ANNUAL BUDGET REPORT OF PROJECTED COSTS - FY15
C-51 Reservoir Phase 1 O&M Agreement

TOTAL YEARLY

$100,682.11	Yearly C-51 Reservoir maintenance activities	(sheet (1) C-51 maintenance activities)
$99,525.83	Pump Station from L-8 FEB to C-51 Reservoir (150 cfs)	(sheet (2) 150 cfs pump station)
$215,622.00	Utilize S5A pump station to fill C-51 Reservoir for 39,204 acre ft	(sheet (3) S5A to L8FEB)
$252,246.98	L8 FEB yearly operation	(sheet (4) C51 based on L8)
$40,380.79	conveyance	(sheet (4) C51 based on L8)
$55,981.35	water management (Control Room)	(sheet (4) C51 based on L8)
$108,611.32	Project management, quarterly reports, and Annual Financial Report	(sheet (5) PM & reports)
$129,804.68	Replacement and Rehabilitation	(sheet (6))
$1,002,855.05		

$83,571.25 per month

$1,086,426.31 Total plus 13th month

Conveyance
12.6 miles from L-8 FEB pump station to E-1 canal
19.5 miles from south of E-1 to west on Hillsboro then south on L-36 canal to S-125.
Total of 32.1 miles

Through structures L-8 Divide (G-541), S5AE, S155A, S38A, S38B, S38C and S125

Assume C-51 Reservoir flow of 35 mgs for 365 days = 39,204 acre-ft

NOTE: DELIVERY SOUTH OF S125 IN SUNRISE IS NOT INCLUDED

C51 Reservoir Maintenance Activities

e | g | h | i | "e+g+I" | l | "j+l"

see sheet backup | j

Annual Activities and Costs

Reservoir, Embankments, Levees etc.	Description	Frequency	Manhour total	Equipment/Hours /Trip	Equipment/Hours /Trip Total	Materials	Materials Total	TOTAL - SFWMD	Subcontractor Manhours/Equipment/Materials /TRIP	Price - Subcontractor	TOTAL
Annual inspection of the Reservoir, Embankment, and Levee conducted by Field Station Staff	Formal inspections of the Reservoir, Embankments and levees occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of unwanted vegetation growth, sod cover, slope stability, erosion/bank caving, shoaling, settlement, depressions,/rutting. Cracking, animal control, concrete surfaces (including roller compacted concrete) and banks, drainage systems, and seepage.	Annually	$3,351.35	Pickup / 10 hrs @ $20 = $200 Subtotal = $200 Markup 20% = $40 Total = $240	$240.00	N/A	$0.00	$3,591.35	N/A	0	$3,591.35
Flat mowing **(30 ACRES)**	Flat mowing of levees keeps these areas free from unwanted vegetation for maintenance purposes. This includes the areas on the crest, side slopes, and berm minus three feet from canal top of bank.	5 times per year minimum	$6,260.42	Pickup / 50 hrs @ $20 = $1,000 Subtotal = $1000 Markup 20% = $200 Total = $1200 (each trip)	$6,000.00	N/A	$0.00	$12,260.42	120 ACRES / Contract Mower @ $30 = $3,600 Subtotal = $3,600 Markup 20% = $720 Total = $4,320 5 TIMES PER YEAR	$21,600.00	$33,860.42
Slope mowing	Side-slope mowing keeps these areas free from unwanted vegetation for maintenance purposes and inspecting side slopes for undermining and erosion. The work consists of side slope mowing of grassed and/or vegetated embankment areas, includes canal bank side slope and three feet from canal top of bank. Side slope mowing is defined as those areas that cannot be mowed with a traditional bat wing or bush hog mower.	N/A. No slope mowing required per drawings dated 6/06/2014.		N/A		N/A		$0.00	N/A	0	$0.00
Grading of Lower Roads **(14' wide, 3.86miles)**	Levees and roads require maintenance to keep a smooth drivable surface free of ruts and potholes caused by normal site deterioration and construction traffic.	4 times per year	$1,317.81	Pickup / 8 hrs @ $20 = $160 Subtotal = $160 Markup 20% = $32 Total = $192	$768.00	**No material costs considered**. Arepair estimate will be submitted accounting for additional resources (Material & Labor) in the event major road repair is required.	$0.00	$2,085.81	3.86 MILES / Contract Grading @ $109.58 per mile = $422.97 Subtotal = $422.97 Markup 20% = $84.59 Total = $507.56 4 TIMES PER YEAR	$2,030.24	$4,116.05
Boat ramp maintenance **(2 Each)**	Boat Ramp Maintenance will ensure reliable access to District managed water way systems. Ramps will be inspected annually and maintenance to be performed as per inspection.	Annually		Need additional information on boat ramp construction.		Need additional information on boat ramp construction.	0.00	$0.00	N/A	0	$0.00
Erosion Repairs	Repairs occur when erosion has occurred or is occurring that threatens the stability and integrity of the levee and/or embankment. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	Annually, up to 180cy	$4,785.49	Gradall / 10 hrs @ $139.05 = $1,390.50 Dump Truck / 20 hrs@ $65 = $1,300 Loader / 3 hrs @ $39 = $117 Pickup / 4 hrs @ $20 = $80 Subtotal = $2,887.50 Markup 20% = $577.50 Total = $3,465	$3,465.00	#1 Fill - 200 Tons @ $6.10 = $1,220 Subtotal = $1,220 Markup 20% = $244 Total = $1,464	$1,464.00	$9,714.49	N/A	0	$9,714.49
RCC Drain Maintenance and Repairs	RCC Drain Maintenance will ensure that the RCC drains remain free and clear of debris. Estimate is for Repairs Occur when the culvert has become clogged. Any replacment of the HDPE pipe, duck bills etc. is not included and will require additional costs.	Annually	$1,317.81	N/A		N/A		$1,317.81	Subcontact Vacuum Truck to jet& vacuum out debris/sediment. Subtotal $15,000 Markup 20%=$3,000 Total = $18,000 (all drains)	$18,000.00	$19,317.81
Shoal removal	Shoal removal is performed when sediment builds up or material is washed into the reservoir restricting the conveyance, impairing channel flow or adversely effecting the operations.	Not Included. Shoal Removal at inflow/outflow pipes can not be done utilizing District resources. Owner will need to seek other means to address shoaling issues.		N/A		N/A		$0.00	N/A	0	$0.00
Maintenance spraying terrestrial	Maintenance spraying of terrestrial vegetation occurs when exotic, invasive, and some native plant communities grow within the reservoir, levves, ebankments, and uplands and interfear with the maintenance and/or operations.	Two times per year	$1,735.17	Pickup / 6 hrs @ $20 = $120 Subtotal = $120 Markup 20% = $24 Total = $144	$288.00	Glyphosate - 10 Gal @ $17.40 = $174 Arsenal - 5 Gal @ $46.60 = $233 MSO - 5 Gal @ $10.55 = $52.75 Subtotal = $459.75 Markup 20% = $91.95 Total = $551.70	$1,103.40	$3,126.57	20 hrs / Spray Contractor @ $57 = $1,140 Subtotal = $1,140 Markup 20% = $228 Total = $1,368 TWO times per year	$2,736.00	$5,862.57
Maintenance spraying aquatics	Maintenance spraying of aquatic vegetation occurs when exotic, invasive, and some native plant communities grow within the water body of the reservoir and interfear with the maintenance and/or operations.	Two times per year	$1,735.17	Pickup / 6 hrs @ $20 = $120 Subtotal = $120 Markup 20% = $24 Total = $144	$288.00	Tribune - 5 Gal @ $39.69 = $198.45 MSO - 2.5 Gal @ $10.55 = $26.38 Subtotal = $224.83 Markup 20% = $44.97 Total = $269.80	$539.60	$2,562.77	20 hrs / Spray Contractor @ $57 = $1,140 Subtotal = $1,140 Markup 20% = $228 Total = $1,368 TWO times per year	$2,736.00	$5,298.77
Aquatic Mechanical Harvesting	Aquatic mechanical harvesting removes excess and non-desirable species of aquatic vegetation and debris from water bodies maintained by the district using mechanical harvesting methods when the vegetation is too substantial for maintenance spraying.	Annually, up to 180cy	$5,580.55	Gradall / 10 hrs @ $139.05 = $1,390.50 Dump Truck / 20 hrs@ $65 = $1,300 Boat / 10 hrs @ $14 = $140 Pickup / 14 hrs @ $20 = $280 Subtotal = $3,110.50 Markup 20% = $622.10 Total = $3,732.60	$3,732.60	N/A		$9,313.15	N/A	0	$9,313.15
Total Annual Reservoir, Embankments, Levees etc. Costs			**$26,083.76**		**$14,781.60**			**$43,972.36**		**$47,102.24**	**$91,074.60**

