

Des Moines Metropolitan Wastewater Reclamation Authority

2016+ Capital Improvements Program



(under the Facility Plan Update – 2012)

WASTEWATER RECLAMATION AUTHORITY
 COMPARISON OF LAST YEAR AND CURRENT YEAR CIP SHEETS
 FY2015-2021 6(7) Yr Plan + other WRA commitments

Capital Improvement Projects by Type of Funding

			[last year]	[last year amend]	[this year]	
		Budget Amount	Budget Amount	Budget Amount	Budget Amount	Chg of Estimate
		for each project	for each project	for each project	for each project	
		last year	2015 CIP	2015 CIP	2016 FILE	
		Past Amount	in book	2015 CIP	2016 FILE	
Core Projects						
wra 086	DM River Outfall / New Main Outfall	P 17	63,899,635	63,899,635	63,899,635	500,000
wra 087	Combined Sewer Solids Separation Design	P 17	51,776,995	51,776,995	51,776,995	135,000
			122,143,676	115,676,630	115,676,630	
wra 088	Ingersoll Run Sewer (CSO & Outlet)	2021	2,597,954	2,597,954	2,597,954	12,800,000
wra 093	Flow Monitoring System		6,743,433	6,743,433	6,743,433	-
wra 077	Power Generation System		4,700,052	4,700,052	4,700,052	(978,958)
wra 074	Digester Gas System		24,213,000	24,213,000	24,213,000	(335,000)
wra 104	Equalization Basin Improv (I-Jobs) /closed	*	2,210,516	2,210,516	2,210,516	-
wra 110	Southern Tier Interceptor (P10 Seg 6)	P 10			5,978,870	5,978,870
wra 111	WRF Grit Basins	2018			8,175,120	24,880
Wr 1xx	WRF Clarifier Improvements	2019			28E	19,900,000
Wr 1xx	WRF Preliminary Treatment	2021			28E	30,500,000
Wr 1xx	WRF Flood Improvements	2018			5,975,010	-
Wr 1xx	WRA Southwest Outfall Lining	2019			28E	26,150,000
Subtotal Core Projects			175,296,433	156,141,585	170,291,715	264,966,507
94,674,792						
Expansion Projects						
wra 085	Four Mile Interceptor Ext. (Phase 24)	P 24	20,801,073	20,801,073	20,801,073	(250,000)
wra 097	Four Mile Interceptor Improv (Phase 23) /closed	*	26,544,932	26,544,932	26,544,932	(63,880)
wra 099	Mud Creek Interceptor	P 19	20,602,336	20,602,336	20,602,336	1,164
wra 100	Corridor Preservation		400,000	400,000	400,000	(82,368)
wra 107	Southern Tier Interceptor (P10 Seg 1,4,7-8)	2015	7,373,430	7,373,430	7,373,430	2,396,570
wra 082	WDM Outfall (Phase 13) /closed	*	16,488,984	16,488,984	16,488,984	(52,809)
wra 092	WDM Outfall Ext. (Phase 18) /closed	*	9,840,035	9,840,035	9,840,035	-
Subtotal Expansion Projects			116,486,921	102,050,790	92,210,755	94,159,432
1,948,677						
wra 081	South West Area Diversion Facilities	P 22	97,804,505	97,804,505	97,804,505	(300,000)
wra 103	Southern Tier Interceptor (P10 Seg 14,15-17)	P 10	17,215,230	17,215,230	17,215,230	203,500
wra 101	Sponsored Project [Polk] (Sw SRF loans)		3,270,000	3,270,000	3,248,300	-
wra 109	Sponsored Project [Streambank] (So Tier loan)				1,160,000	-
South West Area Diversion Facilities			118,289,735	118,289,735	119,428,035	119,331,535
(96,500)						
Future Projects & Projects w comnty contrib						
core +	Eastside Interceptor	2018	20,000,000	20,000,000	67,467,210	(67,210)
core +	Westside Interceptor	2030			28E	12,300,000
						12,300,000
core	Nutrient Removal	2032	33,338,242	33,338,242	33,338,242	72,161,758
core	Birdland Pump Stn	2023	8,192,700	8,192,700	8,192,700	5,307,300
core	Common Trunk	2026			9,262,840	1,837,160
expan	Joint Trunk (w Common last year)	2027	24,828,971	24,828,971	15,566,131	28E
						20,800,000
new	Phosphorus Recovery (a portion of Nutrient Removal)					0
new	WRF Biomethane Conditioning and Injector					0
core	WRF Flood Mitigation (I-Jobs)		7,300,000	7,300,000	0	0
core	WRF Chlorination & Effluent pumping	2022			28E	32,600,000
core	WRF Final clarifiers	2024			28E	41,900,000
core	WRF Aeration basins	2028			28E	96,600,000
Subtotal Future Projects			93,659,913	93,659,913	133,827,123	401,700,000
267,872,877						
Total Project Costs (Bonded and Basins)			503,733,002	470,142,023	515,757,628	880,157,474
364,399,846			-10,732,677	0		
Sm CIP Non-Bonded / Plant & System Projects						
wra 096	Transition / RE Transfer Costs (see note below)		440,000	310,000	310,000	24,000
wra 069	Facilities Plan Update		1,930,465	1,930,465	1,930,465	2,093,217
wra 078	Facilities Rehabilitation, including RE purchases		3,411,788	3,411,788	3,411,788	3,413,190
wra 083	Sewer Maintenance contract work		2,000,000	2,000,000	2,000,000	-
wra 091	Small CIP prior projects & Studies		2,412,153	2,412,153	2,412,153	2,516,351
wra 079	WRF Energy Efficiency projects (I-Jobs)		1,296,605	1,296,605	869,906	-
wra 098	Small CIP projects & ProcEqRepl. 2010-2012		6,631,624	6,631,624	7,058,323	-
wra 106	Small CIP projects & ProcEqRepl. 2013-2016		11,573,584	11,573,584	11,573,584	-
wra 1xx	Small CIP future projects & future (3 to 4 years)		13,275,000	13,275,000	13,275,000	16,410,000
Total Non-Bonded Project Costs			42,971,219	42,841,219	42,841,219	46,268,571
3,427,352						
WRA Total Expenses for Projects			535,971,544	512,983,242	558,598,847	926,426,045
367,827,198						

RE = Real Estate (after 2004 WRA listed as title holder)

* PROJECT CLOSED

new
28E

not included (portion) in Facility Plan 2012
 additional project included in Facility Plan 2012

926,426,045 SUMMARY TOTAL

Summary

Wastewater Reclamation Authority Improvements FY2016+

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	TOTAL ESTIMATED COST	COST THROUGH F14	REVISED ESTIMATE F15	TOTAL ESTIMATED COST THROUGH	COST FOR SIX-YEAR PERIOD	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
						F16	F17	F18	F19	F20	F21	
Expenses, detail on following page	926,426,045	349,627,835	23,956,030	373,583,865	198,652,180	13,398,900	23,924,860	51,193,800	37,004,300	30,319,820	42,810,500	354,190,000
Resources:												
Beginning Balance	0	0	2,862,811	0		9,284,000	3,359,400	(3,940,460)	(22,840,380)	7,370,320	20,520,500	0
Interest Earnings	4,527,990	4,365,930	57,060	4,422,990	105,000	10,000	25,000	15,000	15,000	20,000	20,000	0
Renewal & Replacement Fund	2,190,300	1,350,300	840,000	2,190,300	0	0	0	0	0	0	0	0
Communities	54,553,393	19,153,393	3,600,000	22,753,393	31,800,000	3,800,000	3,800,000	3,800,000	3,900,000	12,500,000	4,000,000	0
Future Funding	512,073,880	0	0	0	140,623,880	670,000	15,000,000	27,353,880	61,800,000	33,100,000	2,700,000	371,450,000
Bond Proceeds	66,626,798	66,091,441	535,357	66,626,798	0	0	0	0	0	0	0	0
SRF Drawdowns	282,653,567	258,166,715	25,267,552	283,434,267	(680,700)	2,444,300	(2,350,000)	975,000	1,350,000	(2,300,000)	(800,000)	(100,000)
Other	4,740,117	3,362,867	77,250	3,440,117	1,300,000	550,000	150,000	150,000	150,000	150,000	150,000	0
Total Resources	927,366,045	352,490,646	33,240,030	382,867,865	173,148,180	16,758,300	19,984,400	28,353,420	44,374,620	50,840,320	26,590,500	371,350,000

