuel Systems and Supply: Main tank missing.

Pump Lubricator: Submerge

Compressed Air System: Air Compressor was submerged.

Vacuum System: N/A

Trash Racks: One timber canal rack is missing planking and slats; the other timber canal rack requires complete rebuilding. (used for Grand Liard and Triumph)

Trash Raking Equipment: N/A

Trash Rakes: None

Discharge Pipe Flap Gates: N/A

Pump Engine: Submerged

Pump Gear/Chain Drive: Submerged

Pump Station Building Structure: Missing gutter and edge trim.

Pump Station Building Roof: Missing roof panels, skylights, and trim.

Pump Station Building Doors & Windows: (6) Windows are demolished.

Pump Station Mechanical Building Systems: N/A

Pump Station Electrical Bldg. Systems: Electrical panels and disconnect were submerged.

Pump Station Site: Fencing and gates required replacement. (used for Grand Liard and Triumph

Duvic Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemines, West Bank

A. Number of Pumps - 2

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - **Yes** ~~No~~

Remarks – Operational vertical turbine. Pump rated at 280 CFS.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks - Operational vertical turbine. Pump rated at 280 CFS.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Electric Service sustained wind and water damage

Standby Backup Power Equipment: Operational

Switchgear and/or Motor Control Centers: _N/A

Motor Feeder Power Cables and wiring: N/A

Pump Controls Systems: OK

Pump Lubricators: Operational

Fuel Systems and Supply: OK

Compressed Air System: Electric compressor motor starter is not functional and is currently bypassed.

Vacuum Systems N/A

Trash Racks: Some of south canal rack planking is missing and most slats are missing.

Trash Raking Equipment: N/A

Trash Rakes: One on site.

Discharge Pipe Flap Gates: N/A.

Pump Engines: Operational

Pump Gear/Chain Drives: Operational

Pump Station Building Structure: Corner trim is missing on one corner.

Pump Station Building Roof: Two sky lights missing, one roof panel is damaged.

Pump Station Building Doors & Windows: Seven window cranks are not operational.

Pump Station Mechanical Building Systems: Louvers are clear.

Pump Station Electrical Bldg. Systems: OK.

Pump Station Site: Approach slab for bridge over canal is undermined and is un-passable. Approx. 200 ft. of fence needs to be replaced.

Wilkinson Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemine, West Bank, Citrus Land

A. Number of Pumps - 4

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - Yes ~~**No**~~

Remarks – Single stage vertical propeller. Engine and gear reducer were not submerged. Pump is 52" Gould pump.

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - Yes ~~**No**~~

Remarks - Single stage vertical propeller. Engine and gear reducer were not submerged. Pump is 52" Gould pump.

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ No

Remarks - Single stage vertical propeller. Engine and gear reducer were not submerged. Pump is 54" Gould Pump. Operator reported trash damaged the propeller.

Pump No 4: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ No

Remarks – Single stage vertical propeller. Engine and gear reducer were not submerged. Pump is 54" Gould Pump. Thirty six year old engine quit working during the storm and will need to be replaced. Engine is a Caterpillar D3531.

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Power lines were washed away.

Standby Backup Power Equipment: N/A

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Controls Systems: Manual Controls

Fuel Systems and Supply: Operational

Grease Lubricators: Operational

Compressed Air System: N/A Engines are battery start.

Vacuum System: N/A

Trash Racks: Corroded below splash zone.

Trash Raking Equipment: N/A

Trash Rakes: None

Discharge Pipe Flap Gates: N/A

Pumps: One of the 54" pumps was reportedly damaged during the storm from trash. Other are operational

Pump Engine: Three of the engines are 36 year old Caterpillar D3531, one is not operational and reportedly will have to be replaced. The forth engine is a newer Cummins that replaced a caterpillar D3531.

Pump Reducer/Chain Drive: Reportedly operational were not submerged

Pump Station Building Structure:

Pump Station Building Roof: _

Pump Station Building Doors & Windows:

Pump Station Mechanical Building Systems: None

Pump Station Electrical Bldg. Systems: Building Power, Panel board. Lights, Communications): Crude and shabbily wired incandescent system consisting of single bulb light above each engine.

