

## Summary

# Wastewater Reclamation Authority Improvements FY2017-F2018+

Col. 1                      2                      3                      4                      5                      6                      7                      8                      9                      10                      11                      12                      13

	TOTAL ESTIMATED COST	COST THROUGH F16	COST ESTIMATE F17	TOTAL ESTIMATED COST THROUGH	COST FOR SIX-YEAR PERIOD	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
						F18	F19	F20	F21	F22	F23	
<b>Expenses</b> , detail on following page	922,667,023	321,233,661	24,821,225	346,054,886	265,236,677	80,366,747	59,183,590	29,909,200	31,065,230	34,751,130	29,960,780	311,375,460
<b>Resources:</b>												
Beginning Balance	0	0	15,448,028	0		53,447,842	44,343,615	12,333,925	18,555,000	12,249,770	7,683,640	0
Interest Earnings	3,512,903	3,392,903	35,000	3,427,903	85,000	15,000	15,000	15,000	20,000	20,000	0	0
Renewal & Replacement Fund	0	0	0	0	0	0	0	0	0	0	0	0
Communities	49,567,885	21,604,635	4,463,250	26,067,885	23,500,000	4,000,000	3,900,000	3,900,000	3,900,000	3,900,000	3,900,000	0
Future Funding	461,381,350	0	13,880,250	13,880,250	153,098,500	35,748,000	16,387,500	32,953,000	19,440,000	10,510,000	38,060,000	294,402,600
Bond Proceeds	123,984,597	58,055,097	40,557,000	98,612,097	25,372,500	25,372,500	0	0	0	0	0	0
SRF Drawdowns	242,638,790	247,068,566	(2,014,476)	245,054,090	(2,015,300)	(5,300)	490,000	(1,700,000)	1,300,000	310,000	(2,410,000)	(400,000)
Other (Flood Mit Rev & Oper)	41,581,498	6,560,488	5,900,015	12,460,503	29,120,995	6,132,320	6,381,400	962,275	100,000	15,445,000	100,000	0
<b>Total Resources</b>	922,667,023	336,681,689	78,269,067	399,502,728	229,161,695	124,710,362	71,517,515	48,464,200	43,315,000	42,434,770	47,333,640	294,002,600
Flood/Sales tax revenue \$36.6M		5,996,430	5,000,000			4,006,320	5,000,000	862,275	-	15,345,000		