Wastewater Reclamation Authority

<u>Expenditures from CIP sheets</u>		2015	2016	2017	2018	2019	2020	2021	subtotal Spending
<u>WRA Projects - Expansion Category</u>									
85 Ph 24	Four Mile Interceptor Ext.	\$ 112,434.0							\$ 112,434.0
99 Ph 19	Mud Creek	2,114,716.0	75,000.0						2,189,716.0
100	Corridor Preservation	15,006.0							15,006.0
107 Ph 10	Southern Tier Improvements	210,000.0	\$ 480,000.0			\$ 110,000.0	\$ 1,460,000.0	\$ 810,000.0	3,070,000.0
	Expansion Funding Ttl	\$ 2,452,156.0	\$ 555,000.0	\$ -	\$ -	\$ 110,000.0	\$ 1,460,000.0	\$ 810,000.0	\$ 5,387,156.0
<u>WRA Projects & WRF Projects (Core or other Funding)</u>									
83	Sewer Maintenance Contracts	831,053.0	250,000.0	150,000.0	150,000.0	150,000.0	150,000.0	150,000.0	1,831,053.0
69	Facility Plan update	200,000.0	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	950,000.0
74	Digester Improvements	628,237.0							628,237.0
78	Facilities Rehabilitation	225,000.0	250,000.0	250,000.0	200,000.0	200,000.0	200,000.0	200,000.0	1,525,000.0
81 P21,22	SW Area Diversion Project	1,468,621.0							1,468,621.0
86 Ph 17	DM River Outfall / Main Outfall	2,583,278.0							2,583,278.0
87 Ph 17	CSSS Facility	2,922,339.0							2,922,339.0
88 Ph 25	Ingersoll Run CSO	15,243.0	15,000.0			340,000.0	4,770,000.0	4,230,000.0	9,370,243.0
91	Studies (sm CIP)	52,848.0	40,000.0	40,000.0	30,000.0	30,000.0	30,000.0	30,000.0	252,848.0
93 Ph 25	Flow Monitoring Seg 3	269,192.0							269,192.0
96	Transition Costs	37,646.0							37,646.0
98	Plant Projects (Eq Repl, sm CIP)	1,202,720.0							1,202,720.0
101 a / b	Sponsored Project w Polk Co	2,599,964.0	\$ 648,300.0						3,248,264.0
103 Ph 10	Southern Tier for SW ADF	4,355,357.0	\$ 4,730,000.0						9,085,357.0
104	Equalization Basin Improvements	89,547.0	300,000.0						389,547.0
105	Flood Improvements		100,000.0	125,000.0	5,000,000.0	\$ 750,000.0			5,975,000.0
106	Plant Projects (Eq Repl, sm CIP)	3,509,732.0	\$ 3,035,000.0	\$ 6,230,000.0	\$ 3,135,000.0	\$ 3,235,000.0	\$ 3,240,000.0	\$ 3,665,000.0	26,049,732.0
108	Eastside Interceptor	540,000.0	2,500,000.0	16,330,000.0	36,650,000.0	11,380,000.0			67,400,000.0
109	Sponsor'd Four Mile Acquisition	100,000.0	848,000.0	212,000.0					1,160,000.0
110 Ph 10	Southern Tier Improvements			132,170.0	2,340,300.0	3,506,400.0			5,978,870.0
111	Grit Basin Improvements		2,600.0	300,680.0	934,500.0	5,757,900.0	1,204,320.0		8,200,000.0
2x6	Clarifier Improvements			30,000.0	475,000.0	5,725,000.0	3,768,500.0	5,921,500.0	15,920,000.0
2x1	Southwest Outfall relining				1,616,000.0	4,175,000.0	4,125,000.0	5,484,000.0	15,400,000.0
2x2	Primary Treatment				538,000.0	1,120,000.0	10,022,000.0	13,270,000.0	24,950,000.0
2x3	Chlorination & Effluent pumping					400,000.0	1,225,000.0	8,025,000.0	9,650,000.0
1x4	Birdland Pump station							250,000.0	250,000.0
2x4	Final Clarifiers							650,000.0	650,000.0
		\$ 21,630,777.0	\$ 12,843,900.0	\$ 23,924,850.0	\$ 51,193,800.0	\$ 36,894,300.0	\$ 28,859,820.0	\$ 42,000,500.0	\$ 217,347,947.0
	Revised Estimate for F15	\$ 24,082,933.0							
	2010								
	2015	\$ 13,398,900.0							
	2016		\$ 23,924,850.0						
	2017			\$ 51,193,800.0					
	2018				\$ 37,004,300.0				
	2019					\$ 30,319,820.0			
	2020						\$ 42,810,500.0		
	Summary of Costs, Six-Year-Period								\$ 198,652,170.0

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Facility Plan Update & Consulting								AG267 WRA990000 WRA069	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	2,093,217	955,465	187,752	1,143,217	200,000	1,343,217	125,000	125,000	125,000	125,000	125,000	125,000	
Beginning Balance													
Interest Earnings	28,370	28,370		28,370		28,370							
Repair and Replacement Fund	40,000				40,000	40,000							
Communities	450,640	450,640		450,640		450,640							
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / commty funds 098	1,574,207	476,446	187,761	664,207	160,000	824,207	125,000	125,000	125,000	125,000	125,000	125,000	
Total Resources	2,093,217	955,456	187,761	1,143,217	200,000	1,343,217	125,000	125,000	125,000	125,000	125,000	125,000	
ENDING BALANCE	0	(9)	9	0	0	0	0	0	0	0	0	0	0

Description:

This project provides for an update of the original ICA Facility Plan in anticipation of needs through the year 2020. Core projects and expansion projects are included in the facility plan. Funding in years F05 through F11 are discretionary for use in funding special studies and special assistance to the authority in implementing the facility plan including cost updates and bond projections. Funding in F07 and beyond includes financial planning and bond council.

Justification:

The original 201 and 208 studies were completed in 1978 and 1982, respectively; the 2004 Facility Plan identified the needs of the WRA through 2020 and has mostly been implemented. The WRA Facility Plan Update - 2012 identified the needs of the WRA through 2040. To evaluate growth, conveyance and wastewater treatment needs of the WRA past 2020.

Scheduling:

The WRA Facility Plan update- 2012 was submitted to IDNR in January 2014; the WRA approved the plan in June 2014; plan implementation began in December 2014.

Relationship to General Plan and Other Projects:

Funded with Small CIP funds (WR106).

Operating Budget Effect:

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRF Digester Improvements							AG267 WRA990000 WRA074		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F21	
							F16	F17	F18	F19	F20		F21
Expenses	23,878,000	19,994,951	3,254,812	23,249,763	628,237	23,878,000							
Beginning Balance					613,237								
Interest Earnings	388,000		388,000	388,000		388,000							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	225,000	210,000		210,000	15,000	225,000							
SRF Drawdowns	23,265,000	23,265,000		23,265,000		23,265,000							
Other / from Small CIP													
Total Resources	23,878,000	23,475,000	388,000	23,863,000	628,237	23,878,000							
ENDING BALANCE	0	3,480,049	(2,866,812)	613,237	0	0	0	0	0	0	0	0	0

Description:

F10 improvements will involve improving the mixing system, replacing the insulated covers with fixed concrete covers, and upgrading the digester gas system.

Justification:

Digester gas contains hydrogen sulfide which corrodes components necessitating replacement. The equipment must be replaced in order to maintain the current level of service and reduce maintenance costs. This project will result in delivery of higher quality gas to the engine generators. Some improvements are necessitated by the increase in gas production that will require larger piping and appurtenances.

Scheduling:

The study and design were completed in F09 with construction in F09 through F14. A study was done in F08 to investigate a method of increasing gas production and reducing solids with the results used in the design of these improvements. The project is reaching completion.

Relationship to General Plan and Other Projects:

Included in 28E bonding schedule and 2004 Agreement.

Operating Budget Effect:

This project will result in a decrease in long term operations and maintenance costs with potential increased revenues.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRF Power Generation System				AG267 WRA990000 WRA077					
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					F17	
							F16	F17	F18	F19	F20		F21
Expenses	3,721,094	3,062,941	658,153	3,721,094		3,721,094							last time in book part of WR106 future
Beginning Balance													
Interest Earnings	12,543	12,543		12,543		12,543							
Repair and Replacement Fund	1,033,512	1,033,512		1,033,512		1,033,512							
Communities	273,118	273,118		273,118		273,118							
Future Funding													
Bond Proceeds	1,755,879	1,755,879		1,755,879		1,755,879							
SRF Drawdowns													
Other / commty funds 098	646,042	305,000	341,042	646,042		646,042							
Total Resources	3,721,094	3,380,052	341,042	3,721,094		3,721,094							
ENDING BALANCE	0	317,111	(317,111)	0	0	0	0	0	0	0	0	0	0

Description:

F10 costs are for overhauling two generators. F12 costs are for a standard engine and generator rebuild plus replacement of one engine upper block. F14 costs are for two standard engine and generator rebuilds.

Justification:

The engines burn the by-product gas produced by the digesters to produce electricity saving more than \$500,000 annually. New technology offers lower O&M cost and produce more electricity. Engine overhauls are required every 25,000 hours. For budgeting purposes, the overhauls occur every 4 years at a cost of \$1,300,000.

Scheduling:

Relationship to General Plan and Other Projects:

Community funding thru WRA098 in the past: WRA106 in the future.