Upper and Lower Pointe Celeste Pump Station Observation Sheet

Parish (drainage basin) where pump station is located: Plaquemine, West Bank Citrus Lands

A. Number of Pumps - 4

Pump Info (Circle the appropriate answer) The pumps may be operable and still be damaged. What about submersed equipment if any such as impellers? Pump capacity gpm (or cfs), Hp, Voltage, Cycles (Hz), discharge size, horizontal or vertical

Pump No 1: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks – Single stage vertical propeller. Engine and gear reducer were not submerged. Engine rated at 325 HP. Pump is 52"

Pump No. 2: Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - ~~Yes~~ **No**

Remarks - Single stage vertical propeller. Engine and gear reducer were not submerged. Engine rated at 325 HP. Pump is 52"

Pump No. 3 Drive Type - **Diesel Engine** ~~Electric Motor~~ Operable - Yes ~~No~~

Remarks - Single stage vertical propeller. Engine and gear reducer were not submerged. Engine rated at 325 HP. Pump is 52"

Pump No 4: Drive Type - **Diesel Engine** Electric Motor Operable - Yes ~~No~~

Remarks - Single stage vertical propeller. Engine and gear reducer were not submerged. Engine rated at 325 HP. Pump is 52"

B. AUXILIARY EQUIPMENT AND FEATURES (NOTE DAMAGE AND PROBLEMS):

Incoming Electric Power Service: Power lines were washed away.

Standby Backup Power Equipment: N/A

Switchgear and/or Motor Control Centers: N/A

Motor Feeder Power Cables and wiring: (motor cables and splice seals) N/A

Controls Systems: Manual Controls

Fuel Systems and Supply: Operational

Pump Lubricators: Operational

Compressed Air System: N/A

Vacuum System: N/A

Trash Racks:

Trash Raking Equipment: N/A

Trash Rakes: None

Discharge Pipe Flap Gates: N/A

Pump Engines: Two engines are operational, two are not. Engines were not submerged. One coolant coil reportedly damaged by debris.

Pumps: Reportedly

Pump Reducer/Chain Drives: Operational, was not submerged.

Pump Station Building Structure:

Pump Station Building Roof:

Pump Station Building Doors & Windows:

Pump Station Mechanical Building Systems: N/A

Pump Station Electrical Bldg. Systems: (Building Power, Panel board. Lights, Communications):

Appendix E

Repair Alternatives

See Section 9 of Main Report

Appendix F

Economic Analysis

See Section 12 of Main Report

Appendix G

Environmental

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

Planning, Programs and Project
Management Division
Environmental Planning and
Compliance Branch

MEMORANDUM FOR New Orleans District Staff and All Interested Parties

SUBJECT: Imminent Threat of Flooding Due to Damaged Hurricane Protection Works

1. On August 29, 2005, Hurricane Katrina caused major damage to the hurricane protection system in Orleans, St. Bernard, Plaquemines, and Jefferson Parishes, Louisiana. Since the storm, the U.S. Army Corps of Engineers has been working to restore the hurricane protection system to the level of protection provided prior to the 2005 hurricane season. These efforts have been conducted mainly under the authority provided by Public Law 84-99, Rehabilitation of Damaged Flood Control Works.

2. While significant progress is being made in restoring the hurricane protection system to its pre-storm conditions, the system remains vulnerable to tropical weather systems. It is imperative that all hurricane protection works are restored to their pre-storm conditions as soon as possible to protect life, health, property, and economic losses.

3. Engineering Regulation 200-2-2, Environmental Quality, Procedures for Implementing the National Environmental Policy Act (NEPA) provides for District commanders to respond to emergency situations to prevent or reduce imminent risk of life, health, property, or severe economic losses without first preparing specific documentation and following the procedural requirements of the NEPA. Engineering Regulation 500-1-1, Emergency Employment of Army and Other Resources - Civil Emergency Management Program, provides that emergency flood control activities performed under Public Law 84-99 are not subject to the NEPA documentation requirements if risk to life, health, property, or severe economic losses is imminent. This regulation defines imminent risk as a subjective, statistically supported evaluation of how quickly a threat scenario can develop, how likely that threat is to develop in a given geographical location, and how likely the threat will produce catastrophic consequences to life and improved property. Implicit in the timing aspect can be considerations of time or season or of known cyclical activities.