Culverts, Control Gates, Control Building, Etc.	Description	Frequency	Manhour total	Equipment/Hours /Trip		Materials		Price - SFWMD	Subcontractor Manhours/Equipment/Materials	Price - Subcontractor	TOTAL
Annual inspection of the Structure and Control Building conducted by Field Station Staff	Formal inspections of the Control Structures and Control Building occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of the electrical components, control structure, gates, seals, tilting, sliding, or settlement of concrete structures, foundations of concrete structures (including aprons), culvert joints, unwanted vegetation growth, obstructions, inlets/discharge area, and concrete surfaces (including roller compacted concrete embankment and steps).	Annually	$1,007.18	Utility Truck / 8 hrs @ $35.00 = $280 Subtotal = $ 280 Markup 20% = $ 56.00 Total = $336	$336.00	N/A		$1,343.18	N/A	0	$1,343.18
Semi-annual structure Preventative Maintenance (PM)s	Structure Maintenance tech to maintain the equipment and oilers to prevent any excessive wear on equipment.	6 months	$1,067.57	Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 21 Total = $126 (each trip)	$252.00	N/A		$1,571.57	N/A	0	$1,571.57
Semi Annual Electrical Structure Maintenance (does not include Anode Inspection and Replacement)	Electrical inspection of the structure	6 months	$1,164.17	Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 21 Total = $126 (each trip)	$252.00	N/A		$1,668.17	N/A	0	$1,668.17
Semi-annual fall protection equipment inspections (Equipment on Structure)	The Cable for the Suspended Power Swing Stages needs to be inspected/ replaced. The	6 months	$878.21	Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 21 Total = $126 (each trip)	$252.00	N/A		$1,382.21	N/A	0	$1,382.21

Annual pressure cleaning	Cleaning the structure keeps these areas free from unwanted bug and bird debris from the buildings and metal frame and grating of the Sluice gate	Annually	$1,067.57	Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 28.00 Total = $168.00	$168.00	N/A		$1,235.57	N/A	0	$1,235.57
Fall protection personal safety equipment inspections (Harnesses and Tethers)	The Davits and securing anchors need to be inspected for mechanical or concrete failures around the anchorage points.	Annually	$249.75	N/A		N/A		$249.75	N/A	0	$249.75
Pavement & Sign Inspection	Vandalism/damaged signs may need to be replaced. And asphalt repairs may be needed along the driving surfaces.	Annually	$439.10	Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 28.00 Total = $168.00	$168.00	$120.00	120.00	$734.10	N/A	0	$734.10
SCADA System Inspection	Perform routine and emergency activities such as: inspection, calibration, repair, adjustment and replacement of RTU, stage and gate sensors communication/RF components and hardware (stilling wells, walkways and housings). Six (6) estimated visits = 4 routine and 2 emergencies	Quarterly	$1,127.95	Cargo van / 4 hrs @ $35.00 = $140.00 Subtotal= $140.00 Markup 20% = $28 Total = $168 (each trip)	$672.00			$1,422.95			$1,422.95
Stilling Well Inspection and Calibration											$0.00
Total Annual Culverts, Control Gates, Control Building, Etc.			**$7,001.51**		**$2,100.00**			**$9,607.51**		**$0.00**	**$9,607.51**
Total Annual Costs			**$33,085.27**		**$16,881.60**		**$3,227.00**	**$53,579.87**		**$47,102.24**	**$100,682.11**

$53,193.87

5 Year Activities and Costs

Reservoir, Embankments, Levees etc.	**Description**	**Frequency**	**Manhour total**	**Equipment/Hours /Trip**	**Equipment/Hours /Trip Total**	**Materials**	**Materials Total**	**Price - SFWMD**	**Subcontractor Manhours/Equipment/Materials /TRIP**	**Price - Subcontractor**	**TOTAL**
Total 5 Year Reservoir, Embankments, Levees etc. Costs			**$0.00**		**$0.00**		**0.00**	**$0.00**		**$0.00**	$0.00
Culverts, Control Gates, Control Building, Etc.	**Description**	**Frequency**	**Manhour total**	**Equipment/Hours /Trip**		**Materials**		**Price - SFWMD**	**Subcontractor Manhours/Equipment/Materials**	**Price - Subcontractor**	**TOTAL**
Routine Inspection Program (District's 5 Yr. plan - Very Thorough incl. Divers to check Structure, Stop Logs)	An in-depth inspection of the structure including the gate, culvert, anodes and other parts of the structure.	5 years	$5,898.44	Utility Truck / 10 hrs @ $35.00 x 2 = $700.00 Dive Trailer / 10 hrs @ $10.25 = $102.50 Subtotal = $ 1602.50 Markup 20% = $ 320.50 Total = $1,923 confined space equipment $800	$2,723.00	N/A		$8,621.44	10 hrs / Licensed Trapper @ $35.00 = $350.00 Subtotal = $350.00 Markup 20% = $87.50 Total = $ 437.50	$437.50	$9,058.94
Painting of culvert gate control building	Buildings and the Structure requires the paint to be maintained to keep a Rust free surface.	5 years	$1,127.95	Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 28.00 Total = $168.00	$168.00	N/A		$1,295.95	N/A	0	$1,295.95
5 year gearbox overhaul including electric motors (2 gearboxes)	The Bearings and Sacrificial Bronze nut ned to be replaced dependent upon usage, load and age.	5 Years	$4,951.36	Utility Truck / 50 hrs @ $35.00 = $1750.00 Subtotal = $ 1750.00 Markup 20% = $ 350 Total = $ 2100	$2,100.00	Bearings AXK90120- 4ea @ $32 = $128.00 O-Rings ARP568128 4ea @ 3.15 = $12.60 Stem Nut P/N 35594 2ea @ 538.4 = $1,076.80 Signs 12"x24" 4ea @ $30 = $120 Asphalt Road Repairs 1ea @ $120 Subtotal = $ 1,457.40 Markup 20% = $ 291.48 Total = $ 1,748.88	$1,748.88	$8,800.24	2 Motors rewound and overhauled at certified motor shop @ 608.00 each = $ 1216.000 Stem Lathe Repairs $ TBD Subtotal = $ 1216.00 Markup 20% = $ 304 Total = $ 1520.00	$1,520.00	$10,320.24
Total 5 Year Culverts, Control Gates, Control Building, Etc.			**$11,977.75**		**$4,991.00**		**1,748.88**	**$18,717.63**		**$1,957.50**	**$20,675.13**
Total 5 Year Costs			**$11,977.75**		**$4,991.00**		**1,748.88**	**$18,717.63**		**$1,957.50**	**$20,675.13**