**Wastewater Reclamation Authority  
CIP Spending by Project and Category**

WRA 2018

<u>Expenditures from CIP sheets</u>		2017	2018	2019	2020	2021	2022	2023	subtotal Spending
<u>WRA Projects - Expansion Category</u>									
99 Ph 19	Mud Creek	\$ 390,872.0							\$ 390,872.0
107 Ph 10	Southern Tier Improvements	613,632.0	-	110,000.0	1,550,000.0	570,000.0		100,000.0	2,943,632.0
	Expansion Funding Ttl	\$ 1,004,504.0	\$ -	\$ 110,000.0	\$ 1,550,000.0	\$ 570,000.0	\$ -	\$ 100,000.0	\$ 3,334,504.0
<u>WRA Projects &amp; WRF Projects (Core or other Funding)</u>									
83	Sewer Maintenance Contracts	141,737.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	741,737.0
69	Facility Plan update	291,494.0	260,000.0	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	1,176,494.0
78	Facilities Rehabilitation	336,306.0	350,000.0	350,000.0	300,000.0	200,000.0	200,000.0	200,000.0	1,936,306.0
86 Ph 17	DM River Outfall / Main Outfall	496,930.0							496,930.0
87 Ph 17	CSSS Facility	1,409,598.0							1,409,598.0
88 Ph 25	Ingersoll Run CSO	614,195.0	3,897,030.0	4,441,050.0	3,910,000.0				12,862,275.0
91	Studies (sm CIP)	42,334.0	40,000.0	40,000.0	30,000.0	30,000.0	30,000.0	30,000.0	242,334.0
93 Ph 25	Flow Monitoring Seg 3	100,358.0							100,358.0
94	Beaver Creek Improvements	85,000.0	1,150,575.0						1,235,575.0
98	Plant Projects (Eq Repl, sm CIP)	(20,839.0)							(20,839.0)
101 a / b	Sponsored Project w Polk Co	232,539.0							232,539.0
102	Biomethane Conditioning/Injection	996,991.0	9,858,400.0	\$ 2,611,040.0					13,466,431.0
103 Ph 10	Southern Tier for SW ADF	545,244.0							545,244.0
104	Equalization Basin Improvements	300,000.0							300,000.0
105	Flood Improvements	321,030.0	6,117,794.0	1,522,600.0					7,961,424.0
106	Plant Projects (Eq Repl, sm CIP)	3,970,537.0	3,288,848.0	3,375,000.0	3,436,000.0	3,514,000.0	3,565,000.0	3,545,000.0	24,694,385.0
108 Ph 27	Eastside Interceptor	7,665,682.0	40,800,000.0	21,180,000.0					69,645,682.0
109	Sponsor'd Four Mile Acquisition	709,916.0	2,058,600.0	1,281,400.0					4,049,916.0
110	Plant Projects (Eq Repl, sm CIP)	3,435,282.0							3,435,282.0
110 Ph 10	Southern Tier Improvements s6					2,430.0	443,930.0	4,120,780.0	4,567,140.0
111	Grit Basin Improvements	563,582.0	1,055,500.0	5,210,300.0	2,321,400.0				9,150,782.0
112	Phosphorus Recovery Facility	1,525,000.0	7,970,000.0	10,365,000.0					19,860,000.0
2x6	Clarifier Improvements	10,000.0	545,000.0	6,125,000.0	2,900,000.0	25,000.0	6,425,000.0	4,010,000.0	20,040,000.0
113	Southwest Outfall relining	43,805.0	1,875,000.0	657,200.0	4,161,800.0	5,088,800.0	4,302,200.0		16,128,805.0
2x2	Primary Treatment		1,000,000.0	1,240,000.0	9,680,000.0	13,180,000.0	5,500,000.0		30,600,000.0
2x3	Chlorination & Effluent pumping			450,000.0	1,395,000.0	7,580,000.0	11,780,000.0	4,140,000.0	25,345,000.0
1x4	Birdland Pump station						350,000.0	400,000.0	750,000.0
2x4	Final Clarifiers					650,000.0	1,930,000.0	13,100,000.0	15,680,000.0
2x1	Little Four Mile							90,000.0	90,000.0
		\$ 23,816,721.0	\$ 80,366,747.0	\$ 59,073,590.0	\$ 28,359,200.0	\$ 30,495,230.0	\$ 34,751,130.0	\$ 29,860,780.0	\$ 286,723,398.0
	Revised Estimate for F17	\$ 24,821,225.0							
	2018		\$ 80,366,747.0						
	2019			\$ 59,183,590.0					
	2020				\$ 29,909,200.0				
	2021					\$ 31,065,230.0			
	2022						\$ 34,751,130.0		
	2023							\$ 29,960,780.0	
	Summary of Costs, Six-Year-Period . . . . .								\$ 265,236,677.0

WASTEWATER RECLAMATION AUTHORITY  
 COMPARISON OF LAST YEAR AND CURRENT YEAR CIP SHEETS  
 FY2017-2023 6(7) Yr Plan + other WRA commitments