4. Several words in the above definition are important in determining if there is an imminent threat to flooding within the four parishes listed above. The first is "subjective" which allows a decision to be based on sound reasoning. The second and third are "statistically supported evaluation" and "how likely that threat is to develop in a given geographical location." During the past four hurricane seasons, New Orleans has had 13 tropical storms or hurricanes pass within 300 miles of the city (three in 2002, two in 2003, three in 2004, and five in 2005), an average of over three storms per hurricane season. The National Hurricane Center has been reporting for the past several years that we have entered a period of more active hurricane seasons. The next key phrase is "how likely the threat will produce catastrophic consequences to life and improved property." Nothing demonstrates this better than Hurricane Rita in 2005. Hurricane Rita came ashore along the Louisiana/Texas state line, approximately 250 miles from New Orleans, yet the impacts of the storm in the Metropolitan New Orleans area were significant. Without a complete rehabilitation of the hurricane protection system to pre-storm levels, the New Orleans area could again be faced with the potential for catastrophic damages from a storm making landfall hundreds of miles away. The last phrase of significance is "known cyclical activities." As every day passes, the 2006 hurricane season gets closer, and the threat to life and property increases without adequate storm surge protection.

5. Based upon applicable regulations and guidance, I consider the Metropolitan New Orleans Area to be under an imminent threat from flooding due to the damaged hurricane protection system. I consider this threat to remain in effect until the hurricane protection system is restored to its pre-storm condition. The District will continue preparing an environmental assessment of the impacts associated with restoration of the hurricane protection system, and release the document for public and agency review and comment as soon as possible after all features of the restoration work are determined.

1/5/06
Date

Richard P. Wagenaar
Colonel, U.S. Army
District Engineer

The information contained in Appendix H is proprietary to the Government and can not be posted on the public website.

APPENDIX I

FEMA Tasker JFO-973

JF0979
OP-499

Ros-105704-407-100305 KATRINA

U.S. Department of Homeland Security Federal Emergency Management Agency **Action Request**	See Reverse for Paperwork Disclosure Notice	OMB No. 1660-0047 Expires November 30, 2007

I. Who is Requesting Assistance? (Completed by Requestor)

Requestor Name/Title/State: plaquemines — Temporary Phone/FAX #:
Permanent Phone: 504)682-1073 — FAX#:
Requestor Organization: plaquemines — E-mail:

II. Requested Assistance (Completed by Requestor) ☒ See Attached

Description of Assistance Requested:
Request assistance for repair of pump station roofs under Corps of Engineer Critical Facilities Program (Mission assignment #21). Roofs are corrugated asbestos and not authorized repair under the US Army Corps of Engineers Blue Roof program

Quantity: 1 — Priority: ☐ 1 Lifesaving ☐ 2 Life sustaining ☒ 3 High ☐ 4 Medium ☐ 5 Normal — Date/Time Needed:

Delivery Site Location:
Belle Chasse Government
106 Ave G
Belle Chasse

Site POC: Lonnie Greco — 24-hour Phone: 504-453-2997 — 24-hour FAX #:
State Approving Official signature: [signature] — Date: 4 OCT 05

III. Sourcing the Request – Review/Coordination (Operations Section Only)

☒ Ops Review by: Phillip Bowver [signature]
☒ Log Review by: [initials] 10/4 BB
☐ Other Coordination by:
☐ Other Coordination by:
☐ Other Coordination by:
Immediate Action Required: ☒ Yes ☐ No
Date/Time Assigned: 10/4/05

☐ Donations ☐ Procurement
☐ Other (explain) ☐ Interagency Agreement
☐ Requisitions ☒ Mission Assignment
Action request assigned to: ☒ ESF#: 3 - roofing. ☐ Other:

IV. Statement of Work (Operations Section Only)

OFA Action Officer: — 24-hour Phone #: — 24-hour FAX #:
FEMA Project Officer: — 24-hour Phone #: — 24-hour FAX #:
Justification/Statement of Work:

Estimated Completion Date: — Cost Estimate:

V. Action Taken (Operations Section Only)

☐ Accepted ☐ Rejected — ☐ Accountable Property Coordinated with APO
Disposition

VI. Tracking Information (FEMA Use Only)

NEMIS Task ID:
Action Request # — Received by (Name & Organization):
Program Code/Event # — State: — Date/Time Submitted — ☐ Originated as Verbal

FEMA Form 90-136 Nov 04

CoE-MVD-21-0D

DRJ OK

MA TASK ORDER FORM *

Federal Emergency Management Agency ESF3 Rec'd 1845 10/4/05
Region VI
Baton Rouge, LA

MA & Task # COE-MVD-21-006 **DR/EM/SU #:** 1603-DR-LA
Other Tracking # JFO - 973 **Date & Time Received:** 10/4/05

Requestor: Plaquemines **Telephone:** 504 682 1073

☑ Supporting Documentation Attached

PRIORITY LEVEL	SCHEDULE		Cost Estimate **
☐ Urgent ☐ Immediate ☐ Routine	Beginning Date	Completion Date	

Description of Task:
Request assistance for repair of pump station roofs under Corps of Engineer Critical Facilities Program (Mission Assignment #21). Roofs are corrugated asbestos and not authorized repair under the US Army Corps of Engineers Blue Roof program.
DELIVERY SITE LOCATION = Belle Chasse Government, 106 Ave. C., Belle Chasse
PRIORITY LEVEL = HIGH

Accepting Official (Federal Agency Action Officer):	**ESF# 3**
Site Point of Contact (if different from AO): Lonnie Greco	
Address:	
Phone: 504-453-2997	**Fax:**
E-Mail:	

COMMENTS: (use back or separate page for additional space):

*** Project Officer's Name:	for Joe Bearden	Phone #:	225-336-5503
Project Officer Signature:		Date:	10/4/05

* Not to be used for subtasking to another (supporting) Federal Agency
** The tasking form does not obligate further funds. It details expenditures of existing obligation
*** Following signatures please provide information copy to FEMA MAC

APPENDIX Q

CECW-HS, Memorandum for Assistant Secretary of the Army for Civil Works (ASA(CW)), SUBJECT: Recommendations for One-Time Deviations to Certain Policies Regarding Use of P. L. 84-99 (33 U.S.C. 701n) in New Orleans and Vicinity following Hurricane Katrina-FOR APPROVAL, dated October 7, 2005

On Following 6 pages

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-HS (500-1-1)

OCT 0 7 2005

MEMORANDUM FOR Assistant Secretary of the Army for Civil Works (ASA(CW)).

SUBJECT: Recommendations for One-Time Deviations to Certain Policies Regarding Use of P.L. 84-99 (33 U.S.C. 701n) in New Orleans & Vicinity following Hurricane Katrina- FOR APPROVAL

1. Purpose: The purposes of this decision paper are to describe policies regarding the use of funds provided pursuant to P.L. 84-99 (33 U.S.C. 701n); to recommend certain policy deviations; and to provide for your decision options for accomplishing those recommended policy deviations. Approval of the recommended course of action will establish a way forward to facilitate expedient permanent rehabilitation of the flood damage reduction and hurricane and storm damage reduction systems protecting New Orleans, LA. Enclosure 1 is a chart and cost table which sets out the items in this paper. Enclosure 2 contains maps of Lake Pontchartrain & Vicinity and New Orleans to Venice projects showing project categorization and a list of associated contracts. Detail project information for West Bank & Vicinity and SELA is still being developed.

2. Background: P.L. 84-99 authorizes the use of Flood Control and Coastal Emergencies (FCCE) funds for, among other things, natural disaster preparedness; flood fighting and rescue operations; and permanent rehabilitation of federal and non-federal flood damage reduction projects and federally authorized hurricane and storm damage reduction projects. P.L. 84-99 has been implemented in accordance with guidance and policies set out in 33 CFR 203, ER 500-1-1 and EP 500-1-1. Under these policies, the Corps of Engineers uses FCCE funds to supplement State and local activities.