15 Year Activities and Costs

15 year gate overhaul (2-9'x9' gates)	Sluice gate seals and Slide HDPE replacement	15 years	$50,033.57	Dive Trailer / 40 hrs @ $70.00 = $2,800.00 Hydro Crane / 40 hrs @ $155.00 = $6,200.00 Subtotal = $ 9,000.00 Markup 20% = $ 1,800.00 Total = $ 10,800.00	$10,800.00	Seals @ $3,000.00	$3,000.00	$63,833.57	40 hrs / Wildlife Protection @ $35.00 = $1,400.00 (Staff = 1 x 4 days x 10 hours) Subtotal = $1,400.00 Markup = $280.00 Total = $1,680.00	$1,680.00	$65,513.57
Total 15 Year Costs			**$50,033.57**		**$10,800.00**		**3,000.00**	**$63,833.57**		**$1,680.00**	**$65,513.57**

Rich Virgil/ Kathy Collins

150 CFS pump station from L-8 FEB to the C-51 Reservoir Phase 1

Budget based small style elelctric pump pump station

				total salary	overhead	total		
INDUSTRIAL ELECTRICIAN		$	14,536					
INDUSTRIAL ELECTRICIAN		$	-					
INDUSTRIAL ELECTRICIAN - Benefits		$	5,410	$ 19,946	$ 15,611.73	$ 35,558		
Electric S-700		$	46,800					
Oils / Lube		$	364					
Fire Extinguisher		$	82					
Parts & Supplies		$	2,000					
Electrical Supplies		$	3,500					
Electronic Technician 3		$	4,595					
Electronic Technician 3 - Benefits		$	1,700	$ 6,295	$ 4,927.10	$ 11,222		
	c	$	78,987		a	$ 46,780	TOTAL SALARY	
	b	$	26,241	Salary w/out overhead		$ 20,539	"a-b"	
	TOTAL	**$**	**99,526**	(a-b)+c				

Utilize S5A pump station to send water north to L8 FEB

$5.50 per acre ft

39204 acre ft (35 mgd for 365 days)

$215,622.00

Matt,

The $4.50 per acre foot was calculated based on average total costs divided by average acre feet pumped for S5A. Below is the breakdown of the total costs and the fuel portion costs for S5A for FY09 to Fy13. By dividing the total costs by the acre feet the actual number is $4.38 which was then rounded up resulting in the cost $4.50 acre foot. In light of the fact that the fuel consumption went up by approximately 40% during the recent test with the higher tail water and the cost per acre foot for fuel is $2.50 the revised acre foot for fuel jumps to $3.50 per acre foot bringing **the total revised cost per acre foot to $5.50.** Please let me know if you have any questions.

Tom DeBold
Superintendent
West Palm Beach Field Station
SFWMD.GOV

			S5A	
FY09			$800,187	
FY10			$733,637	
FY11			$612,368	
FY12			$1,229,076	
FY13			$1,296,454	
Average			$934,344	

S5A Fuel Cost per Acre Foot			
	Acre Feet	**Fuel Cost**	**$/AF**
FY09	271,004	$656,865	$2.42
FY10	184,338	$352,443	$1.91
FY11	110,970	$234,228	$2.11
FY12	225,920	$676,305	$2.99
FY13	274,957	$845,772	$3.08
Average	213,438	$553,123.00	**$2.50**

L-8 FEB Yearly Operation

(based on estimate from November 2013)

Conveyance and Water Management

Fund	L-8 FEB	170000 ACRE-FT
New or Existing (FTE & Vehicles ONLY)		

New Works Project	Responsible Cost Center	Description	Sum of FY17-L8 Combined	Sum of FY17-L8 Reservoir & Structure	Sum of FY17-L8 Pump Station	FY17-L8 Reservoir & Structure cost per Linear foot	FY17-L8 Pump Station per Acre foot	FY17-C51 Reservoir & Structure cost based on linear foot cost for L8 reservoir
Restoration Strategies - L-8 Reservoir	WPB FS	RS L-8 Reservoir - Terrestrial Chemicals	2,681	2,681		0.064366271	0	1313.33
		RS L-8 Reservoir - Aquatic Chemicals	2,725	2,725		0.065422636	0	1334.88
		RS L-8 Reservoir - Fuel SM Vehicles	3,968	3,968		0.095264962	0	1943.79
		RS L-8 Reservoir - PS Oil	1,700		1,700	0	0.01	0.00
		RS L-8 Reservoir - Structures Oil	453	453		0.010875763	0	221.91
		RS L-8 Reservoir - Lube Oil Analysis	453		453	0	0.002664706	0.00
		RS L-8 Reservoir - Structures (Propane)	1,090	1,090		0.026169054	0	533.95
		RS L-8 Reservoir - L8 Reservoir Lumber	545	545		0.013084527	0	266.98
		RS L-8 Reservoir - Structures Fencing	545	545		0.013084527	0	266.98
		RS L-8 Reservoir - Tools PS	82		82	0	0.000482353	0.00
		RS L-8 Reservoir - Trades Support Tools	82		82	0	0.000482353	0.00
		RS L-8 Reservoir - Tuff Boom	4,360	4,360		0.104676218	0	2135.81
		RS L-8 Reservoir - SM Equipment VMF	1,090	1,090		0.026169054	0	533.95
		RS L-8 Reservoir - Buildings & Grounds	367	367		0.008811049	0	179.78
		RS L-8 Reservoir - Electric Motors Parts	1,090	1,090		0.026169054	0	533.95
		RS L-8 Reservoir - SM Parts and Supplies	1,090	1,090		0.026169054	0	533.95
		RS L-8 Reservoir - Rental Equipment	5,450	1362.5	4087.5	0.032711318	0.024044118	667.44
		RS L-8 Reservoir - CDL (1 FTE)	5,450	2725	2725	0.065422636	0.016029412	1334.88
		RS L-8 Reservoir - PS Electricity	1,000,000		1,000,000	0	5.882352941	0.00
		RS L-8 Reservoir - Structure Electricity	463	463		0.011115846	0	226.81
		RS L-8 Reservoir - Boat Barrier Maint	0			0	0	0.00
		RS L-8 Reservoir - Metal Products Trades	818		818	0	0.004811765	0.00
		RS L-8 Reservoir - Structure Maintenance	1,090	1,090		0.026169054	0	533.95
		RS L-8 Reservoir - Levee / Berm M&R	3,270	3,270		0.078507163	0	1601.86
		RS L-8 Reservoir - Structure Maint Tools	82	82		0.001968681	0	40.17
		RS L-8 Reservoir - Veg Mgmt Tools	82	82		0.001968681	0	40.17
		RS L-8 Reservoir - PPE / Apparel-Stores	109	27.25	81.75	0.000654226	0.000480882	13.35
		RS L-8 Reservoir - Electrical Supples	218	54.5	163.5	0.001308453	0.000961765	26.70
		RS L-8 Reservoir - Trades Support Equip	5,450		5,450	0	0.032058824	0.00
		RS L-8 Reservoir - Parts & Supplies Repl	367	91.75	275.25	0.002202762	0.001619118	44.95
		RS L-8 Reservoir - Parts & Fittings	3,270	817.5	2452.5	0.019626791	0.014426471	400.47
		RS L-8 Reservoir - Oil Absorbent Rags	367		367	0	0.002158824	0.00
		RS L-8 Reservoir - M&R Emergency Generat	1,090		1,090	0	0.006411765	0.00

Quarterly reports, project management and Annual Financial Report

				0.589147		**78.27321% of salaries**			
Quarterly reports and quarterly project management	hours		rate	amount	fringe	total salary	overhead	total salary overhead	
Staff Engineer		120	$38.62	$4,634.40	$2,730.34	$7,364.74	$5,764.62	$13,129.36	
Lead Engineer		60	$42.00	$2,520.00	$1,484.65	$4,004.65	$3,134.57	$7,139.22	
Admin		20	$25.00	$500.00	$294.57	$794.57	$621.94	$1,416.51	
								$21,685.09	4 required
								$ 86,740.38	4