Capital Improvement Projects by Type of Funding

			[last year]	restated	[this year]		
		WRA New 28e Agreement Amt	Budget Amount for each project	Budget Amount for each project	Budget Amount for each project	Chg of Estimate	
Core Projects	Past Amount		2017 CIP	2017 CIP	2018 FILE		
wra 086	DM River Outfall / New Main Outfall	P 17		64,399,635	64,399,635	64,399,635	-
wra 087	Combined Sewer Solids Separation Design	P 17		51,961,995	51,961,995	51,961,995	-
Wr 108	ESI Phase 27 Gravity Sewer	P 27	67,400,000		67,400,000	72,740,950	5,340,950
				116,361,630	183,761,630	189,102,580	
wra 088	Ingersoll Run Sewer (CSO & Outlet)	Flood M	12,800,000	12,060,000	12,060,000	12,862,275	802,275
wra 093	Flow Monitoring System			6,783,433	6,783,433	6,783,433	-
wra 074	Digester Gas System			23,578,000	23,578,000	23,368,095	(209,905)
wra 110	Southern Tier Interceptor (P10 Seg 6)	P 10	5,850,000	6,938,600	6,938,600	6,922,600	(16,000)
Wr 112	Phosphorus Recovery	2018		19,860,000	19,860,000	19,860,000	-
Wr 102	WRF Biomethane Conditioning and Injection	2018		12,080,000	12,080,000	13,970,250	1,890,250
Wr 111	WRF Grit Removal Improvements	2018	8,200,000	8,900,000	8,900,000	9,441,400	541,400
Wr 1xx	WRF Clarifier Improvements	2019	19,900,000	19,930,000	19,930,000	20,040,000	110,000
Wr 1xx	WRF Preliminary Treatment	2021	30,500,000	30,600,000	30,600,000	30,600,000	-
Wr 105	WRF Flood Improvements	2018	5,300,000	8,001,000	8,001,000	8,002,750	1,750
Wr 1xx	WRA Southwest Outfall Lining	2019	26,150,000	26,225,000	26,225,000	26,225,000	-
Subtotal Core Projects			<b>108,700,000</b>	<b>291,317,663</b>	<b>358,717,663</b>	<b>367,178,383</b>	<b>8,460,720</b>
<u>Expansion Projects</u>							
wra 085	Four Mile Interceptor Ext. (Phase 24)	P 24		20,541,073	20,541,073	20,487,132	(53,941)
wra 099	Mud Creek Interceptor (Phase 19)	P 19		20,568,500	20,568,500	20,568,500	-
wra 100	Corridor Preservation			317,632	317,632	325,728	8,096
wra 107	Southern Tier Interceptor (P10 Seg 1,4,7-8)	2015	9,500,000	9,770,000	9,770,000	9,620,000	(150,000)
Subtotal Expansion Projects			<b>9,500,000</b>	<b>51,197,205</b>	<b>51,197,205</b>	<b>51,001,360</b>	<b>(195,845)</b>
wra 081	South West Area Diversion Facilities			97,504,505	97,504,505	97,140,786	(363,719)
wra 103	Southern Tier Interceptor (P10 Seg 14,15-17)	P 10	7,000,000	17,218,730	17,218,730	17,218,730	-
wra 101	Sponsored Project [Polk] (Sw SRF loans)			3,251,300	3,251,300	3,251,300	-
wra 109	Sponsored Project [Streambank] (So Tier loan)			3,000,000	3,000,000	4,281,400	1,281,400
South West Area Diversion Facilities			<b>7,000,000</b>	<b>120,974,535</b>	<b>120,974,535</b>	<b>121,892,216</b>	<b>917,681</b>
<u>Future Projects &amp; Projects w comnty contrib.</u>							
core +	Eastside Interceptor (see above)	2018	67,400,000	67,400,000			
core +	Westside Interceptor	2030	12,300,000	12,300,000	12,300,000	12,300,000	-
core	Little Four Mile Interceptor (P15 Seg 1)	2025	7,100,000	7,100,000	7,100,000	7,190,000	90,000
core	Nutrient Removal	2032	105,500,000	105,500,000	105,500,000	105,500,000	-
core	Birdland Pump Stn	2023	13,500,000	13,500,000	13,500,000	13,500,000	-
core	Common Trunk	2026	11,100,000	11,100,000	11,100,000	11,100,000	-
expan	Joint Trunk (w Common last year)	2027	20,800,000	20,800,000	20,800,000	20,800,000	-
core	WRF Chlorination & Effluent pumping	Flood M	25,500,000	25,500,000	25,500,000	25,345,000	(155,000)
core	WRF Final clarifiers	2024	41,600,000	41,900,000	41,900,000	41,900,000	-
core	WRF Aeration basins	2028	96,600,000	96,600,000	96,600,000	96,600,000	-
Subtotal Future Projects			<b>401,400,000</b>	<b>401,700,000</b>	<b>334,300,000</b>	<b>334,235,000</b>	<b>(65,000)</b>
<b>Total Project Costs (Bonded and Basins)</b>			<b>526,600,000</b>	<b>865,189,403</b>	<b>865,189,403</b>	<b>874,306,959</b>	<b>9,117,556</b>
<u>Sm CIP Non-Bonded / Plant &amp; System Projects</u>							
wra 096	Transitions Costs			334,000			
wra 069	Facilities Plan Update (2014 forward)			1,162,761	1,162,761	1,562,761	400,000
wra 078	Facilities Rehabilitation (2014 forward)			1,576,402	1,576,402	2,601,402	1,025,000
wra 083	Sewer Maintenance contract work (2013 forward)			2,100,000	2,100,000	2,100,000	-
wra 091	Small CIP projects & Studies (2014 forward)			467,612	467,612	667,612	200,000
wra 104	Equalization Basin Improvements			300,000	300,000	300,000	-
wra 098	Small CIP projects & ProcEqRepl. 2010-2012			5,875,000	5,875,000	5,875,000	-
wra 106	Small CIP projects & ProcEqRepl. 2013-2016			11,504,107	11,504,107	10,268,532	(1,235,575)
wra 110	Small CIP future projects (2017 - 2022)			21,410,000	21,410,000	23,749,182	2,339,182
wra 114	Beaver Creek Sewer Stabilization	new			0	1,235,575	1,235,575
<b>Total Non-Bonded Project Costs</b>				<b>44,729,882</b>	<b>44,395,882</b>	<b>48,360,064</b>	<b>3,964,182</b>
<b>WRA Total Expenses for Projects</b>				<b>909,919,285</b>	<b>909,585,285</b>	<b>922,667,023</b>	<b>13,081,738</b>
		new		Last year's total			
		* PROJECT CLOSED				922,667,023 SUMMARY TOTAL	