Hurricane Katrina has been identified as the second greatest recorded hurricane to make landfall in the U.S., with a point of impact at a major metropolitan area important to national economic infrastructure and national defense. Hurricane Katrina has caused large-scale damage over large portions of the shared local and federal infrastructure. In light of these extraordinary circumstances, this paper addresses potential deviations to policy to advance expedient and coordinated permanent rehabilitation of the flood damage and hurricane and storm damage reduction infrastructure in New Orleans.

3. Issue: Whether permanent rehabilitation to pre-storm condition, at full federal expense using FCCE funds, should be undertaken for all damaged federal and non-federal flood damage reduction projects and federally authorized hurricane and storm damage reduction projects.

4. Policies Established in Regulations Implementing PL 84-99: 33 C.F.R. 203, ER 500-1-1, and EP 500-1-1 establish the policies and procedures followed by the Corps in carrying out its

responsibilities under P.L. 84-99. The following are several key policies established in the implementing guidance:

a. Corps assistance provided under authority of P.L. 84-99 is intended to supplement State and local efforts in the areas of disaster preparedness; emergency operations; and permanent rehabilitation of federal & non-federal flood damage reduction projects and federally authorized hurricane and storm damage reduction projects.

b. There will be no reimbursement of State and local emergency costs for preparedness, emergency operations, or permanent rehabilitation.

c. Completed flood damage reduction projects and federally authorized hurricane and storm damage reduction projects are eligible for permanent rehabilitation to the pre-storm condition at full federal expense using FCCE funding. Regulations establish eligibility based on when the federal projects are "turned over" to the non-federal sponsor for OMRR&R.

d. Damages to federally authorized projects that are still under construction are repaired with Construction, General project construction funds and cost-shared with the project's non-federal sponsor in accordance with the Project Cooperation Agreement (PCA).

e. Non-federal flood damage reduction projects that are active in the Corps-established Rehabilitation and Inspection Program (RIP) are eligible for permanent rehabilitation to the pre-storm condition, using FCCE funding, with 80 % federal / 20 % non-federal cost sharing.

f. Permanent rehabilitation assistance is provided when the work is clearly beyond the normal physical and financial capabilities of the non-federal sponsor.

g. Permanent rehabilitation must be economically justified and meet Corps criteria for a favorable benefit-to-cost ratio.

h. Non-federal sponsors must provide all necessary lands, easements, rights-of-way, relocations, and borrow or disposal areas (LERRDs), and do not receive credit for the value of these LERRDs toward any required cost share contribution.

5. Discussion:

Although P.L. 84-99 is broadly written, by regulation the Corps has limited permanent rehabilitation of non-federal flood damage reduction projects active in the Corps' RIP and imposed non-federal cost sharing of 20 %. In addition, for federally authorized projects under construction, the Corps has funded repair of those projects with Construction, General project

construction funds and cost-shared that repair with the non-federal sponsor in accordance with the PCA.

Hurricane Katrina struck the New Orleans, LA area directly, causing unprecedented damage and loss of infrastructure. In this case, the local infrastructure is so impacted that local governments will have extreme difficulty in restoring basic infrastructure and services. Further, their tax and revenue bases have been greatly reduced. Under these circumstances, to facilitate rebuilding with minimal additional impact on local governments, it appears appropriate to consider deviations to policy to restore the flood damage reduction and hurricane and storm damage reduction infrastructure at full federal expense.

6. Potential Deviations to Policy:

a. The first potential deviation provides that for federally authorized and constructed projects turned over to the non-federal sponsor, at full federal expense use FCCE funds to fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation. The estimated cost of this proposal is $11.5 million. This proposal conflicts with paragraph 4.h above.

b. The second potential deviation provides that for non-federal flood damage reduction projects active in the RIP, at full federal expense use FCCE funds, to 1) undertake the permanent rehabilitation to pre-storm condition, i.e., waive the 20 % cost share established by policy, and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation. No projects have been identified that fit this category.

c. The third potential deviation provides that for non-federal flood damage reduction projects, including pumps and pump stations, not active in the RIP, at full federal expense use FCCE funds, to 1) undertake permanent rehabilitation to pre-storm condition and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation. The estimated cost of this proposal, which conflicts with paragraphs 4.e. and 4.h. above, is $155 million for Jefferson, Orleans, St. Bernard and Plaquemines parishes.