Annual financial report	hours	rate	amount	fringe	total salary	overhead	total salary overhead
accountant	100	$42.00	$4,200.00	$2,474.42	$6,674.42	$5,224.28	$11,898.70
budget analyst	60	$42.00	$2,520.00	$1,484.65	$4,004.65	$3,134.57	$7,139.22
admin	40	$25.00	$1,000.00	$589.15	$1,589.15	$1,243.88	$2,833.02
							$21,870.94

total	**$**	**108,611.32**

Replacement and Rehabilitation

L-8 FLOW EQUALIZATION BASIN

Item	Usefull Life (years)	Present Value	Annual R/R
Pumps (6)	20	$2,940,000.00	$98,730.35
Inflow Roller Gates (3)	50	$1,400,000.00	$9,170.28
PS Slide Gates	20	$945,000.00	$31,734.75
Butterfly Valves	10	$325,000.00	$27,069.56
Electrical/Instrumentation	25	$650,000.00	$15,607.78
Roller Compacted Concrete	50	$10,020,750.00	$65,637.92
Variable Frequency Drives	10	$360,000.00	$29,984.74
Bridge	50	$800,500.00	$5,243.44
Interconnect Pipes	25	$15,000.00	$360.18
Generators (2)	20	$52,000.00	$1,746.25
			$285,285.24
			$53,348.34

S5A

pumps (6)	50	$5,342,804.00	$34,996.44
chain drives (6)	50	$3,178,099.00	$20,817.19
Engines and controls (6)	50	$15,067,388.00	$98,694.41
Raw water intake structure	50	$12,000.00	$78.60
Raw water piping and strainers	50	$378,202.00	$2,477.30
Discharge flap gates	50	$1,008,985.00	$6,609.05
vacuum pumps	50	$211,459.00	$1,385.10
			$165,058.09
			$15,310.68

NOTE: S5A is required to fill the L-8 FEB and C-51 Reservoir
S5A is used to redirect the canal flow to L-8 FEB

C-51 Reservoir and Hydraulic Structure

Item	Usefull Life (years)	Present Value	Annual R/R

Pumps (2)	20	$300,000.00	$10,074.53
Gates (2)	50	$500,000.00	$3,275.10
Electrical/Instrumentation	20	$100,000.00	$3,358.18
RCC	100	$11,000,000.00	$8,888.00
Guard Rail	20	$500,000.00	$16,790.88
Interconnect Pipes	75	$6,000,000.00	$13,374.01
Roads	25	$15,000.00	$360.18
			$56,120.86

(G-541), S5AE, S155A, S38A, S38B, S38B, S38C and S125
32 miles of canal (C-51, Hillsboro, and L-36)

S5AE	50	$2,500,000.00	$16,375.50
Structure replacement			$655.02
G-541			
Roller gates (3)	50	$1,400,000.00	$9,170.28
			$366.81
S-155A			
Roller gates (3)	50	$1,400,000.00	$9,170.28
			$366.81
culverts (5)		total for 5 structures	
3 72 inchCMP by 54 ft	50	$918,000.00	$6,013.08
Structure replacement			$240.52

Canals - dredging
Assume $405,000 per mile to hydraulic dredge up to 1 ft of silt - from Jack

32 miles of canal	50	$12,960,000.00	$84,890.60
Portion of C-51 and Hillsboro,			$3,395.62
L-36 Canal to S-125			

Total RR PRORATED BASED ON C51 flow
L-8 FLOW EQUALIZATION BASIN $53,348.34

S5A	$15,310.68
C-51 Reservoir and Hydraulic Structure	$56,120.86
(G-541), S5AE, S155A, S38A, S38B, S38B, S38C and S125	
S5AE	$655.02
S155A	$366.81
G541	$366.81
5 culvert structures	$240.52
32 mile canal	$3,395.62
TOTAL	**$129,804.68**

YEARLY		
L-8 FEB pumpage	170000	ACRE-FT
C51 pumpage	39204	ACRE-FT
	209204	TOTAL
	0.187	C-51 percent of total

C-51 percent at 18.7%

water exclusve of L8 and C51

S5A pumpage prior to L-8 FEB

	Acre Feet
FY09	271,004
FY10	184,338
FY11	110,970
FY12	225,920
FY13	274,957
Average	213,438

C-51 percent at 9%

new S5A total with L8 FEB and C-5

L8 FEB	170,000
S5A other	213,438
C-51	39,204
	422,642

C51 % OF TOTAL

0.09

C-51 percent at 4%

C-51 percent at 4%

cfs	acre ft/day	year acre ft	c51 yr flow acre- ft	C51 flow %
1253	2485	907025	39204	0.04

C-51 percent at 4%

Matt – the estimated total cost per one linear foot of3 x 72-in CMP w/ 5
Jack

C-51 percent at 4%

C-51 percent at 4%

1 Reservoir

Total

54 ft. each, and risers with slide gates, including cat- walk, is $3000 to $3400 per L.F. Work will be includ

led: cofferdam, dewatering, excavation, removal, installation, rip-rap, and in some project buy bass as v

well.

C51 Reservoir Maintenance and Repair Activities **C51 Reservoir maintenance**

Annual Activities and Costs

Reservoir, Embankments, Levees etc.	Description	Frequency
Annual inspection of the Reservoir, Embankment, and Levee conducted by Field Station Staff	Formal inspections of the Reservoir, Embankments and levees occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of unwanted vegetation growth, sod cover, slope stability, erosion/bank caving, shoaling, settlement, depressions,/rutting. Cracking, animal control, concrete surfaces (including roller compacted concrete) and banks, drainage systems, and seepage.	Annually
Flat mowing **(30 ACRES)**	Flat mowing of levees keeps these areas free from unwanted vegetation for maintenance purposes. This includes the areas on the crest, side slopes, and berm minus three feet from canal top of bank.	5 times per year minimum
Slope mowing	Side-slope mowing keeps these areas free from unwanted vegetation for maintenance purposes and inspecting side slopes for undermining and erosion. The work consists of side slope mowing of grassed and/or vegetated embankment areas, includes canal bank side slope and three feet from canal top of bank. Side slope mowing is defined as those areas that cannot be mowed with a traditional bat wing or bush hog mower.	N/A. No slope mowing required per drawings dated 6/06/2014.
Grading of Lower Roads **(14' wide, 3.86miles)**	Levees and roads require maintenance to keep a smooth drivable surface free of ruts and potholes caused by normal site deterioration and construction traffic.	4 times per year
Boat ramp maintenance **(2 Each)**	Boat Ramp Maintenance will ensure reliable access to District managed water way systems. Ramps will be inspected annually and maintenance to be performed as per inspection.	Annually
Erosion Repairs	Repairs occur when erosion has occurred or is occurring that threatens the stability and integrity of the levee and/or embankment. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	Annually, up to 180cy
RCC Drain Maintenance and Repairs	RCC Drain Maintenance will ensure that the RCC drains remain free and clear of debris. Estimate is for Repairs Occur when the culvert has become clogged. Any replacment of the HDPE pipe, duck bills etc. is not included and will require additional costs.	Annually
Shoal removal	Shoal removal is performed when sediment builds up or material is washed into the reservoir restricting the conveyance, impairing channel flow or adversely effecting the operations.	Not Included. Shoal Removal at inflow/outflow pipes can not be done utilizing District resources. Owner will need to seek other means to address shoaling issues.
Maintenance spraying terrestrial	Maintenance spraying of terrestrial vegetation occurs when exotic, invasive, and some native plant communities grow within the reservoir, levves, ebankments, and uplands and interfear with the maintenance and/or operations.	Two times per year