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Facility Plan Update &amp; Consulting</b>								<b>AG267 WRA990000 WRA069</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	1,562,761	284,202	102,065	386,267	291,494	677,761	260,000	125,000	125,000	125,000	125,000	125,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other /Commtty funds SmCIP	1,562,761	284,202	102,065	386,267	291,494	677,761	260,000	125,000	125,000	125,000	125,000	125,000	
Total Resources	1,562,761	284,202	102,065	386,267	291,494	677,761	260,000	125,000	125,000	125,000	125,000	125,000	
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

**Description:**

This project provide funding for financial planning, bond council, and engineering consultants. Included are updates to Facility Planning needs through the future.

**Justification:**

The WRA Facility Plan Update - 2012 identified the needs of the WRA through 2040. Studies will continually be needed to evaluate changes in growth, conveyance and wastewater treatment needs of the WRA through 2040.

**Scheduling:**

Ongoing.

**Relationship to General Plan and Other Projects:**

Small CIP funds

**Operating Budget Effect:**

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Preliminary Review January Copy**

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Small Projects, &amp; Process Equipment Repl for 2010, 2011, 2012</b>							<b>AG267 WRA990000 WRA98</b>		
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F23	
							F18	F19	F20	F21	F22		F23
Expenses	5,875,000	5,861,576	34,263	5,895,839	(20,839)	5,875,000							
Beginning Balance					(20,839)								
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)	(1,487,360)	(1,487,360)		(1,487,360)		(1,487,360)							
Total Resources	5,875,000	5,875,000		5,875,000	(20,839)	5,875,000							
<b>ENDING BALANCE</b>	<b>0</b>	<b>13,424</b>	<b>(34,263)</b>	<b>(20,839)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

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

**F16:** 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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRF Small Projects, & Process Equipment Repl for 2013, 2014, 2015, 2016										AG267 WRA990000 WRA106	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	10,268,532	3,682,074	2,305,973	5,988,047	3,970,537	9,958,584	309,948						
Beginning Balance					5,686,476		1,460,523						
Interest Earnings	15,000	5,000	10,000	15,000		15,000							
Repair and Replacement Fund Communities	14,200,000	10,400,000	3,800,000	14,200,000		14,200,000							
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(3,946,468)	(1,820,893)	(719,584)	(2,540,477)	(255,416)	(2,795,893)	(1,150,575)						
Total Resources	10,268,532	8,584,107	3,090,416	11,674,523	5,431,060	11,419,107	309,948						
<b>ENDING BALANCE</b>	0	4,902,033	784,443	5,686,476	1,460,523	1,460,523	0	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)

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Equalization Basin Improvements</b>								<b>AG267 WRA99000 WR 106 b</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	300,000				300,000	300,000							
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other, (tsfr from Small CIP)	300,000				300,000	300,000							
Total Resources	300,000				300,000	300,000							
<b>ENDING BALANCE</b>	0	0	0	0	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 Small CIP R&R collections.

**Operating Budget Effect:**

This project will increase revenues and operations and maintenance costs.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Beaver Creek Sewer Stabilization								AG267 WRA99000 WR 106 c	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	1,235,575				85,000	85,000	1,150,575						
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (small CIP)	1,235,575				85,000	85,000	1,150,575						
Total Resources	1,235,575				85,000	85,000	1,150,575						
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

**Description: Core Project.**

The WRA Beaver Creek Interceptor Streambank Stabilization consists of stabilizing the southerly bank of the Des Moines River for a distance of approximately 2,500 feet in the area where the WRA Beaver Creek Interceptor Sewer is located in close proximity to a portion of the river bank that is generally eroding toward the WRA sewer. The project location is approximately one-third mile south of Interstate 35/80.