Operating Budget Effect:

This project will result in a decrease in long-term operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Facilities Rehabilitation [Sm CIP]								AG267 WRA990000 WRA078	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	3,413,190	1,848,996	39,194	1,888,190	225,000	2,113,190	250,000	250,000	200,000	200,000	200,000	200,000	
Beginning Balance													
Interest Earnings	25,000	25,000		25,000		25,000							
Repair and Replacement Fund	316,788	316,788		316,788		316,788							
Communities	970,000	970,000		970,000		970,000							
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / commty funds 098	2,101,402	550,000	26,402	576,402	225,000	801,402	250,000	250,000	200,000	200,000	200,000	200,000	
Total Resources	3,413,190	1,861,788	26,402	1,888,190	225,000	2,113,190	250,000	250,000	200,000	200,000	200,000	200,000	
ENDING BALANCE	0	12,792	(12,792)	0	0	0	0	0	0	0	0	0	0

Description:

These projects are for non-process repair and replacement projects at the WRF and off-site WRA facilities.

All HVAC Improvements and Roof replacements are budgeted in the project number.

Justification:

As buildings and infrastructure age, capital projects will be required to preserve facilities in a serviceable condition.

Scheduling:

F15: HVAC Replacements; Buildings 12 & 93 Roof replacements.

F16: HVAC Replacements; Biobarn repairs.

Relationship to General Plan and Other Projects:

Community funding thru WRA098 will provide future funding of WRA078 expense.

Operating Budget Effect:

These projects will reduce operations and maintenance costs in future years.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				Southwest Area Diversion Facilities Phase 21 and 22							AG267 WRA990000 WRA081		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F21	
							F16	F17	F18	F19	F20		F21
Expenses	97,504,505	82,554,690	13,481,194	96,035,884	1,468,621	97,504,505							
Beginning Balance					868,621								
Interest Earnings	2,447,620	2,447,620		2,447,620		2,447,620							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	23,623,085	23,023,085		23,023,085	600,000	23,623,085							
SRF Drawdowns Available	71,433,800	66,063,800	5,370,000	71,433,800		71,433,800							
Other / LOAN to WRA092													
Total Resources	97,504,505	91,534,505	5,370,000	96,904,505	1,468,621	97,504,505							
ENDING BALANCE	0	8,979,815	(8,111,194)	868,621	0	0	0	0	0	0	0	0	0

Description: Core/expansion project.

Two thirds of the facilities support core communities and one third supports expansion communities. This project will divert flows from the Southwest Outfall Interceptor Sewer during wet weather and store in an equalization facility. Peak wet weather flows will be stored and then treated during low flow periods. Equalization will reduce the impact of wet weather events at the WRF. This project will also provide a connection for the City of Norwalk. Phase 21, segments 1 and 2, North River Interceptor will convey wastewater from the Norwalk wastewater treatment plant to the Southern Tier pump station. Phase 22, segments 1 through 6, will pump, convey, and store wastewater from the westside of the WRA service area.

Justification:

This project is necessary to provide flow equalization for the central and western WRA conveyance system.

Scheduling:

The time sensitive reach was designed in F08 and constructed in F08/F09. The North River Interceptor (Phase 21) was constructed in F08, and F09. The diversion sewer was constructed in F10, F11, and F12. The pump station, force main, flow equalization and interceptors will be constructed F10 through F14 and are reaching completion.

Phase 22, Segment 1 - F10, P22seg. 2 - F08/09, P22seg. 3 - F11/12, P22seg. 4 - F13/14, P22seg. 6 - F11/12.

Phase 22, Segment 5 - F13/14 reaching completion.

Relationship to General Plan and Other Projects:

This project is included in the WRA Facility Plan Update. Two thirds of these facilities support core communities and one third supports expansion communities.

Operating Budget Effect:

This project will increase revenues and operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE						ACCOUNT		
Wastewater Reclamation Authority Improvements				West Des Moines Outfall Phase13 - last time in book						AG267 WRA990000 WRA082		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST FY2015
							F16	F17	F18	F19	F20	
Expenses	16,436,175	16,433,461	2,714	16,436,175		16,436,175						
Beginning Balance												
Interest Earnings	177,956	177,956		177,956		177,956						
Repair and Replacement Fund Communities												
Future Funding												
Bond Proceeds	1,368,394	1,368,394		1,368,394		1,368,394						
SRF Drawdowns	14,889,825	14,889,825		14,889,825		14,889,825						
Other												
Total Resources	16,436,175	16,436,175		16,436,175		16,436,175						
ENDING BALANCE	0	2,714	(2,714)	0	0	0	0	0	0	0	0	

Description: Expansion Project. This project increases the capacity of the West Des Moines Outfall and provides service to new areas including the city of Waukee. The project will provide a connection to the Southwest Area Diversion Facility at it's east terminus and a connection to the West Des Moines Outfall Extension on it's west terminus.

Justification:

As service is provided to new customers the capacity of the sewer must be increased. This project will serve West Des Moines and Waukee and is necessary to increase conveyance capacity.

Scheduling:

F04:Construction from s 1st Street to S4th Street;F07:Design of entire project from Southwest Area Diversion Facility to South 60th Street;F08:Construction from S33rd street to S60th Street;F10:Construction from Southwest Area Diversion Facility to South 16th Street; Moved from F16 to F12 to take advantage of favorable bidding climate and avoid conflict with work planned at Raccoon River Park: Construction from South 16th Street to South 33rd Street.

Relationship to General Plan and Other Projects:

This project is included in the WRA Facility Plan Update. Bonding was scheduled for 2007,2010,2015.

Operating Budget Effect:

Revenues and operations and maintenance costs will increase as flows increase.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE									ACCOUNT
Wastewater Reclamation Authority Improvements				WRA Sewer Maintenance (Inspections & Repairs)									AG267 WRA990000 WRA083
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F19
							F16	F17	F18	F19	F20	F21	
Expenses	2,000,000	55,400	113,547	168,947	831,053	1,000,000	250,000	150,000	150,000	150,000	150,000	150,000	
Beginning Balance					(113,347)								
Interest Earnings													
Repair and Replacement Fund Communities	800,000				800,000	800,000							
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding from O&M budget (16)	1,200,000	55,600		55,600	144,400	200,000	250,000	150,000	150,000	150,000	150,000	150,000	
Total Resources	2,000,000	55,600		55,600	831,053	1,000,000	250,000	150,000	150,000	150,000	150,000	150,000	
ENDING BALANCE	0	200	(113,547)	(113,347)	0	0	0	0	0	0	0	0	0

Description:
 This project provides funding for annual engineering investigation for portions of the WRA interceptor sewer system and for specific maintenance/repairs of those sewers.

Maintenance and repairs will include: Sewer televising, sewer cleaning, sewer lining, manhole rehabilitation and rebuilding, sewer spot repairs, sinkhole repairs, replacement of manhole lids, castings, gates, etc.

Justification:
 Portions of the WRA Conveyance system are over fifty years old and there is a need to investigate, evaluate and determine maintenance on the overall interceptor sewer system. This project sets aside funding for planned and unanticipated sewer repairs in the conveyance system.

Scheduling:
 F11, Investigate southwest outfall and four mile interceptor. F12, Investigate the Westside/Beaver Creek interceptor sewer. F13, Investigate the western portion of the So Tier interceptor. F13/14 Southside Des Moines River Interceptor Investigation.

Relationship to General Plan and Other Projects:
 This project is funded with Operating Money.

Operating Budget Effect:
 These investigations will identify repairs that will increase operating costs in future budgets on a proactive basis rather than reactive spending.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRA Four Mile Interceptor Extension Phase 24				AG267 WRA990000 WRA085					
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F21	
							F16	F17	F18	F19	F20		F21
Expenses	20,551,073	19,932,038	506,601	20,438,639	112,434	20,551,073							
Beginning Balance					338,602								
Interest Earnings	445,464	445,464		445,464		445,464							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	10,467,988	10,467,988		10,467,988		10,467,988							
SRF Drawdowns	9,609,692	8,415,000	1,420,860	9,835,860	(226,168)	9,609,692							
Other / POLK CO. & Core97	27,929	27,929		27,929		27,929							
Total Resources	20,551,073	19,356,381	1,420,860	20,777,241	112,434	20,551,073							
ENDING BALANCE	0	(575,657)	914,259	338,602	0	0	0	0	0	0	0	0	0

Description: Expansion Project.

Segment 1: Construction of an interceptor sewer from Broadway to NE 29th Street south of Oralabor Road.

Segment 2: Construction of an interceptor sewer from NE 29th Street south of Oralabor Road to Southeast Ankeny wastewater pollution control plant.

Justification:

This project is necessary to provide service to the City of Ankeny.

Scheduling:

Segment 1&2: Design-F04/05, Construction-F05/06. Segment 3&4: Design-F09/10, Construction-F10/13.

Relationship to General Plan and Other Projects:

The Four Mile Interceptor Extension will provide a full size downstream connection for Ankeny. This project is included in the WRA Facility Plan Update.

Operating Budget Effect:

Revenues and operations and maintenance costs will increase.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		Des Moines River Outfall / New Main Outfall Phase 17										AG267 WRA990000 WRA086	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	64,399,635	49,646,373	12,169,984	61,816,357	2,583,278	64,399,635							
Beginning Balance					(3,364,732)								
Interest Earnings	384,416	337,356		337,356	47,060	384,416							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	11,703,279	11,703,279		11,703,279		11,703,279							
SRF Drawdowns	51,948,600	44,489,500	1,791,000	46,280,500	5,668,100	51,948,600							
Other / Utility credits, CDM	363,340	130,490		130,490	232,850	363,340							
Total Resources	64,399,635	56,660,625	1,791,000	58,451,625	2,583,278	64,399,635							
ENDING BALANCE	0	7,014,252	(10,378,984)	(3,364,732)	0	0	0	0	0	0	0	0	0

Description: Core Project.
 This project provides for construction of a large outfall sewer along the west side of the Des Moines River from 3rd Street and Watson Powell Drive to south of Elm Street and along the east side of the Des Moines River from Raccoon Street to the south side of Scott Avenue. This will help to meet the nine minimum requirements in the current NPDES permit.