Maintenance spraying aquatics	Maintenance spraying of aquatic vegetation occurs when exotic, invasive, and some native plant communities grow within the water body of the reservoir and interfear with the maintenance and/or operations.	Two times per year
Aquatic Mechanical Harvesting	Aquatic mechanical harvesting removes excess and non-desirable species of aquatic vegetation and debris from water bodies maintained by the district using mechanical harvesting methods when the vegetation is too substantial for maintenance spraying.	Annually, up to 180cy
Total Annual Reservoir, Embankments, Levees etc. Costs		

Culverts, Control Gates, Control Building, Etc.	**Description**	**Frequency**
Annual inspection of the Structure and Control Building conducted by Field Station Staff	Formal inspections of the Control Structures and Control Building occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of the electrical components, control structure, gates, seals, tilting, sliding, or settlement of concrete structures, foundations of concrete structures (including aprons), culvert joints, unwanted vegetation growth, obstructions, inlets/discharge area, and concrete surfaces (including roller compacted concrete embankment and steps).	Annually
Semi-annual structure Preventative Maintenance (PM)s	Structure Maintenance tech to maintain the equipment and oilers to prevent any excessive wear on equipment.	6 months
Semi Annual Electrical Structure Maintenance (does not include Anode Inspection and Replacement)	Electrical inspection of the structure	6 months
Semi-annual fall protection equipment inspections (Equipment on Structure)	The Cable for the Suspended Power Swing Stages needs to be inspected/ replaced. The	6 months
Annual pressure cleaning	Cleaning the structure keeps these areas free from unwanted bug and bird debris from the buildings and metal frame and grating of the Sluice gate	Annually

Fall protection personal safety equipment inspections (Harnesses and Tethers)	The Davits and securing anchors need to be inspected for mechanical or concrete failures around the anchorage points.	Annually
Pavement & Sign Inspection	Vandalism/damaged signs may need to be replaced. And asphalt repairs may be needed along the driving surfaces.	Annually
SCADA System Inspection	Perform routine and emergency activities such as: inspection, calibration, repair, adjustment and replacement of RTU, stage and gate sensors communication/RF components and hardware (stilling wells, walkways and housings). Six (6) estimated visits = 4 routine and 2 emergencies	Quarterly
Stilling Well Inspection and Calibration		
Total Annual Culverts, Control Gates, Control Building, Etc.		
Total Annual Costs		

5 Year Activities and Costs

Reservoir, Embankments, Levees etc.	**Description**	**Frequency**
Total 5 Year Reservoir, Embankments, Levees etc. Costs		
Culverts, Control Gates, Control Building, Etc.	**Description**	**Frequency**
Routine Inspection Program (District's 5 Yr. plan - Very Thorough incl. Divers to check Structure, Stop Logs)	An in-depth inspection of the structure including the gate, culvert, anodes and other parts of the structure.	5 years
Painting of culvert gate control building	Buildings and the Structure requires the paint to be maintained to keep a Rust free surface.	5 years
5 year gearbox overhaul including electric motors (2 gearboxes)	The Bearings and Sacrificial Bronze nut ned to be replaced dependent upon usage, load and age.	5 Years

Total 5 Year Culverts, Control Gates, Control Building, Etc.		
Total 5 Year Costs		

15 Year Activities and Costs

15 year gate overhaul (2-9'x9' gates)	Sluice gate seals and Slide HDPE replacement	15 years
Total 15 Year Costs		

Annual inspection of the Reservoir, Embankment, and Levee conducted by Field Station Staff	

0.589147

	hours	rate	amount	fringe
Operator	6	$35.08	$210.48	$124.00
Planner/Supervisor	2	$42.63	$85.26	$50.23

Flat mowing of levees keeps these areas free from unwanted vegetation for maintenance purposes. This includes the areas on the crest, side slopes, and berm minus three feet from canal top of bank.	

	hours	rate	amount	fringe
Contract Inspector	12	$36.83	$441.96	$260.38
	0	$42.63	$0.00	$0.00

Grading of Levee Roads **(14' wide, 3.86miles)**	

	hours	rate	amount	fringe
Contract Inspector	8	$36.83	$294.64	$173.59
Planner/Supervisor	4	$42.63	$170.52	$100.46

Erosion Repairs	Repairs occur when erosion has occurred or is occurring that threatens the stability and integrity of the levee and/or embankment. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.

		hours	rate	amount	fringe
	Operator	36	$35.08	$1,262.88	$744.02
	Planner	5	$42.63	$213.15	$125.58
	Supervisor	5	$42.63	$213.15	$125.58

Maintenance spraying terrestrial	Maintenance spraying of terrestrial vegetation occurs when exotic, invasive, and some native plant communities grow within the reservoir, levves, ebankments, and uplands and interfear with the maintenance and/or operations.

	hours	rate	amount	fringe
Contract Inspector	6	$36.83	$220.98	$130.19
Supervisor	2	$42.63	$85.26	$50.23

rcc drain

Maintenance spraying aquatics	Maintenance spraying of aquatic vegetation occurs when exotic, invasive, and some native plant communities grow within the water body of the reservoir and interfear with the maintenance and/or operations.

	hours	rate	amount	fringe
Contract Inspector	6	$36.83	$220.98	$130.19
Supervisor	2	$42.63	$85.26	$50.23

Aquatic Mechanical Harvesting	Aquatic mechanical harvesting removes excess and non-desirable species of aquatic vegetation and debris from water bodies maintained by the district using mechanical harvesting methods when the vegetation is too substantial for maintenance spraying.

	hours	rate	amount	fringe
Operator	44	$35.08	$1,543.52	$909.36
Planner	5	$42.63	$213.15	$125.58
Supervisor	5	$42.63	$213.15	$125.58

Annual inspection of the Structure and Control Building conducted by Field Station Staff	Formal inspections of the Control Structures and Control Building occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of the electrical components, control structure, gates, seals, tilting, sliding, or settlement of concrete structures, foundations of concrete structures (including aprons), culvert joints, unwanted vegetation growth, obstructions, inlets/discharge area, and concrete surfaces (including roller compacted concrete embankment and steps).

	hours	rate	amount	fringe
Technician	10	$33.42	$334.20	$196.89
Supervisor	0.5	$42.63	$21.32	$12.56

Routine Inspection Program (District's 5 Yr. plan - Very Thorough incl. Divers to check Structure, Stop Logs)	An in-depth inspection of the structure including the gate, culvert, anodes and other parts of the structure.

	hours	rate	amount	fringe
Technician	10	$33.42	$334.20	$196.89
Diver	40	$42.63	$1,705.20	$1,004.61
Planner	1	$42.63	$42.63	$25.12
Supervisor	1	$42.63	$42.63	$25.12

Semi-annual structure Preventative Maintenance (PM)s	Structure Maintenance tech to maintain the equipment and oilers to prevent any excessive wear on equipment.

	hours	rate	amount	fringe
Technician	5	$33.42	$167.10	$98.45
Planner	0.5	$42.63	$21.32	$12.56

Semi Annual Electrical Structure Maintenance (does not include Anode Inspection and Replacement)	Electrical inspection of the structure

	hours	rate	amount	fringe
Electrician	5	$36.83	$184.15	$108.49
Planner	0.5	$42.63	$21.32	$12.56

Semi-annual fall protection equipment inspections (Equipment on Structure)	The Cable for the Suspended Power Swing Stages needs to be inspected/ replaced. The

	hours	rate	amount	fringe
Technician	4	$33.42	$133.68	$78.76
Planner	0.5	$42.63	$21.32	$12.56

Annual pressure cleaning	Cleaning the structure keeps these areas free from unwanted bug and bird debris from the buildings and metal frame and grating of the Sluice gate

	hours	rate	amount	fringe
Technician	5	$33.42	$167.10	$98.45
Planner	0.5	$42.63	$21.32	$12.56

Painting of culvert gate control building	Buildings and the Structure requires the paint to be maintained to keep a Rust free surface.