d. The fourth potential deviation provides that for federally authorized flood damage reduction or hurricane and storm damage reduction projects currently under construction, under the authority of P. L. 84-99, at full federal expense use FCCE funds to 1) undertake permanent rehabilitation to pre-storm condition and 2) fund the acquisition of lands, easements,

rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation. The projects in this category are, New Orleans to Venice, Southeast Louisiana, and West Bank and Vicinity. This proposal, which conflicts with paragraphs 4.d. and 4.h. above, involves undertaking rehabilitation pursuant to the authority provided in P.L. 84-99, rather than pursuing such work under the PCA.

1) For these projects, there are large segments which have not been officially "turned over" but for which the sponsors are performing operation and maintenance. The estimated additional federal cost of undertaking the rehabilitation of these segments under P.L. 84-99 is $68 million, i.e., what would have been the non-federal share if the work was pursued under the PCA.

2) For these projects, there are segments under active construction. The estimated additional federal cost of undertaking the rehabilitation of these segments under P.L. 84-99 is $14.5 million.

7. Options:

a. Allow no deviations: Implement in accordance with existing policy.

b. Allow deviations after legislation: Seek legislative direction for some or all recommended deviations to policy in the next emergency supplemental appropriations act related to Hurricane Katrina. As legislation will be required in any event to provide all the necessary funding, it is desirable that Congress provide legislative direction on use of the funds. This approach provides confirmation that Congress understands and agrees to use of the funds for items not traditionally included by the Corps in implementation of P.L. 84-99 authority. Additionally, specific Congressional direction would limit the precedential effect of funding work not normally covered. At Enclosure 3 is draft legislation that covers all the recommended deviations from rehabilitation policy.

c. Defer non-federal cost share: Defer payment of the non-federal contribution for federally authorized projects under construction. Under section 103(k) of WRDA 1986 (33 USC 2213(k)), the ASA(CW) may defer payment of the non-federal contribution for up to thirty years from the date of completion of the project, subject to the payment of interest. Although there is merit to this approach, implementation will entail delays related to the contracts and the existing PCAs and prevent expeditious completion of the permanent rehabilitation of the flood damage reduction and federally authorized hurricane and storm damage reduction systems.

d. Approve deviations as one-time exceptions to policy: Approve some or all of the recommended deviations as one-time exceptions to policy after coordination with OMB and the Congressional oversight committees. This approach may establish a precedent and make it more difficult for the Corps to follow its policy in the future. However, it now appears that Congress will delay until after October 2005 the enactment of legislation providing additional funds dealing with Hurricane Katrina. Therefore, this approach would allow more timely initiation and completion of the rehabilitation under discussion.

8. Recommended Course of Action:

a. Based on the magnitude of the devastation, the following deviations are recommended for your approval, after coordination with OMB and the Congressional oversight committees, as one-time exceptions to policy specific to New Orleans following Hurricane Katrina.

1. For federally authorized and constructed projects that have been turned over to the non-federal sponsor, use FCCE funds at full federal expense to fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

Approved JBW Approved, w/Comments _____ Disapproved _____

2. For non-federal flood damage reduction projects, including pumps and pump stations, not active in the RIP, at full federal expense use FCCE funds, to 1) undertake permanent rehabilitation to pre-storm condition and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

Approved JBW Approved, w/Comments _____ Disapproved _____

3. For those segments of federally authorized projects not been officially "turned over" but for which the sponsors are performing operation and maintenance, use FCCE funds at full federal expense to 1) undertake permanent rehabilitation to pre-storm condition and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

Approved JBW Approved, w/Comments _____ Disapproved _____

CECW-HS (500-1-1)
SUBJECT: Recommendations for One-Time Deviations to Certain Policies Regarding Use of P.L. 84-99 (33 U.S.C. 701n) in New Orleans & Vicinity following Hurricane Katrina- FOR APPROVAL

4. For those segments of Federally authorized projects under active construction, use FCCE funds at full Federal expense to 1) undertake permanent rehabilitation to pre-storm condition and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

Approved JRW Approved, w/Comments_____ Disapproved_____

b. For any recommended deviation that the ASA(CW) determines should not be administratively approved as an exception to policy, it is recommended the ASA(CW) pursue Congressional direction in the next emergency supplemental appropriations act related to Hurricane Katrina.