The Main Outfall project begins at the DM River Outfall sewer siphon structure and proceeds east/southeasterly across the DM River and continues in a southeasterly direction. It will replact the existing Main Outfall terminating upstream of the WRF at a proposed CSSFacility (see WRA087).

Justification:
 This project is included in the long term control plan presented to the IDNR.

Scheduling:
 Stage 1: Design-F04, Construction F04/05. Stage 2: Design-F05, Construction-F06/09.
 Main Outfall Design: F08/09, Construction of six segments F10/14 and P17seg. 8 to connect completed segments.

Relationship to General Plan and Other Projects:
 This project is included in the WRA Facility Plan Update.

Operating Budget Effect:
 This project will increase operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					Combined Sewer Solids Separation Facility Phase 17						AG267 WRA990000 WRA087		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	51,911,995	46,319,103	2,670,553	48,989,656	2,922,339	51,911,995							
Beginning Balance					(1,062,661)								
Interest Earnings	54,995	54,995		54,995		54,995							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	550,000	550,000		550,000		550,000							
SRF Drawdowns	51,307,000	47,322,000		47,322,000	3,985,000	51,307,000							
Other													
Total Resources	51,911,995	47,926,995		47,926,995	2,922,339	51,911,995							
ENDING BALANCE	0	1,607,892	(2,670,553)	(1,062,661)	0	0	0	0	0	0	0	0	0

Description: Core Project.

This project provides for solids separation of wet weather combined sewer flow at the Wastewater Reclamation Facility. Flow will be discharged to the Des Moines River after primary treatment and disinfection.

Justification:

This project is included in the long term control plan presented to the IDNR and will be required to meet the nine minimum requirements in the long term control plan.

Scheduling:

Design-F08 through F10, Construction F10 through F14. Project is reaching completion.

Relationship to General Plan and Other Projects:

This project is included in the WRA Facility Plan Update.

Operating Budget Effect:

This project will increase operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					Ingersoll Run [Combined Sewer Overflow, Outlet] Phase 25							AG267 WRA990000 WRA088	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F 2021	
							F16	F17	F18	F19	F20	F21	
Expenses	15,397,954	2,567,711		2,567,711	15,243	2,582,954	15,000			340,000	4,770,000	4,230,000	3,460,000
Beginning Balance					30,243		15,000				360,000	7,690,000	
Interest Earnings	201,401	201,401		201,401		201,401							
Repair and Replacement Fund Communities													
Future Funding	12,800,000										12,800,000		
Bond Proceeds	2,396,553	2,396,553		2,396,553		2,396,553							
SRF Drawdowns										700,000	(700,000)		
Other													
Total Resources	15,397,954	2,597,954		2,597,954	30,243	2,597,954	15,000			700,000	12,460,000	7,690,000	
ENDING BALANCE	0	30,243	0	30,243	15,000	15,000	0	0	0	360,000	7,690,000	3,460,000	0

Description: Core Project.
 This project provides for the relocation of a combined sewer overflow in the 2100 block of High Street in the Ingersoll Run Combined Sewer System. This will provide adequate sewer capacity in this reach of the combined sewer system to eventually eliminate the combined sewer overflow in the area of Eighth Street and Keo Way to help meet the minimum requirements included in the current NPDES permit.

Justification:
 Needed to conform to NPDES requirements.

Scheduling:
 Design-F06/F07, Construction-F07/F08, project being held open through F11.

Relationship to General Plan and Other Projects:
 This project is included in the WRA Facility Plan Update.

Operating Budget Effect:
 None.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY			PROJECT TITLE					ACCOUNT					
Wastewater Reclamation Authority Improvements			WRA Flow Monitoring System Improvements					AG267 WRA990000 WRA093					
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F21	
							F16	F17	F18	F19	F20		F21
Expenses	6,743,433	6,406,199	68,042	6,474,241	269,192	6,743,433							
Beginning Balance					269,192								
Interest Earnings	168,969	168,969		168,969		168,969							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds (reallocated)	6,574,464	6,574,464		6,574,464		6,574,464							
SRF Drawdowns													
Other													
Total Resources	6,743,433	6,743,433		6,743,433	269,192	6,743,433							
ENDING BALANCE	0	337,234	(68,042)	269,192	0	0	0	0	0	0	0	0	0

Description: Core Project. This project will upgrade the existing system and implement new meters for flow metering and real time operational control. Flow meters will be used for flow allocation to communities and for operating the collection system during wet weather events. Flow meters will be installed to meter the majority of Des Moines flow into the conveyance system.

Justification:
Existing flow monitors will be in operation for fifteen years when replaced. New meters will be required as existing meters are not supported by the manufacturer.

Scheduling:
Design in F08/09, Replacement to begin in F09 and continue through F11. Installation continues through F13 as interceptor sewers are completed.

This project is included in the WRA Facility Plan Update. Real time flow information will be required to operate the Southwest Outfall Diversion Facilities

Relationship to General Plan and Other Projects:

Operating Budget Effect:
This project will increase operation and maintenance cost of the WRA Flow Monitoring System.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Transition Costs							AG267 WRA99000 WRA096		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F21	
							F16	F17	F18	F19	F20	F21	
Expenses	334,000	272,354	46,640	318,994	15,006	334,000							
Beginning Balance					15,006								
Interest Earnings	34,000	10,000	24,000	34,000		34,000							
Repair and Replacement Fund Communities	430,000	430,000		430,000		430,000							
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / WRA091	(130,000)	(130,000)		(130,000)		(130,000)							
Total Resources	334,000	310,000	24,000	334,000	15,006	334,000							
ENDING BALANCE	0	37,646	(22,640)	15,006	0	0	0	0	0	0	0	0	0

Description: Core Project.

Costs associated with property transfer to the Wastewater Reclamation Authority. These include all costs associated with transferring deeds, easements to the WRA and creating easements necessitated by the legal status change on July 1, 2004.

Justification:

The legal status of the WRA changed on July 1, 2004. The new status allows the WRA to own property. All past property interests held through the City of Des Moines and other communities must be transferred to the WRA.

Scheduling:

F05: Transfer of easements and WRF property. F06/F07/F08: Grant easement in public rights of way.

Relationship to General Plan and Other Projects:

Operating Budget Effect:

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					Four Mile Interceptor Improvements Phase 23						AG267 WRA990000 WRA097		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	26,481,052	26,544,932	(63,880)	26,481,052		26,481,052							
Beginning Balance					193,880								
Interest Earnings	34,256	34,256		34,256		34,256							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	1,326,283	1,326,283		1,326,283		1,326,283							
SRF Drawdowns	23,269,120	16,038,000	7,425,000	23,463,000	(193,880)	23,269,120							
Other / CORE buy in collected	1,851,393	1,721,393	130,000	1,851,393		1,851,393							
Total Resources	26,481,052	19,119,932	7,555,000	26,674,932		26,481,052							
ENDING BALANCE	0	(7,425,000)	7,618,880	193,880	0	0	0	0	0	0	0	0	0

Description: Expansion Project.

Construction of a 72" sanitary sewer from the WRF to NE Broadway Avenue.

Segment 1: WRF to Scott Avenue. Segment 2: Scott Ave. to University Ave.

Segment 3: University Avenue to Easton Blvd. Segment 4: Easton Boulevard to Hubbell Ave.

Segment 5: Hubbell Avenue to NE Broadway Avenue.

Justification:

This project will convey flow from Ankeny and Altoona to the WRF.

Scheduling:

Segment 1: Design-F08, Construction-F09/F10. Segment 2&3: Design-F08/F09, Construction-F10. Segment 4&5: Design-F09, Construction F10/F11.

Relationship to General Plan and Other Projects:

This project is included in the WRA Facility Plan Update and must be completed prior to completion of the Four Mile Interceptor Extension (Phase 24).

Operating Budget Effect:

Revenues and operations and maintenance costs will increase.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRF Small Projects, & Process Equipment Repl for 2010, 2011, 2012				AG267 WRA990000 WRA98					
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	7,058,323	4,878,796	976,807	5,855,603	1,202,720	7,058,323							
Beginning Balance					1,202,720								
Interest Earnings	5,000	5,000		5,000		5,000							
Repair and Replacement Fund Communities	7,357,360	7,357,360		7,357,360		7,357,360							
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(304,037)	(304,037)		(304,037)		(304,037)							
Total Resources	7,058,323	7,058,323		7,058,323	1,202,720	7,058,323							
ENDING BALANCE	0	2,179,527	(976,807)	1,202,720	0	0	0	0	0	0	0	0	0

Description:

Renewal and replacement of existing process equipment for certain fiscal years.