	hours	rate	amount	fringe
Technician	10	$33.42	$334.20	$196.89
Planner	1.5	$42.63	$63.95	$37.67

	Perform routine and emergency			

Maintenance, Inspection and Calibration	Perform routine and emergency activities such as: inspection, calibration, repair, adjustment and replacement of RTU, stage and gate sensors communication/RF components and hardware (stilling wells, walkways and housings). Six (6) estimated visits = 4 routine and 2 emergencies.		

	hours	rate	amount	fringe
electronics tech	6	$22.00	$132.00	$77.77
planner scheduler	1	$44.00	$44.00	$25.92
electronics logistic tech	1	$44.00	$44.00	$25.92

5 year gearbox overhaul including electric motors (2 gearboxes)	The Bearings and Sacrificial Bronze nut ned to be replaced dependent upon usage, load and age.

	hours	rate	amount	fringe
Technician	40	$33.42	$1,336.80	$787.57
Electrician	10	$36.83	$368.30	$216.98
Planner	1	$42.63	$42.63	$25.12

	hours	rate	amount	fringe
Diver	240	$42.63	$10,231.20	$6,027.68
Technician	120	$33.42	$4,010.40	$2,362.72
Crew Chief	44	$42.63	$1,875.72	$1,105.07
Crane Operator	44	$35.08	$1,543.52	$909.36

Fall protection personal safety equipment inspections (Harnesses and Tethers)	The Davits and securing anchors need to be inspected for mechanical or concrete failures around the anchorage points.

	hours	rate	amount	fringe
Technician	2	$33.42	$66.84	$39.38
Planner	0.5	$42.63	$21.32	$12.56
		$42.63	$0.00	$0.00

Pavement & Sign Inspection	Vandalism/damaged signs may need to be replaced. And asphalt repairs may be needed along the driving surfaces.

	hours	rate	amount	fringe
Technician	4	$33.42	$133.68	$78.76
Planner	0.5	$42.63	$21.32	$12.56
		$42.63	$0.00	$0.00

78.27321% of salaries

total salary	overhead	total salary overhead	annual
$334.48	$261.81	$596.29	
$135.49	$106.05	$241.54	
		$837.84	$3,351.35
		times 4	

total salary	overhead	total salary overhead	
$702.34	$549.74	$1,252.08	
$0.00	$0.00	$0.00	
		$1,252.08	$6,260.42
		times 5	

total salary	overhead	total salary overhead	
$468.23	$366.50	$834.72	
$270.98	$212.11	$483.09	
		$1,317.81	$1,317.81
		times 4	

total salary	overhead	total salary overhead	
$2,006.90	$1,570.87	$3,577.77	
$338.73	$265.13	$603.86	
$338.73	$265.13	$603.86	
		$4,785.49	$4,785.49

total salary	overhead	total salary overhead	
$351.17	$274.87	$626.04	
$135.49	$106.05	$241.54	
		$867.59	$1,735.17
		times 2	
			1317

total salary	overhead	total salary overhead	
$351.17	$274.87	$626.04	
$135.49	$106.05	$241.54	
		$867.59	$1,735.17
		times 2	

total salary	overhead	total salary overhead	
$2,452.88	$1,919.95	$4,372.83	
$338.73	$265.13	$603.86	
$338.73	$265.13	$603.86	
		$5,580.55	$5,580.55

total salary	overhead	total salary overhead		
$531.09	$415.70	$946.80		
$33.87	$26.51	$60.39		
		$1,007.18		$1,007.18

total salary	overhead	total salary overhead	5 year	
$531.09	$415.70	$946.80		
$2,709.81	$2,121.06	$4,830.87		
$67.75	$53.03	$120.77		
$67.75	$53.03	$120.77		
		$5,898.44		

total salary	overhead	total salary overhead		
$265.55	$207.85	$473.40		
$33.87	$26.51	$60.39		
			2 times	
		$533.78		$1,067.57

total salary	overhead		total salary	overhead	
$292.64		$229.06	$521.70		
$33.87		$26.51	$60.39		
				2 times	
			$582.09		$1,164.17

total salary	overhead		total salary	overhead	
$212.44		$166.28	$378.72		
$33.87		$26.51	$60.39		
				2 times	
			$439.10		$878.21

total salary	overhead		total salary	overhead	
$265.55		$207.85	$473.40		
$33.87		$26.51	$60.39		
				2 times	
			$533.78		$1,067.57

total salary	overhead		total salary	overhead	
$531.09		$415.70	$946.80		
$101.62		$79.54	$181.16		
				5 years	
			$1,127.95		$1,127.95

total salary	overhead		total salary overhead	
$209.77		$164.19	$373.96	
$69.92		$54.73	$124.65	
$69.92		$54.73	$124.65	
				4 times
			$623.27	

total salary	overhead		total salary overhead	
$2,124.37		$1,662.81	$3,787.19	
$585.28		$458.12	$1,043.40	
$67.75		$53.03	$120.77	5 years
			$4,951.36	

total salary	overhead		total salary overhead	
$16,258.88		$12,726.35	$28,985.23	
$6,373.12		$4,988.44	$11,361.56	
$2,980.79		$2,333.16	$5,313.96	
$2,452.88		$1,919.95	$4,372.83	
			$50,033.57	
			times 1	

total salary	overhead		total salary overhead		
$106.22		$83.14	$189.36		
$33.87		$26.51	$60.39		
$0.00		$0.00	$0.00		
			$249.75		$249.75

total salary	overhead		total salary	overhead	
$212.44		$166.28	$378.72		
$33.87		$26.51	$60.39		
$0.00		$0.00	$0.00		
			$439.10		$439.10

$33,084.46

salary
salary
annual $33,084.46

additional at 5 year

5 year	equipment	materials	subs
	240		
	6000	21600	
	768	2030	

3465 1464

288 1103 2736

18000

288 539 2736

3732.6

336

$5,898.44 1503.12 437.5

252

252

252

168

$2,493.06	672			
$4,951.36	2187	1748	1520	
$50,033.57		3000		

	175		120			
$63,376.43	**$16,888.60**	**$3,865.12**	**$7,974.00**	**$47,539.50**	**$1,520.00**	
additional		additional				
	equip		materials	subs		
	$16,888.60		$7,974.00	$47,539.50		**$105,486.56**
$63,376.43		$3,865.12			$1,520.00	**$68,761.55**

C51 Reservoir Maintenance and Repair Activities

Reservoir, Embankments, Levees etc.

Annual inspection of the Reservoir, Embankment, and Levee conducted by Field Station Staff
Routine Inspection Program (District's 5 Yr. plan - Very Thorough incl. survey work, Divers to check aprons)
Flat mowing **(30 ACRES)**
Slope mowing
Grading of Levee Roads **(14' wide, 3.86miles)**

Boat ramp maintenance **(2 Each)**
Erosion Repairs
RCC Drain Maintenance and Repairs
Shoal removal
Maintenance spraying terrestrial
Maintenance spraying aquatics
Aquatic Mechanical Harvesting
Misc. Repairs
Access gate, fence , signs, etc. repairs

Annual inspection of the Structure and Control Building conducted by Field Station Staff
Routine Inspection Program (District's 5 Yr. plan - Very Thorough incl. Divers to check Structure, Stop Logs)
Semi-annual structure Preventative Maintenance (PM)s
Semi Annual Electrical Structure Maintenance (does not include Anode Inspection and Replacement)
Semi-annual fall protection equipment inspections (Equipment on Structure)

Annual pressure cleaning
Painting of culvert gate control building
5 year gearbox overhaul including electric motors (2 gearboxes)
15 year gate overhaul (2 gates)
Misc. Repairs
Fall protection personal safety equipment inspections (Harnesses and Tethers)
Pavement & Sign Inspection
SCADA System Inspection
Stilling Well Inspection and Calibration

