

TX#	Dam Name	Latitude	Longitude	OWNER/Operator	Operation & Maintenance/Rehab Schedule	Annual O&M Cost	Method of Finance		
TX04779	PALMETTO BEND DAM	28.889612	-96.579665	Lavaca-Navidad River Authority	1. Measure, record, and broad cast water surface elevations hourly during flood operations.	\$1,146,387.34	Water Customer Water Supply Contracts	ProRata Share	
					2. Determine reservoir inflow.		Daily	Formosa Plastics	0.5534
					3. Record spillway and ROW discharges and check for presence of seepage, movement and/or changes of seepage, settlement, sloughing of embankments.		Daily	City of Corpus Christi	0.4223
					4. Record pertinent information in the Operating Log.		Daily	Inteplast Group	0.0139
					5. Maintain security of the dam and associated appurtenances.		Daily	City of Point Comfort	0.0024
					6. Read and record weather gage data.		Daily	Authority	0.0080
					7. Make required changes in gates and valves.		Daily		
					8. Check instrumentation reading schedules and collect data as required.		Daily		
					9. Check seepage and toe drains as appropriate.		Daily		
					10. Monitor ROW discharge.		Daily		
					11. Check spillway control panel for gate position.		Daily		
					12. Review early warning system information and record pertinent data.		Daily		
					13. Clean parking lots and downstream area of trash.		Daily		
					14. Record data from the east lean concrete and west ROW seepage area.		Daily		
					15. Examine stilling basin and downstream channel.		Daily		
					16. Check concrete surfaces for signs of cracking or deterioration; also check after sustained use.		Daily		
					1. Record readings at special interest piezometers, embankment drain outlets, and toe drains. Also record readings at any instruments recommended by the Dam Safety Consultant.	Weekly			
					2. Check and exercise both generators, record output readings.	Weekly			
					3. Check seepage areas, toe drains.	Weekly			
					1. Check condition of and note any changed condition of:	Monthly			
					a. Crest of dam.	Monthly			
					b. Upstream and downstream faces of dam.	Monthly			
					c. Visible portions of dam foundation.	Monthly			
					d. Abutment contacts.	Monthly			
					e. Spillway and M&I Galleries.	Monthly			
					f. Stilling basin.	Monthly			
					g. Reservoir area.	Monthly			
					h. Drainage systems.	Monthly			
					i. Measuring devices.	Monthly			
					j. Security and safety devices.	Monthly			
					k. Inspect for oil, gas, or chemical leaks.	Monthly			
					l. All drop structures.	Monthly			

m. East and west dike (for erosion) and sloughing.	Monthly
n. East and west drain (for erosion) and sloughing.	Monthly
o. Fuel supplies for Spillway Generator. This will be checked as needed and will increase in frequency as appropriate during hurricane season.	Monthly
p. Communicate with Instrumentation and Electronics (I&E) section on Early Warning performance.	Monthly
q. All batteries, flashlights, emergency food supplies, as needed. Increase frequency as appropriate during hurricane season.	Monthly
r. Area 1 fence lines and gates.	Monthly
2. Record and report all rainfall, inflows and releases.	Monthly
3. Record readings on all piezometers, embankment drains, toe drains and east drop structure.	Monthly
1. Check hoist deck gauge and battery.	Quarterly
2. Check manual gauge in probe well and flush piping due to sediment.	Quarterly
3. Check and service gallery pumps, gans, and lighting.	Quarterly
4. Check and spot prime damaged paint areas on handrails.	Quarterly
5. Mow maximum section, east and west dike, and drop structure slopes.	Quarterly
6. Check and run all spillway boats used for reservoir operations; check pumps, lifejackets and lights.	Quarterly
1. Check downstream ROW and spillway channels by boat. Take pictures of all changes.	Semi-Annually
2. Measure and record readings on inclinometers.	Semi-Annually
3. Measure and record readings on gallery wells.	Semi-Annually
4. Measure and record readings on observation wells.	Semi-Annually
5. Monitor and perform aquatic vegetation control in lake.	Semi-Annually
1. Operate, grease and service all gate hoists and motors on spillway, ROW and M&I structures. Lubricate all wire ropes and shafts.	Annually
2. Contract for the measurement of all settlement and deflection measurement points (embankments, spillway and outlet works).	Annually
3. Inspect and if needed, clean, prime, paint and repair handrails, hoist, hoist motors, stoplogs and spreader bar/lifting beam at spillway and river outlet areas.	Annually
4. Operate and perform inspection of all underwater gates, stilling basin, upstream and downstream side of gates, M&I, and river outlet gates.	Annually
5. Check and restock limestone, gravel road material, riprap, 4- to 6-inch limestone rock, rock 1- to 4-inches, and base material.	Annually
6. Hold periodic staff meetings in regard to storms, floods, disasters and accidents.	Annually