STEVEN L. STOCKTON
Acting Director of Civil Works

3 Encls
1. Project category chart & cost table
2. Project maps & list of contracts
3. Draft legislation

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APPENDIX R

Letter from Office of Assistant Secretary of the Army for Civil Works (ASA(CW)) John Paul Woodley, Jr. to Director of Office of Management and Budget, Joshua Bolten, dated October 12, 2005

On Following 2 pages

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
CIVIL WORKS
108 ARMY PENTAGON
WASHINGTON DC 20310-0108

12 OCT 2005

Honorable Joshua Bolten
Director
Office of Management and Budget
Washington, D.C. 20503-0009

Dear Mr. Bolten:

This letter provides the Army's recommendations for additional emergency supplemental appropriations expected to be needed during the next six months to finance remaining costs associated with response to and recovery from Hurricanes Katrina, Ophelia and Rita; as well as other recent storms; readiness and preparedness activities; and reimbursement of prior transfers. This letter also describes decisions I have made, subject to coordination with your office and Congress, regarding deviations to policy to restore the flood damage reduction and hurricane and storm damage reduction infrastructure at full Federal expense.

The Army received a total of $400 million in the second emergency supplemental appropriations act. By law, these funds can be used only for work associated with damages caused by Hurricane Katrina. I have approved the emergency transfer of $64 million from other Civil Works accounts, primarily for critical activities that cannot be paid out of the emergency supplemental appropriations we have received to date.

I recommend that the President request additional emergency supplemental appropriations for the Army Corps of Engineers Civil Works program in the amount of $1.6 billion, distributed among accounts as shown on the enclosed summary table. Also enclosed is a back up table providing detailed information on how the funds would be used.

We have considered a number of options for repairing hurricane and flood protection projects that were damaged by the hurricanes, where the non-Federal cost sharing sponsor has been severely affected by the hurricanes and is not in a position to pay the normal non-Federal share of project costs. The enclosed estimates comprising this request for emergency supplemental appropriations reflect my recommendations for one-time exceptions to cost sharing policy, which are described in the enclosed memorandum from the Corps of Engineers dated October 7, 2005.

Also enclosed for OMB clearance are draft letters to the appropriations subcommittees informing them of our plans to deviate from cost sharing policy. OMB clearance of these letters is needed as soon as possible, so that I can inform Congress

of our plans and not delay the award of contracts that are critical to facilitate expedient rehabilitation of the flood damage reduction and hurricane and storm damage reduction systems protecting New Orleans and vicinity. Contracts are scheduled for award this week, so anything you can do to expedite clearance of the letters would be appreciated.

I look forward to working together on the Administration's request for these additional emergency supplemental appropriations for the Civil Works program.

Very truly yours,

John Paul Woodley, Jr.
Assistant Secretary of the Army
(Civil Works)

Enclosures

APPENDIX Z

Eligibility Checklist for FCW Rehabilitation Projects
ER 500-1-1, 30 Sept 01
PROJECT: NON-FEDERAL PUMP STATIONS FLOOD CONTROL
PLAQUEMINES PARISH, LOUISIANA