Pump Station (Electric Submersible) (Three Pump Bay with One Pump)
Annual Army Corp of Engineers COE inspection

Routine Inspection Program
Monthly station Preventative Maintenance PMs
Annual generator service (if applicable)
Weekly test runs
Backflow gate maintenance
Distance to Water Measurements (DTW's)
Painting of pump control building
Electric submersible overhauls on average once every five years
Fuel tank testing
Change gearbox oil
Semi Annual Pumps Station Electrical Maintenance
Misc. Repairs
Fall protection safety inspections

Description	Frequency
Formal inspections of the Reservoir, Embankments and levees occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of unwanted vegetation growth, sod cover, slope stability, erosion/bank caving, shoaling, settlement, depressions,/rutting. Cracking, animal control, concrete surfaces (including roller compacted concrete) and banks, drainage systems, and seepage.	Annually
	5 years
Flat mowing of levees keeps these areas free from unwanted vegetation for maintenance purposes. This includes the areas on the crest, side slopes, and berm minus three feet from canal top of bank.	5 times per year minimum
Side-slope mowing keeps these areas free from unwanted vegetation for maintenance purposes and inspecting side slopes for undermining and erosion. The work consists of side slope mowing of grassed and/or vegetated embankment areas, includes canal bank side slope and three feet from canal top of bank. Side slope mowing is defined as those areas that cannot be mowed with a traditional bat wing or bush hog mower.	N/A. No slope mowing required per drawings dated 6/06/2014.
Levees and roads require maintenance to keep a smooth drivable surface free of ruts and potholes caused by normal site deterioration and construction traffic.	4 times per year

Boat Ramp Maintenance will ensure reliable access to District managed water way systems. Ramps will be inspected annually and maintenance to be performed as per inspection.	Annually
Repairs occur when erosion has occurred or is occurring that threatens the stability and integrity of the levee and/or embankment. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	Annually, up to 180cy
RCC Drain Maintenance will ensure that the RCC drains remain free and clear of debris. Repairs Occur when the culvert has become clogged, experiencing deterioration and/or significant leakage, is in danger of collapsing, or has already begun to collapse.	Not included RCC Drain Issues should be addressed by owner.
Shoal removal is performed when sediment builds up or material is washed into the reservoir restricting the conveyance, impairing channel flow or adversely effecting the operations.	Not Included. Shoal Removal at inflow/outflow pipes can not be done utilizing District resources. Owner will need to seek other means to address shoaling issues.
Maintenance spraying of terrestrial vegetation occurs when exotic, invasive, and some native plant communities grow within the reservoir, levees, embankments, and uplands and interfere with the maintenance and/or operations.	Two times per year
Maintenance spraying of aquatic vegetation occurs when exotic, invasive, and some native plant communities grow within the water body of the reservoir and interfere with the maintenance and/or operations.	Two times per year
Aquatic mechanical harvesting removes excess and non-desirable species of aquatic vegetation and debris from water bodies maintained by the district using mechanical harvesting methods when the vegetation is too substantial for maintenance spraying.	Annually, up to 180cy
	As needed
	As needed
Description	**Frequency**

Formal inspections of the Control Structures and Control Building occur annually by a team of properly trained and certified District staff or external contractors and include the inspection of the electrical components, control structure, gates, seals, tilting, sliding, or settlement of concrete structures, foundations of concrete structures (including aprons), culvert joints, unwanted vegetation growth, obstructions, inlets/discharge area, and concrete surfaces (including roller compacted concrete embankment and steps).	Annually
An in-depth inspection of the structure including the gate, culvert, anodes and other parts of the structure.	5 years
Structure Maintenance tech to maintain the equipment and oilers to prevent any excessive wear on equipment.	6 months
Electrical inspection of the structure	6 months
The Cable for the Suspended Power Swing Stages needs to be inspected/ replaced. The	6 months

Cleaning the structure keeps these areas free from unwanted bug and bird debris from the buildings and metal frame and grating of the Sluice gate	Annually
Buildings and the Structure requires the paint to be maintained to keep a Rust free surface.	5 years
The Bearings and Sacrificial Bronze nut ned to be replaced dependent upon usage, load and age.	5 Years
Sluice gate seals and Slide HDPE replacement	15 years
	As needed
The Davits and securing anchors need to be inspected for mechanical or concrete failures around the anchorage points.	Annually
Vandalism/damaged signs may need to be replaced. And asphalt repairs may be needed along the driving surfaces.	

	Annually

	5 years
	Monthly
	Annually
	Weekly
	15 years
	Monthly
	5 years
	5 years
	Annually
	As needed
	6 months
	As needed
	Annually

Manhours/Position	Manhours/Position Totals
20 hrs / Operator Inspector @ $35.08 = $701.60 4 hrs / Planner Supervisor @ $42.63 = $170.52 Subtotal = $872.12 Markup 20% = $218.03 Total = $1,090.15	**$1,090.15**
	$0.00
120 ACRES / Contract Mower @ $30 = $3,600 12 hrs / Contract Inspector @ $36.83 = $441.96 4 hrs / Planner Supervisor @ $42.63 = $170.52 Subtotal = $4,212.48 Markup 20% = $1,053.12 Total = $5,265.60	**$5,264.60**
N/A	**$0.00**
80 hrs / Operator @ $35.08 = $2,806.40 8 hrs / Crew Chief @ $42.63 = $341.04 16 hrs / Planner Supervisor @ $42.63 = $682.08 Subtotal = $3,829.52 Markup 20% = $957.38 Total = $4,786.90	**$4,786.90**

Need additional information on boat ramp construction.	**$0.00**
30 hrs / Operator @ $35.08 = $1,052.40 4 hrs / Crew Chief @ $42.63 = $170.52 4 hrs / Planner Supervisor @ $42.63 = $170.52 Subtotal = $1,393.44 Markup 20% = $348.36 Total = $1,741.80	**$1,741.80**
N/A	**$0.00**
20 hrs / Spray Contractor @ $57 = $1,140 6 hrs / Contract Inspector @ $36.83 = $220.98 2 hrs / Planner Supervisor @ $42.63 = $85.26 Subtotal = $1,446.24 Markup 20% = $361.56 Total = $1,807.80	**$1,807.80**
20 hrs / Spray Contractor @ $57 = $1,140 6 hrs / Contract Inspector @ $36.83 = $220.98 2 hrs / Planner Supervisor @ $42.63 = $85.26 Subtotal = $1,446.24 Markup 20% = $361.56 Total = $1,807.80	**$1,807.80**
40 hrs / Operator @ $35.08 = $1,403.20 4 hrs / Crew Chief @ $42.63 = $170.52 4 hrs / Planner Supervisor @ $42.63 = $170.52 Subtotal = $1,744.24 Markup 20% = $436.06 Total = $2,180.30	**$2,180.30**
Manhours/Position	**Manhours/Position Totals**

8 hrs / Structure Maintenance Technician @ $33.42 = $267.36 .5 hrs / Planner Supervisor @ $42.63 = $21.31 Subtotal = $288.67 Markup 20% = $72.17 Total = $360.84	**$360.84**
10 hrs / Structure Maintenance Technician @ $33.42 = $334.42 40 hrs / Diver @ 42.63 = $1705.20 1 hrs / Crew Chief @ 42.63 = 42.63 1 hrs / Planner Supervisor @ $42.63 = $42.63 Subtotal = $2124.88 Markup 20% = $531.22 Total = $2656.10	**$2,656.10**
3 hrs / Structure Maintenance Technician @ $33.42 = $ 100.26 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 110.65 Markup 20% = $ 27.66 Total = $ 138.31	**$138.31**
3 hrs / Industrial Electrician @ $36.83 = $ 110.49 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 121.14 Markup 20% = $ 30.28 Total = $ 151.42	**$151.42**
3 hrs / Structure Maintenance Technician @ $33.42 = $ 100.26 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 110.65 Markup 20% = $ 27.66 Total = $ 138.31	**$138.31**