7. Participate in training on cardiopulmonary resuscitation and Basic First Aid or Emergency Care Attendant (ECA).	Annually
8. Exercise all 12 spillway gates to full travel. Check function of limit switches. Calibrate controls.	Annually
9. Exercise emergency gate opening using the drill (only one gate).	Annually
10. Check condition of interior and exterior of outlet conduits.	Annually
11. Check electrical conduits, pullboxes and switches.	Annually
12. Review SOP.	Annually
13. Perform safety walk through of the spillway and related operating structures.	Annually
14. Inspect, locate, relocate, replace and/or remove lake markers, buoys and boating hazards.	Annually
1. Participate in comprehensive review.	Each 5 Years
1. Examine intake structure and stilling basin, which are normally underwater.	Each 6 Years
2. Conduct unbalanced head tests on all spillway gates at least once every 6 years, during a period of high reservoir level.	Each 6 Years
Note that, when these tests have otherwise been performed as a function of normal reservoir operations within a 6 year period, they do not need to be repeated.	
Testing should be done in the following sequence:	
Open the gate 10 percent, then close. If the gate has not been operated in the past year, the 10 percent test should be made in progressive steps as follows:	
a. Barely open (crack) the gate so that it will produce additional leakage, then close.	
b. Open the gate 1 inch, then close.	
c. Open the gate 6 inches, then close.	
d. Open the gate 10 percent, then close. If 10 percent gate opening is not possible because of downstream restrictions, open it as far as possible, then close.	
1. As necessary check automatic gate operations.	AS Needed
2. Document and report any unusual conditions which occur such as new seeps, weeps, unusual readings, and slumps/sloughs.	AS Needed
3. Spray noxious weeds.	AS Needed
4. Spray or remove trees on dam embankment and drains.	AS Needed
5. Mow weeds and grasses within Area 1.	AS Needed
6. Complete other work as specified or directed by the Dam Operator and/or LNRA's Administrative Office.	AS Needed
7. Report any unsafe condition.	AS Needed
8. Provide general public information and assistance.	AS Needed
9. Perform maintenance painting.	AS Needed

10. Attend group safety meetings and perform job related tailgate safety meetings.	AS Needed
11. Service all equipment according to manufacturer's instructions.	AS Needed
12. Inspect, maintain and repair embankment slopes, terraces and slope protection (riprap, rockfill and soil cement).	AS Needed
13. Collect and submit instrumentation recordings and other data in accordance with the Dam Safety Consultant.	AS Needed
14. Report operational information to Dam Safety Consultant, in accordance with flood control regulations and operating procedures.	AS Needed
15. During times of emergencies, maintain communication with proper authorities.	AS Needed
16. Follow an operating and maintenance schedule to ensure a properly functioning system.	AS Needed
17. Provide training to select LNRA employees to operate and maintain the dam and reservoir in an emergency situation.	AS Needed
<b>SCHEDULE FOR PERIODIC MONITORING &amp; DATA COLLECTION</b>	
Daily Visual Inspection	Daily
Annual Survey of Embankment Measurement Points	Once Per Year
Annual Survey of Concrete Structures Measurement Points	Once Per Year
Annual Survey of ROW Stilling Basin Headwall Movement	Once Per Year
Semi-Annual Data Collection of Inclinator Readings	Twice Per Year
Monthly Data Collection of East Drain Standpipe Piezometers and Main Dam Piezometers	Monthly
Semi-Annual Data Collection of East & West Drain Observation Wells (OW-300 Series)	Twice Per Year
Semi-Annual Data Collection of Outlying Observation Wells (ow-80 Series)	Twice Per Year
Daily Data Collection on all NEW Seepage Flows	Daily
Weekly Data Collection on all EXISTING Seepage Flows	Weekly
Daily, Weekly or Monthly Data Collection of all Foundation Drain Depths to Water	As Directed
<b>REHABILITATION SCHEDULE</b>	
Spillway Gate Coating and Gate Seal Replacement	15 years
Spillway Stoplog Coating and Stoplog Seal Replacement	As Required
Spillway Gate Cable Replacement	As Required
Spillway Gate Arm Pinion Rehabilitation	As Required
Spillway Hoist Deck Equipment Refurbishment	As required
Spillway Hoist Deck Equipment Coating	15 Year
Spillway Gantry Crane Refurbishment	15 Year or As Required
Spillway Gantry Crane Coating	15 Years
Spillway Auxillary Generator Refurbishment	20 Years

Spillway Gate Automated Control System Refurbishment	20 Years or As Needed
Embankment Repair	As Needed
Dam Instrumentation Refurbishment	As Needed
Dam Embankment Armarmorment Rehabilitation	50 Years or As Needed
Spillway Inlet Channel Armarmorment Rehabilitation	50 Years or AS Needed
Concrete Structure Repair	As Needed