Justification:

Process equipment installed between 1987 and 1993 is nearing the end of its useful life and will require replacement. Other major replacements are budgeted individually.

Scheduling:

F14-16: CNG/CBG Fueling or Injection to utilize biogas at the WRA.

F15: High mast light conversion to LED. BFP roller replacements.

F16: Grit basin upgrade study.

Relationship to General Plan and Other Projects:

This project will be funded with interest earnings from R&R reserve fund and community contributions. Transfers out will provide funding to other R&R projects.

Operating Budget Effect:

This project will maintain the current level of service and reduce operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				Mud Creek Interceptor P 19							AG267 WRA990000 WRA099		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	20,603,500	11,471,069	6,942,715	18,413,784	2,114,716	20,528,500	75,000						
Beginning Balance					897,716		75,000						
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	830,000	830,000		830,000		830,000							
SRF Drawdowns	19,203,500	12,238,500	5,373,000	17,611,500	1,592,000	19,203,500							
Other, Altoona	570,000	1,000,000	(130,000)	870,000	(300,000)	570,000							
Total Resources	20,603,500	14,068,500	5,243,000	19,311,500	2,189,716	20,603,500	75,000						
ENDING BALANCE	0	2,597,431	(1,699,715)	897,716	75,000	75,000	0	0	0	0	0	0	0

Description: Expansion project.
 This project will provide service to the Mud Creek area in Altoona and serve as the Bondurant connection to the WRA system.

City of Altoona will provide funding to start the project

Justification:
 Required to provide capacity for the Mud Creek area in Altoona and as an outlet for Bondurant.

Scheduling:
 Phase 1: Design-F08 started under 28E expedite, Construction-F12/14.

Relationship to General Plan and Other Projects:
 This project is included in the WRA Facility Plan Update.

Operating Budget Effect:
 Revenues and expenses will increase as flows increase.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRA Corridor Preservation - last time in book										AG267 WRA990000 WRA100	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	317,632	317,632		317,632		317,632							
Beginning Balance					79,643								
Interest Earnings													
Repair and Replacement Fund Communities	22,275	22,275		22,275		22,275							
Future Funding													
Bond Proceeds	295,357	375,000		375,000	(79,643)	295,357							
SRF Drawdowns													
Other / Small CIP													
Total Resources	317,632	397,275		397,275		317,632							
ENDING BALANCE	0	79,643	0	79,643	0	0	0	0	0	0	0	0	0

Description: Expansion project.
 Funds collected for Small CIP will be temporarily used to purchase easements and/or land needed to preserve right-of-way for future sewer projects that are scheduled in the facility plan in a future bond issue with construction after F09.

Justification:
 Land acquisition in advance of projects will be required to reduce future costs and provide corridor preservation.

Scheduling:

Relationship to General Plan and Other Projects:
 Reimbursement from bonded project will be needed for any advance use of funds under this project number.

Operating Budget Effect:

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Sponsored / Polk County Sponsored / Four Mile Acquisition								AG267 WRA99000 WR 101	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	3,248,300		36	36	2,599,964	2,600,000	648,300						
Beginning Balance					(36)		(411,000)						
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns	3,248,300				2,189,000	2,189,000	1,059,300						
Other													
Total Resources	3,248,300				2,188,964	2,189,000	648,300						
ENDING BALANCE	0	0	(36)	(36)	(411,000)	(411,000)	0	0	0	0	0	0	0

Description:

This project was awarded funding in the fall of 2013 through the Clean Water SRF Water Resource Restoration Sponsored Project Program.

The project includes the acquisition of 20 properties from Easton Boulevard to Hubbell Avenue in Des Moines. The scope includes the acquisition, demolition, grading, and vegetation of the properties. These properties represent the highest risk to flood damage and also are situated to develop a continuous stream corridor. These buyouts, coupled with the 153 properties previously acquired by Des Moines, will also create a continuous stream corridor to improve the conveyance of flow, provide a larger stream buffer for water quality, and ultimately create an educational and recreational component to the Four Mile Creek Watershed.

Justification:

This project includes the voluntary acquisition of properties along Four Mile Creek to restore the riparian buffer and flood plain. The acquisitions would eliminate point sources of contaminants, particularly during storm events when pollutant levels are elevated.

Scheduling:

To begin spring 2014 and continue for 15-18 months.

3,270,000

Relationship to General Plan and Other Projects:

Total Debt Service on SRF Loan 2012G and 2012D will not change. WRA will ask for an amendment to increase Principal, reduce Rate & lower Interest payments.

Operating Budget Effect:

Revenues and operations and maintenance costs will not be impacted with this additional project as Polk County will help sponsor.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Southern Tier Improvements for SW Area Diversion							AG267 WRA99000 WR 103		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST	
							F16	F17	F18	F19	F20	F21	FY2020
Expenses	17,418,730	4,495,729	3,837,644	8,333,373	4,355,357	12,688,730	4,730,000						
Beginning Balance					(168,143)		4,730,000						
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds realloc 81	4,100,000	4,100,000		4,100,000		4,100,000							
SRF Drawdowns	13,318,730	4,065,230		4,065,230	9,253,500	13,318,730							
Other													
Total Resources	17,418,730	8,165,230		8,165,230	9,085,357	17,418,730	4,730,000						
ENDING BALANCE	0	3,669,501	(3,837,644)	(168,143)	4,730,000	4,730,000	0	0	0	0	0	0	0

Description: Part of SWADF Project.

This project will increase the capacity of the Southern Tier Interceptor. F12 improvements will increase the pipe line capacity from the Souther Tier pump station to the Area C equalization basin. This project also includes the construction of a high lift pump station at the existing Southern Tier pump station site.

Justification:

The high lift pump station and parrallel force main will be used to accommodate the flow from the SWADF Equalization Basin at the old Norwalk treatment plant site.

Scheduling:

This project has been re-scheduled to begin F11 from F19. Design in F11/12. Construction in F13/14.

Relationship to General Plan and Other Projects:

Phase 10 Segments 1, 4, 7-8

This project is included in the WRA Facility Plan Update as an Expansion project but is now categorized as part of the SW Area Diversion Facility (SWADF).

Operating Budget Effect:

This project will increase operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE						ACCOUNT			
Wastewater Reclamation Authority Improvements				WRA Equalization Basin Improvements						AG267 WRA99000 WR 104			
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	2,210,516	1,820,969	89,257	1,910,226	290	1,910,516	300,000						
Beginning Balance					290								
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	1,410,516	1,410,516		1,410,516		1,410,516							
SRF Drawdowns													
Other, Grant Money	800,000	500,000		500,000		500,000	300,000						
Total Resources	2,210,516	1,910,516		1,910,516	290	1,910,516	300,000						
ENDING BALANCE	0	89,547	(89,257)	290	0	0	0	0	0	0	0	0	0

Description:

Improvements/Modifications/Abandonment of existing WRA equalization basins. This project will modify and upgrade the existing Area C and Beaver Creek Equalization Basins in order to begin utilizing these facilities in the conveyance system.

Justification:

An equalization utilization study was done in F09 indicating a benefit to WRA conveyance system would be achieved by utilizing Beaver Creek and Area C equalization basins.

Scheduling:

Improvements in AreaC: F11/12

Improvements in Beaver Creek: F11/12

Abandonment of Highland Hills: F14

Relationship to General Plan and Other Projects:

These improvements will be funded from I-Jobs Grant \$500,000 and Core bond funds.

Operating Budget Effect:

This project will increase revenues and operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Flood Improvements							AG267 WRA99000 WR 105	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F20
							F16	F17	F18	F19	F20	
Expenses	5,975,010						100,000	125,010	5,000,000	750,000		
Beginning Balance								125,000	(10)	750,000		
Interest Earnings												
Repair and Replacement Fund Communities												
Future Funding	5,975,010								5,975,010			
Bond Proceeds												
SRF Drawdowns							225,000		(225,000)			
Other												
Total Resources	5,975,010						225,000	125,000	5,750,000	750,000		
ENDING BALANCE	0	0	0	0	0	0	125,000	(10)	750,000	0	0	0

Description: Core Project.

The project will construct multiple improvements to the WRF to reduce flood vulnerability and to provide improved protection against elevated river levels.

Justification:

The WRF currently located adjacent to the Des Moines River, and as such, is vulnerable to elevated river levels. Many of the facilities electrical transformers and buildings are at an elevation that is vulnerable to inundation. The purpose of the project is to reduce the flood vulnerability of the WRF, and to protect the WRA's existing assets located within the WRF.

Scheduling:

Project Design F16-17; Construction in F18-19.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY							PROJECT TITLE						ACCOUNT
Wastewater Reclamation Authority Improvements							WRF Small Projects, & Process Equipment Repl for 2013, 2014, 2015, 2016						AG267 WRA990000 WRA106 1
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	11,573,584	5,973	1,927,879	1,933,852	3,509,732	5,443,584	3,035,000	3,095,000					
Beginning Balance					3,059,732		2,725,000	3,085,000					
Interest Earnings	35,000		5,000	5,000	10,000	15,000	10,000	10,000					
Repair and Replacement Fund Communities	14,200,000	3,300,000	3,500,000	6,800,000	3,600,000	10,400,000	3,800,000						
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(2,661,416)	(620,000)	(1,191,416)	(1,811,416)	(435,000)	(2,246,416)	(415,000)						
Total Resources	11,573,584	2,680,000	2,313,584	4,993,584	6,234,732	8,168,584	6,120,000	3,095,000					
ENDING BALANCE	0	2,674,027	385,705	3,059,732	2,725,000	2,725,000	3,085,000	0	0	0	0	0	0

Description:

Renewal and replacement of existing process equipment, includes small plant projects.