4 hrs / Structure Maintenance Technician @ $33.42 = $ 133.68 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 144.33 Markup 20% = $ 36.08 Total = $ 180.41	**$180.41**
4 hrs / Structure Maintenance Technician @ $33.42 = $ 133.68 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 144.33 Markup 20% = $ 36.08 Total = $ 180.41	**$180.41**
40 hrs / Structure Maintenance Technician @ $33.42 = $ 1336.80 10 hrs / Industrial Electrician @ $36.83 = $ 368.30 1 hrs / Planner Supervisor @ $42.63 = $ 42.63 Subtotal = $ 1747.73 Markup 20% = $ 436.93 Total = $ 2184.66	**$2,184.66**
Trash Rake repairs/ Lighting / Rust / Erosion	
1 hrs / Structure Maintenance Technician @ $33.42 = $ 33.42 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 44.07 Markup 20% = $ 11.02 Total = $ 55.09	**$55.09**
4 hrs / Structure Maintenance Technician @ $33.42 = $ 133.68 .25 hrs / Planner Supervisor @ $42.63 = $ 10.65 Subtotal = $ 144.33 Markup 20% = $ 36.08 Total = $ 180.41	**$180.41**

Equipment/Hours	Equipment/Hours Total
Pickup / 10 hrs @ $20 = $200 Subtotal = $200 Markup 20% = $50 Total = $250	$250.00
	$0.00
Pickup / 12 hrs @ $20 = $240 Subtotal = $240 Markup 20% = $60 Total = $300	$300.00
N/A	$0.00
Grader / 72 hrs @ $58 = $4176 Semi & Trailer / 8 hrs@ $70.45 = $563.60 Pickup / 16 hrs @ $20 = $320 Subtotal = $5,059.60 Markup 20% = $1,264.90 Total = $6,324.50	$6,324.50

Need additional information on boat ramp construction.	**$0.00**
Gradall / 10 hrs @ $139.05 = $1,390.50 Dump Truck / 20 hrs@ $65 = $1,300 Loader / 3 hrs @ $39 = $117 Pickup / 4 hrs @ $20 = $80 Subtotal = $2,887.50 Markup 20% = $721.88 Total = $3,609.38	**$3,609.38**
N/A	
N/A	**$0.00**
Pickup / 6 hrs @ $20 = $120 Subtotal = $120 Markup 20% = $30 Total = $150	**$150.00**
Pickup / 6 hrs @ $20 = $120 Subtotal = $120 Markup 20% = $30 Total = $150	**$150.00**
Gradall / 10 hrs @ $139.05 = $1,390.50 Dump Truck / 20 hrs@ $65 = $1,300 Boat / 10 hrs @ $14 = $140 Pickup / 14 hrs @ $20 = $280 Subtotal = $3,110.50 Markup 20% = $777.63 Total = $3,888.13	**$3,888.13**
	$0.00
	$0.00
Equipment/Hours	**Equipment/Hours Total**

Utility Truck / 8 hrs @ $35.00 = $280 Subtotal = $ 280 Markup 20% = $ 70.00 Total = $350	**$350.00**
Utility Truck / 10 hrs @ $35.00 x 2 = $700.00 Dive Trailer / 10 hrs @ $10.25 = $102.50 Subtotal = $ 802.50 Markup 20% = $ 200.66 Total = $1003.12	**$1,003.12**
Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 26.25 Total = $131.25	**$131.25**
Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 26.25 Total = $131.25	**$131.25**
Utility Truck / 3 hrs @ $35.00 = $105.00 Subtotal = $ 105.00 Markup 20% = $ 26.25 Total = $131.25	**$131.25**

Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 35.00 Total = $175.00	**$175.00**
Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 35.00 Total = $175.00	**$175.00**
Utility Truck / 50 hrs @ $35.00 = $1750.00 Subtotal = $ 1750.00 Markup 20% = $ 437.50 Total = $ 2187.50	**$2,187.50**
To be based on Established Trend	
N/A	**$0.00**
Utility Truck / 4 hrs @ $35.00 = $140.00 Subtotal = $ 140.00 Markup 20% = $ 35.00 Total = $175.00	**$175.00**

Materials	Materials Total
N/A	$0.00
	$0.00
N/A	$0.00
N/A	$0.00
No material costs considered. A change order will be submitted for additional resources (Material & Labor) in the event major road repair is required.	$0.00

Need additional information on boat ramp construction.	
#1 Fill - 200 Tons @ $6.10 = $1,220 Subtotal = $1,220 Markup 20% = $305 Total = $1,525	**$1,525.00**
N/A	
N/A	**$0.00**
Glyphosate - 10 Gal @ $17.40 = $174 Arsenal - 5 Gal @ $46.60 = $233 MSO - 5 Gal @ $10.55 = $52.75 Subtotal = $459.75 Markup 20% = $114.94 Total = $574.69	**$574.69**
Tribune - 5 Gal @ $39.69 = $198.45 MSO - 2.5 Gal @ $10.55 = $26.38 Subtotal = $224.83 Markup 20% = $56.21 Total = $281.04	**$281.04**
N/A	**$0.00**
N/A	**$0.00**
N/A	**$0.00**
Materials	**Materials Total**

N/A	**$0.00**
N/A	**$0.00**
N/A	**$0.00**
N/A	**$0.00**
Cable replacement based on Established Trend	**$0.00**

N/A	**$0.00**
N/A	**$0.00**
Bearings AXK90120- 4ea @ $32 = $128.00 O-Rings ARP568128 4ea @ 3.15 = $12.60 Stem Nut P/N 35594 2ea @ 538.4 = $1,076.80 Signs 12"x24" 4ea @ $30 = $120 Asphalt Road Repairs 1ea @ $120 Subtotal = $ 1,457.40 Markup 20% = $ 364.35 Total = $ 1,821.75	**$1,821.75**
TBD	
To be based on Established Trend	
N/A	**$0.00**
$120.00	**$120.00**

Price -SFWMD Annual Costs	Subcontractor Manhour/Equipment/Material/Trip
$1,340.15	
$0.00	
$5,564.60	120 Acres / Contract Mower @ $30.00=$3600 Subtotal = $3600.00 Markup 20% = $720 Total = $4320 per cycle
$0.00	
$11,111.40	

Need additional information on boat ramp construction.	
$6,876.18	
N/A	
N/A	
$2,532.49	
$2,238.84	
$6,068.43	
	Price -SFWMD Annual Costs

	$710.00
	$3,659.23
	$269.56
	$282.67
	$269.56

	$355.41
	$355.41
	$6,193.91
	TBD
	To be based on Established Trend
	$55.09
	$355.41

12506.25

Price - Subcontractor	Total Combined Costs
$0.00	$1,340.15
$0.00	$0.00
$21,600.00	$27,164.60
$0.00	$0.00
$0.00	$11,111.40

$0.00	#VALUE!
$0.00	$6,876.18
N/A	
$0.00	
$0.00	
In Manhours	
N/A	
N/A	
N/A	
Price - Subcontractor	Total Combined Costs

N/A	
10 hrs / Licensed Trapper @ $35.00 = $350.00 Subtotal = $350.00 Markup 20% = $87.50 Total = $ 437.50	$437.50
N/A	
N/A	
N/A	

N/A	
N/A	
2 Motors rewound and overhauled at certified motor shop @ 608.00 each = $ 1216.000 Stem Lathe Repairs $ TBD Subtotal = $ 1216.00 Markup 20% = $ 304 Total = $ 1520.00	$1,520.00
TBD	
N/A	
N/A	

#VALUE!

Additional Comments
Rich Virgil/ Kathy Collins / Jose Guardiario

Additional Comments

Rich Virgil/ Kathy Collins

Larry Latour
Larry Latour