PIR Review Checklist for FCW Rehabilitation Projects				
	YES	**NO**	**N/A**	
1.		X		The project is active in the RIP. [ER, 5-2.a.] See Note Below
2.	X			The project was damaged by flood(s) or coastal storm(s) [ER, 5-2.]
3.	X			The Public Sponsor has requested Rehabilitation Assistance in writing. [EP, 5-10.]
4.	X			The Public Sponsor has agreed to sign the Cooperation Agreement, which will occur before USACE begins rehabilitation work. [ER, 5-10]
5.	X			The estimated construction cost of the rehabilitation is greater than $15,000, and is not considered sponsor maintenance. [ER, 5-2.q.]
6.	X			The repair option selected is the option that is the least cost to the Federal government , or, the sponsor's preferred alternative is selected with all increases in cost paid by the public sponsor. [ER, 5-2.h. and 5-11.e.(3)]
7.	X			The public sponsor is aware of the opportunity to seek a nonstructural alternative project, and has decided to proceed with a structural rehabilitation. [ER, 5-16]
8.	X			The cost estimate in the PIR itemized the work to identify the Public Sponsor's cost share [ER, 5-11]
9.	X			The rehabilitation project has a favorable benefit cost ratio of greater than1.0:1. [ER, 5-2.r]
10.	X			The proposed work will not modify the FCW to increase the degree of protection or capacity, or to provide protection to a larger area [ER, 5-2.n.]
11.			X	Betterments are paid 100% by the Public Sponsor. [ER, 5-2.o.]
12.		X		The CA contains a provision for 80% Federal and 20% local cost share for non-Federal projects. [ER, 5-11.a.] See Note Below
13.			X	Cost for any betterments are identified separately in the cost estimate. [ER, 5-2.o.]
14.			X	Repair of deliberate levee cuts is the responsibility of the public sponsor, except as provided for in ER 500-1-1, paragraphs 5-2.j. and 4-3.h. [ER, 5-2.j. and 4-3.h.]
15.			X	All deficient and deferred maintenance will be paid for or accomplished by the public sponsor, without receiving credit toward any sponsor's cost share. [ER, 5-2.g.]
16.			X	Any relocation of levees is adequately justified. [ER, 5-2.h.]

17.	X			USACE assistance does not correct design or construction deficiencies. [ER, 5-12.a.]
18.	X			An assessment of environmental requirements was completed [ER, 5-13.]
19.	X			The project complies with NEPA, and required documentation was completed and placed in PIR. [ER, 2-3.k. and 5-13.] See Note Below
20.	X			The Endangered Species Act was appropriately considered. [ER, 5-13.g.]
21.	X			EO 11988 requirements were considered in the process of evaluation the proposed project for rehabilitation. [ER, 5-13.f.]
22.	X			The completed PIR has been reviewed and the PIR checklist has been reviewed and signed by the Emergency Management Office.
23.	X			The completed PIR meets all policy, procedural, content, and formatting requirements of ER 500-1-1 [ER, 2-3.b.] See Note Below

Items 1 and 12. ER-500-1-1, Section 5-11, paragraph a. requires that non-Federal projects be cost shared at 80% Federal and 20% from the public sponsor for cost sharable items. However, the ASA(CW) by memorandum dated October 7, 2005 approved a deviation as a one-time exception to policy to allow non-Federal flood damage reduction projects, including pumps and pump stations, not active in the RIP, at full federal expense use FCCE funds, to 1) undertake permanent rehabilitation to pre-storm conditions and 2) fund the acquisition of lands, easements, rights-of-way, and disposal or borrow areas not owned or under the control of the non-Federal sponsor, as well as the performance of relocations, that are needed for the rehabilitation.

Item 19. The environmental effects of the pump station work will be included in an after-the-fact environmental assessment that is under preparation for all of the flood protection repair work being undertaken by the Corps in the Metropolitan New Orleans area. The authority for this approach is per ER 500-1-1, Paragraph 2-3.k(1), and ER 200-2-2, Paragraph 8, and a determination made by the New Orleans District Commander on January 5, 2006, that this work prevents or reduces an imminent risk of life, health, property, or severe economic losses. (See Appendix G).

Item 23. ER-500-1-1, Section 5-2, paragraph v(1) limits the construction contingency to 10%; however, because of the emergency conditions under which the design and contract documents will be prepared, the short amount of time allowed for construction completion, and the high level of competition for construction contractor resources in the area, a 30% construction contingency is used. Additionally, because of the nature of rehabilitating mechanical and electrical work, including the uncertainty of rebuilding equipment and hidden damage, E&D of 10 percent and S&A of 12 percent of the construction cost is used.

EM REVIEWING OFFICIAL'S SIGNATURE

NAME: Herbert J. Wagner
TITLE: Acting Chief, Readiness Branch CEMVN-OD-R

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