Justification:

Annual plant maintenance over \$5,000 in amount that reduces operating repair costs and extends the useful life of the asset.

Scheduling:

Bar screen replacement in F13 - F14 (\$1,400,000)

W3 improvements in F13 (\$1,300,000)

F15: Ferrous Chloride Feed System, Main pump repairs, BFP roller replacements.

F16: Structure 06 canopy, Pump station gate repairs, Hot water unit heater replacement.

Relationship to General Plan and Other Projects:

This project will be funded with interest earnings from R&R reserve fund and community contributions. Transfers out will provide funding to other R&R projects.

Operating Budget Effect:

This project will maintain the current level of service and reduce operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY							PROJECT TITLE						ACCOUNT
Wastewater Reclamation Authority Improvements							WRF Studies, Small Projects, & Process Equipment Replacement						AG267 WRA990000 WRA106 2
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	16,410,000							3,135,000	3,135,000	3,235,000	3,240,000	3,665,000	
Beginning Balance									265,000	590,000	915,000	1,240,000	
Interest Earnings	85,000							15,000	15,000	15,000	20,000	20,000	
Repair and Replacement Fund Communities	19,400,000							3,800,000	3,800,000	3,900,000	3,900,000	4,000,000	
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(1,835,000)							(415,000)	(355,000)	(355,000)	(355,000)	(355,000)	
Total Resources	17,650,000							3,400,000	3,725,000	4,150,000	4,480,000	4,905,000	
ENDING BALANCE	1,240,000	0	0	0	0	0	0	265,000	590,000	915,000	1,240,000	1,240,000	0

Description:

Renewal and replacement of existing process equipment, includes small plant projects.

Justification:

Scheduling:

This sheet is for future WRF projects

Relationship to General Plan and Other Projects:

This project will be funded with interest earnings from R&R reserve fund and community contributions. Transfers out will provide funding to other R&R projects.

Operating Budget Effect:

This project will maintain the current level of service and reduce operations and maintenance costs.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Southern Tier Improvements - Western (Expansion Debt)								AG267 WRA99000 WR 107		
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST	
							F16	F17	F18	F19	F20	F21	F 2025	
Expenses	9,770,000				210,000	210,000	480,000				110,000	1,460,000	810,000	6,700,000
Beginning Balance							(210,000)	(20,000)	(20,000)	(20,000)		(130,000)	(1,590,000)	
Interest Earnings														
Repair and Replacement Fund Communities														
Future Funding	9,770,000						670,000						2,400,000	6,700,000
Bond Proceeds														
SRF Drawdowns														
Other														
Total Resources	9,770,000						460,000	(20,000)	(20,000)	(20,000)		(130,000)	810,000	6,700,000
ENDING BALANCE	0	0	0	0	(210,000)	(210,000)	(20,000)	(20,000)	(20,000)	(130,000)		(1,590,000)	0	0

Description: Expansion Project.

This project will increase capacity in the western portion of the Southern Tier Interceptor.

Justification:

To accommodate the flow in the western service area of the Southern Tier Interceptor.

Scheduling:

Relationship to General Plan and Other Projects:

This project was included in the WRA Facility Plan Update and also included in the New Facility Plan.

Phase 10 Segments 1, 4, 7-8

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT
Wastewater Reclamation Authority Improvements				WRA Eastside Interceptor								AG267 WRA99000 WR 108
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F20
							F16	F17	F18	F19	F20	
Expenses	67,400,000				540,000	540,000	2,500,000	16,330,000	36,650,000	11,380,000		
Beginning Balance							2,460,000	(40,000)	(4,370,000)	(41,020,000)		
Interest Earnings												
Repair and Replacement Fund Communities	8,600,000										8,600,000	
Future Funding	58,800,000							15,000,000		52,400,000	(8,600,000)	
Bond Proceeds												
SRF Drawdowns					3,000,000	3,000,000		(3,000,000)				
Other / future 28E agreement												
Total Resources	67,400,000				3,000,000	3,000,000	2,460,000	11,960,000	(4,370,000)	11,380,000		
ENDING BALANCE	0	0	0	0	2,460,000	2,460,000	(40,000)	(4,370,000)	(41,020,000)	0	0	0

Description:

This project conveys wastewater flow from the existing WRA Westside Interceptor to the WRA Wastewater Reclamation Facility. The new Eastside Interceptor pipeline will be constructed through the eastside of Des Moines. The project will construct a force main and gravity sewer pipeline with pipe diameters of approximately 42" and 66" respectively. The project would start at the WRF and continue northwesterly to a point directly east of the existing Westside Pump Station. The project would include modifications to the existing Westside Pump Station to include an expansion for high flow pumping.

Justification:

The project provides relief to the overloaded Westside Interceptor that serves the Cities of Des Moines, Ankeny, Polk City and a portion of the Urbandale Sanitary Sewer District. As outlined in the 28E agreement for the Rock Creek Interceptor project the communities of Polk County, Polk City and Ankeny will contribute \$8,600,000 towards the funding of this project.

Scheduling:

Project design in F15-16; Construction in F17/F18/F19.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
Wastewater Reclamation Authority Improvements					WRA Sponsored / Polk County Sponsored / Four Mile Acquisition								AG267 WRA99000 WR 109
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F21
							F16	F17	F18	F19	F20	F21	
Expenses	1,160,000				100,000	100,000	848,000	212,000					
Beginning Balance							(100,000)	212,000					
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns	1,160,000						1,160,000						
Other													
Total Resources	1,160,000						1,060,000	212,000					
ENDING BALANCE	0	0	0	0	(100,000)	(100,000)	212,000	0	0	0	0	0	0

Description:

This project was awarded funding in the fall of 2013 through the Clean Water SRF Water Resource Restoration Sponsored Project Program.

The project includes the acquisition of 20 properties from Easton Boulevard to Hubbell Avenue in Des Moines. The scope includes the acquisition, demolition, grading, and vegetation of the properties. These properties represent the highest risk to flood damage and also are situated to develop a continuous stream corridor. These buyouts, coupled with the 153 properties previously acquired by Des Moines, will also create a continuous stream corridor to improve the conveyance of flow, provide a larger stream buffer for water quality, and ultimately create an educational and recreational component to the Four Mile Creek Watershed.

Justification:

The project will protect the WRA Four Mile Interceptor from stream bank erosion caused by Four Mile Creek. The project will improve the condition of the Four Mile Creek stream bank which in turn will stabilize the area in the vicinity of the interceptor to minimize the risk of having the pipeline compromised.

Scheduling:

Design summer 2014. Easement acquisition fall 2014. Construction winter 2014-2015.

Relationship to General Plan and Other Projects:

Total debt service on SRF Loans for P10 Seg 15-17 will not change. WRA will ask the Iowa Finance Authority for an amendment to increase principal, reduce interest rate and lower Interest payments.

Operating Budget Effect:

Revenues, operations and maintenance costs, and debt service will not be impacted with the addition of this project.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY					PROJECT TITLE							ACCOUNT
Wastewater Reclamation Authority Improvements					WRA Southern Tier Interceptor Improvements - Phase 10 Segment 6							AG267 WRA99000 WR 110
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F 2021
							F16	F17	F18	F19	F20	
Expenses	5,978,870							132,170	2,340,300	3,506,400		
Beginning Balance									17,830	3,506,400		
Interest Earnings												
Repair and Replacement Fund												
Communities												
Future Funding	5,978,870								5,978,870			
Bond Proceeds												
SRF Drawdowns								150,000	(150,000)			
Other												
Total Resources	5,978,870							150,000	5,846,700	3,506,400		
ENDING BALANCE	0	0	0	0	0	0	0	17,830	3,506,400	0	0	0

Description: Expansion Project.

An approximately 10,000 foot 48-inch diameter sewer pipeline extending from the Southern Tier Equalization Basin (Area 'C') northwesterly and paralleling the existing 54-inch diameter interceptor sewer pipeline and connecting to the Southside Des Moines River Interceptor.

Justification:

To increase the flow capacity in this reach of the Southern Tier Interceptor to accommodate the peak flows from the tributary service areas as well as the release flows from the Southwest Area Diversion Facility Phase 22 Segment 6 equalization basin.

Scheduling:

Design F16/F17; Construction F18/F19.

P 10 Seg 6

Relationship to General Plan and Other Projects:

This project was included in the WRA Facility Plan Update and also included in the New Facility Plan.

Phase 10 Segments 1, 4, 7-8

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Grit Basins							AG267 WRA99000 WR 111	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F20
							F16	F17	F18	F19	F20	
Expenses	8,200,000						2,600	300,680	934,500	5,757,900	1,204,320	
Beginning Balance								(2,600)	96,720	6,962,220	1,204,320	
Interest Earnings												
Repair and Replacement Fund												
Communities												
Future Funding	8,200,000								8,200,000			
Bond Proceeds												
SRF Drawdowns								400,000	(400,000)			
Other												
Total Resources	8,200,000							397,400	7,896,720	6,962,220	1,204,320	
ENDING BALANCE	0	0	0	0	0	0	(2,600)	96,720	6,962,220	1,204,320	0	0

Description: Core Project.

This project will construct additional grit basins, modify the existing grit conveyance facilities, and optimize the grit removal system in the existing basin layout. The project also includes a chemical enhancement system for the existing primary clarifiers to enhance settling during elevated flow conditions through chemical augmentation.

Justification:

The WRF currently has six identical grit basins, and the original concept plan for the WRF included space for two additional grit basins. Ideally, more than two additional grit basins would be constructed, but space constraints will not allow for the construction of more than two additional basins. The hydraulic detention time at peak flows is too short for optimum grit removal, so the improvement will improve the hydraulic detention time in the existing grit basins, modify the grit conveyance facilities, and make modifications to optimize the grit removal in the existing basins.

Scheduling:

Project design in F16; Construction in F17/F18/F19.

Relationship to General Plan and Other Projects:

These improvements are included in the approved WRA Facility Plan Update-2012 and Second Amended and Restated Agreement for the DM Metro Wastewater Reclamation Authority.

Operating Budget Effect:

Operating and maintenance costs will increase with implementation of the facilities.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Southwest Outfall Lining								AG267 WRA99000 WR 2x1	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST Beyond F 2022
							F16	F17	F18	F19	F20	F21	
Expenses	26,150,000								1,616,000	4,175,000	4,125,000	5,484,000	10,750,000
Beginning Balance									100,000	5,584,000	1,509,000	6,184,000	
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	26,150,000								7,200,000		8,900,000		10,050,000
Bond Proceeds													
SRF Drawdowns								100,000	(100,000)	100,000	(100,000)	100,000	(100,000)
Other													
Total Resources	26,150,000							100,000	7,200,000	5,684,000	10,309,000	6,284,000	9,950,000
ENDING BALANCE	0	0	0	0	0	0	0	100,000	5,584,000	1,509,000	6,184,000	800,000	0

Description:

Lining of the existing Southwest Outfall over its entire length of approximately 66,000 feet of sewer pipeline from the Southside Des Moines River Interceptor connection to Walnut Hill Drive. The project would be completed in three phases.

Justification:

Recent and past inspections of the Southwest Outfall have indicated significant deterioration to the concrete pipe. The damage to the concrete pipe is believed to be caused from hydrogen sulfide released from the wastewater flow. The pipe needs to be lined before structural damage advances to a point where the pipe structure is compromised. During the development of the WRA facility Plan update – 2012 it was determined to be more cost effective to line the existing sewer than to replace it.

Scheduling:

- Phase 1: Design F18-19; Construction in F19-20.
- Phase 2: Design F20-21; Construction in F21-22.
- Phase 3: Design F24-25; Construction in F25-26.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project should decrease maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT
Wastewater Reclamation Authority Improvements		WRF Nutrient Removal P 1										AG267 WRA99000 WR 1x1
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond FY2021
							F16	F17	F18	F19	F20	
Expenses	105,500,000											105,500,000
Beginning Balance												
Interest Earnings												
Repair and Replacement Fund Communities												
Future Funding	105,500,000											105,500,000
Bond Proceeds												
SRF Drawdowns												
Other												
Total Resources	105,500,000											105,500,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0

Description: Core Project.
This project will construct a nutrient removal facility based upon not finalized nutrient standards from the IDNR.

Justification:
The facility plan recognized that nutrient limitations would be implemented in the future and but at this time it is undetermined what those standards will be. The WRA Facility Plan Updated included a placeholder project to provide for nutrient removal to meet a total nitrogen and total phosphorus standard.

Scheduling:
Design F28-29; Construction in F30-33.

Relationship to General Plan and Other Projects:

This project was included in the WRA Facility Plan Update and also included in the New Facility Plan.

Operating Budget Effect:
The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Little Four Mile Phase 15 Segment 1								AG267 WRA99000 WR 1xx	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST Beyond F 2021
							F16	F17	F18	F19	F20	F21	
Expenses	7,100,000												7,100,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	7,100,000												7,100,000
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	7,100,000												7,100,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Core Project.

An approximately 16,200 foot 42-inch diameter sewer pipeline paralleling the original Little Four Mile Interceptor from Altoona through Pleasant Hill and into Des Moines.

Justification:

To increase the capacity in the Little Four Mile Interceptor System because of increased flow caused by growth in the communities of Altoona, Bondurant and parts of Des Moines which are served by this interceptor.

Scheduling:

Design F24; Construction in F25-26.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Common Trunk							AG267 WRA99000 WR 1x2	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST
							F16	F17	F18	F19	F20	F21
Expenses	11,100,000											11,100,000
Beginning Balance												
Interest Earnings												
Repair and Replacement Fund												
Communities												
Future Funding	11,100,000											11,100,000
Bond Proceeds												
SRF Drawdowns												
Other												
Total Resources	11,100,000											11,100,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0

Description: Expansion Project.
 An approximately 11,700 foot 54-inch diameter sewer pipeline paralleling the original WRA Common Trunk located in Windsor Heights, West Des Moines and Des Moines.

Justification:
 Increase the capacity in the existing Common Trunk System because of increased flow caused by growth in the communities of Clive and Urbandale Sanitary Sewer District which are served by the Common Trunk.

Scheduling:
 Design F25; Construction F26-27.

Relationship to General Plan and Other Projects:
 This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:
 The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT			
Wastewater Reclamation Authority Improvements				WRA Joint Trunk East & West							AG267 WRA99000 WR 1x3			
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST		
							F16	F17	F18	F19	F20	F21	2027	2030
Expenses	20,800,000													20,800,000
Beginning Balance														
Interest Earnings														
Repair and Replacement Fund Communities														
Future Funding	20,800,000													20,800,000
Bond Proceeds														
SRF Drawdowns														
Other														
Total Resources	20,800,000													20,800,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Expansion Project.

The Joint Trunk East sewer parallels the existing Joint Trunk and extends from 73rd Street in Windsor Heights through West Des Moines and Clive. The Joint Trunk East is an approximately 7,700 foot 48-inch diameter sewer.

The Joint Trunk West sewer parallels the existing Joint Trunk through the communities of Clive and Urbandale Sanitary Sewer District. The Joint Trunk West is an approximately 26,000 foot 36 & 48-inch diameter sewer.

Justification:

Increase the capacity in the existing Joint Trunk System because of increased flow caused by growth in the communities of Clive and Urbandale Sanitary Sewer District which are served by the Joint Trunk.

Scheduling:

Joint Trunk East: Design F26; Construction F27 and F28.

Joint Trunk West: Design F29; Construction F30 and F31.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY					PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements					WRA Birdland Pump Station							AG267 WRA99000 WR 1x4	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST FY2022-24
							F16	F17	F18	F19	F20	F21	
Expenses	13,500,000											250,000	13,250,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	13,500,000												13,500,000
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	13,500,000												13,500,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	(250,000)	0

Description: Core Project.

This project will rebuild existing Birdland Bump Station at the same site which includes a new control building, electrical controls, pumps, wet well, yard piping, and other needed appurtenances.

Justification:

This project will eliminate the combined sewer overflow at this location which is required as part of the City of Des Moines Long Term Control Plan. The WRA agreed to replace the Birdland Pump Station after the City of Des Moines completed the sewer separation of the subsystems tributary to the Birdland Pump Station. The new Birdland Pump Station will pump the separate sanitary sewer flow to the new Eastside Interceptor sewer.

Scheduling:

Design F22; Construction F23-24.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
Wastewater Reclamation Authority Improvements					WRF Preliminary Treatment								AG267 WRA99000 WR 2x2
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST	
							F16	F17	F18	F19	F20	F21	F 2022
Expenses	30,500,000								538,000	1,120,000	10,022,000	13,270,000	5,550,000
Beginning Balance										962,000	(158,000)	8,320,000	
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	30,500,000										20,000,000	(20,000,000)	30,500,000
Bond Proceeds													
SRF Drawdowns									1,500,000		(1,500,000)		
Other													
Total Resources	30,500,000								1,500,000	962,000	18,342,000	(11,680,000)	30,500,000
ENDING BALANCE	0	0	0	0	0	0	0	0	962,000	(158,000)	8,320,000	(24,950,000)	0

Description: Core Project.

The project will construct a new preliminary treatment facility (including screening, pumping, and grit removal) for the treatment of an additional 100 MGD. The facility will be served by the WRA Eastside Interceptor and a connection to the WRA Four Mile Interceptor.

Justification:

The WRA Facility Plan Update – 2012 identified the need for additional treatment at the WRF. This project will serve the WRA Eastside Interceptor and the WRA Four Mile Interceptor and will provide an additional 100 MGD of treatment to be operated in parallel with the existing preliminary treatment.

Scheduling:

Project Design F18-19; Construction in F20-22.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY					PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements					WRF Chlorination & Effluent Pumping							AG267 WRA99000 WR 2x3	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST	
							F16	F17	F18	F19	F20	F21	F 2022
Expenses	25,500,000									400,000	1,225,000	8,025,000	15,850,000
Beginning Balance											500,000	(725,000)	
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	25,500,000											9,800,000	15,700,000
Bond Proceeds													
SRF Drawdowns / P&D										900,000		(900,000)	
Other													
Total Resources	25,500,000									900,000	500,000	8,175,000	15,700,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	500,000	(725,000)	150,000	0

Description: Core Project.

The project will construct a new effluent pump station at the existing chlorination contact tanks to discharge 300 MGD from the WRF in high Des Moines River conditions. In addition, the project will construct a new chlorination facility at the east end of the WRF to provide disinfection for the future maximum capacity of the WRF.

Justification:

The WRF presently has difficulty discharging 200 MGD of flow to the Des Moines River under elevated river conditions. In order to allow the WRF to increase the capacity of the facility to 300 MGD, the WRA will need to construct an effluent pumping station to allow the discharge of 300 MGD under high Des Moines River conditions.

The existing chlorination facility at the WRF is designed for a capacity of less than 200 MGD and to accommodate the future 300 MGD capacity of the WRF it is necessary to replace the existing chlorination facility.

Scheduling:

Effluent Pumping Design F20; Construction in F21-23.

Chlorination Project Design F20-21; Construction in F21-23.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					WRF Final Clarifiers							AG267 WRA99000 WR 2x4	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST F 2024
							F16	F17	F18	F19	F20	F21	
Expenses	41,900,000											650,000	41,250,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	41,600,000												41,600,000
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	41,600,000												41,600,000
ENDING BALANCE	(300,000)	0	0	0	0	0	0	0	0	0	0	(650,000)	0

Description: Core Project.

The project will construct six additional final clarifiers to allow the WRF hydraulic capacity to be increased from 200 MGD to 300 MGD.

Justification:

The hydraulic capacity of the WRF will be increased from 200 MGD to 300 MGD which requires additional final clarifiers for treatment. The six additional final clarifiers would bring the rated capacity of the WRF with all clarifiers in service to 330 MGD, or slightly above 300 MGD with one clarifier out of service.

Scheduling:

Project Design F21-22; Construction in F23-25.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT		
Wastewater Reclamation Authority Improvements				WRF Aeration Basins										AG267 WRA99000 WR 2x5
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST 2028 2030	
							F16	F17	F18	F19	F20	F21		
Expenses	96,600,000												96,600,000	
Beginning Balance														
Interest Earnings														
Repair and Replacement Fund														
Communities														
Future Funding	96,600,000												96,600,000	
Bond Proceeds														
SRF Drawdowns														
Other														
Total Resources	96,600,000												96,600,000	
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	

Description: Core Project.

The project will construct additional aeration basins to increase the hydraulic capacity of the WRF. The project will install additional aeration basins and a new blower building.

Justification:

The hydraulic capacity of the WRF will be increased from 200 MGD to 300 MGD which requires additional aeration basins for hydraulic and biological treatment.

Scheduling:

Phase 1: Design F25-26; Construction in F27-29.

Phase 2: Design F27-28; Construction in F29-31.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					WRF Clarifier Improvements							AG267 WRA99000 WR 2x6	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST F 2022
							F16	F17	F18	F19	F20	F21	
Expenses	19,900,000							30,000	475,000	5,725,000	3,768,500	5,921,500	3,980,000
Beginning Balance									(30,000)	(155,000)	3,170,000	(598,500)	
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	19,900,000									9,400,000		10,500,000	
Bond Proceeds													
SRF Drawdowns									350,000	(350,000)			
Other													
Total Resources	19,900,000								320,000	8,895,000	3,170,000	9,901,500	
ENDING BALANCE	0	0	0	0	0	0	0	(30,000)	(155,000)	3,170,000	(598,500)	3,980,000	0

Description: Core Project.

The Phase 1 project will replace three primary clarifier mechanisms and six final clarifier mechanisms due to the fact that the mechanisms are nearing the end of their useful life.

The Phase 2 project will replace the the remaining primary clarifier mechanisms and remaining six final clarifier mechanisms due to the fact that the mechanisms are nearing the end of their useful life.

Justification:

The existing primary and final clarifiers were constructed in the early to mid-1990s and both of the primary clarifier and final clarifier mechanisms are approximately 20 years of age. At this time, the clarifier mechanisms are deteriorating and are nearing the end of their useful life.

Scheduling:

Design F20; Construction in F21-22.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY				PROJECT TITLE						ACCOUNT			
Wastewater Reclamation Authority Improvements				WRA Westside Interceptor						AG267 WRA99000 WR 2x7			
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
							F16	F17	F18	F19	F20	F21	F2030
Expenses	12,300,000												12,300,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	12,300,000												12,300,000
Bond Proceeds													
SRF Drawdowns													
Other / future 28E agreement													
Total Resources	12,300,000												12,300,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description:

An approximately 3,300 foot 66-inch diameter sewer pipeline paralleling the original WRA Westside Interceptor from the Westside Interceptor Pump Station to the Saylor Creek Interceptor located in northern Des Moines.

Justification:

Increase the capacity in the existing Westside Interceptor because of increased flow caused by growth in the communities of Polk City, Polk County, Ankeny and Johnston which are served by the Westside Interceptor.

Scheduling:

Design F29; Construction F30-31.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February												
PROJECT CATEGORY					PROJECT TITLE							ACCOUNT
Wastewater Reclamation Authority Improvements					WRF Biomethane Conditioning and Injection							AG267 WRA99000 WR 3x1
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST Beyond F2021
							F16	F17	F18	F19	F20	
Expenses												
Beginning Balance												
Interest Earnings												
Repair and Replacement Fund												
Communities												
Future Funding												
Bond Proceeds												
SRF Drawdowns												
Other												
Total Resources												
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0

Description: Core Project.

Currently, the WRA has an agreement with a firm with experience evaluating natural gas contracts including Biomethane conditioning and injection. The consultant has been tasked with evaluating whether a market for the purchase of Biomethane, a non-Greenhouse Gas (GHG) alternative fuel exists in Iowa or in other markets. A report evaluating the MidAmerican proposal and the potential markets would serve as a planning document for determining if there is a business case for constructing a biogas conditioning facility and selling Biomethane.

Justification:

The Wastewater Reclamation Facility (WRF) produces about 500,000,000 cubic feet of biogas annually. Of that amount, 170,000,000 is used beneficially to produce heat and electricity that WRF would otherwise purchase from the utility, and about 130,000,000 is sold to Cargill where it substitutes for natural gas. The remaining 200,000,000 is excess and flared using a waste gas burner. If the market exists for the conditioning and selling of Biomethane to another entity, the WRA could potentially have a positive revenue source.

Scheduling:

The project economics are currently being evaluated.

Relationship to General Plan and Other Projects:

This improvement was not included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

This project would increase revenue and reduce the operations and maintenance costs to the WRA.

Fiscal 2015/Fiscal 2021 New Capital Improvements Program - Technical Review in February

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRF Phosphorus Recovery Facility										AG267 WRA99000 WR 3x2	
	TOTAL ESTIMATED COST	COST THROUGH F13	ACTUAL COST IN F14	COST THROUGH F14	Revised BUDGET F15	ESTIMATED COST THROUGH F15	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST Beyond F2021
							F16	F17	F18	F19	F20	F21	
Expenses													
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources													
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Core Project.

The Operating Contractor's Staff is evaluating whether there is a business case for the installation of a phosphorus recovery facility. There is a potential for the WRA to have a revenue stream through the removal of phosphorus from the wastewater treatment process, to reduce present and future operation and maintenance costs, and to reduce future capital expenditures for the WRF Nutrient Removal facility by installing a phosphorus recovery facility.

Justification:

Through the wastewater treatment process, a chemical known as struvite forms in the digestion facilities and post digestion facilities. Struvite is formed through the chemical interaction between magnesium, ammonia, and phosphorus, and the WRF has seen an increase in the formation of the struvite in piping, pumps, dewatering equipment, and digester equipment. The WRA currently spends a significant amount of money in chemical purchases, equipment purchases, and internal resources in removing struvite. Operating Contractor Staff is evaluating the installation of a phosphorus recovery system that would remove phosphorus from the wastewater treatment side-streams that lead to the digestion and post digestion facilities, thus minimizing the potential for struvite to form. The installation of a phosphorus recovery system would have the benefit of reducing the amount of struvite that forms in the digestion and post digestion facilities, and it would help reduce the future capital expenditure for the nutrient removal facility. The installation of a phosphorus recovery system would also have the benefit of a revenue stream through the sale of the removed phosphorus to a third party.

Scheduling:

The project economics are currently being evaluated.

Relationship to General Plan and Other Projects:

The installation of a phosphorus recovery facility would be considered a portion of the WRF Nutrient Removal project which is an improvement included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the Des Moines Metropolitan Reclamation Authority effective June 11, 2014.

Operating Budget Effect:

The new facilities constructed for this project will increase operations and maintenance costs for the WRA.