**Justification:**

The WRA Beaver Creek Interceptor is located in close proximity to a portion of the river bank that is generally eroding toward the WRA sewer. The streambank requires stabilization in order to protect one of the WRA's existing sewers.

**Scheduling:**

Construction of stabilization improvements in FY18.

**Relationship to General Plan and Other Projects:**

New project in FY18.

**Operating Budget Effect:**

This project will have no effect on the operating budget.



**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Plant &amp; Basin Equipment Replacement &amp; WRA/WRF Small CIP projects</b>								<b>AG267 WR809855 WR 110</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	23,749,182				3,435,282	3,435,282	2,878,900	3,375,000	3,436,000	3,514,000	3,565,000	3,545,000	
Beginning Balance													
Interest Earnings	95,000				10,000	10,000	15,000	15,000	15,000	20,000	20,000		
Repair and Replacement Fund Communities	27,188,900				4,000,000	4,000,000	3,688,900	3,900,000	3,900,000	3,900,000	3,900,000	3,900,000	
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(3,534,718)				(574,718)	(574,718)	(825,000)	(540,000)	(479,000)	(406,000)	(355,000)	(355,000)	
Total Resources	23,749,182				3,435,282	3,435,282	2,878,900	3,375,000	3,436,000	3,514,000	3,565,000	3,545,000	
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

**Description:**

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

**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:**

**F18:** Repair Building 05 gate, Scum modifications, RDT rebuild, Aeration PRV replacement, Aeration Basin monitoring equipment.

**F19:** Primary Sludge improvements, Aeration PRV replacement, RSL improvements, Building 70 Piping improvement.

**F18-23:** Renewals & replacements, as needed

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Studies [ Sm CIP ]</b>								<b>AG267 WRA990000 WRA091</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	F23
Expenses	667,612	217,612	107,666	325,278	42,334	367,612	140,000	40,000	30,000	30,000	30,000	30,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	667,612	217,612	107,666	325,278	42,334	367,612	140,000	40,000	30,000	30,000	30,000	30,000	
Total Resources	667,612	217,612	107,666	325,278	42,334	367,612	140,000	40,000	30,000	30,000	30,000	30,000	
<b>ENDING BALANCE</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Description:**

This project funds process and safety improvement studies at the WRF and WRA conveyance system.

**Justification:**

These studies are necessary to reduce operations and maintenance costs and facilitate a safer working environment at the WRF.

**Scheduling:**

**F11-15:** WRA Operating Plan development; WRF Flood Inundation study. Biogas to grid injection evaluation.

**F16-17:** Studies, as needed Phosphorus recovery study, Biogas to Grid injection evaluation.

**F18:** Rate study, Main pump study, Site evaluation.

**F19-23:** Studies, as needed

**Relationship to General Plan and Other Projects:**

small cip funding

**Operating Budget Effect:**

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Facilities Rehabilitation [ Sm CIP ]</b>							<b>AG267 WRA990000 WRA078</b>		
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	2,601,402	155,243	509,853	665,096	336,306	1,001,402	350,000	350,000	300,000	200,000	200,000	200,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commtty funds SmCIP	2,601,402	155,243	509,853	665,096	336,306	1,001,402	350,000	350,000	300,000	200,000	200,000	200,000	
Total Resources	2,601,402	155,243	509,853	665,096	336,306	1,001,402	350,000	350,000	300,000	200,000	200,000	200,000	
<b>ENDING BALANCE</b>	0	0	0	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:**  
 F17: HVAC Replacements; Building 12.  
 F18: HVAC Replacements; Building 5.  
 F19: HVAC Replacements; Roof Replacements, Building 35.

**Relationship to General Plan and Other Projects:**  
 small cip funding

**Operating Budget Effect:**  
 These projects will reduce operations and maintenance costs in future years.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Digester Improvements</b>							<b>AG267 WRA990000 WRA074</b>		
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	23,368,095	23,365,343	2,752	23,368,095		23,368,095							last time in book
Beginning Balance													
Interest Earnings	93,095	93,095		93,095		93,095							
Repair and Replacement Fund Communities Future Funding													
Bond Proceeds	210,000	210,000		210,000		210,000							
SRF Drawdowns	23,065,000	23,165,000	(100,000)	23,065,000		23,065,000							
Other / from Small CIP													
Total Resources	23,368,095	23,468,095	(100,000)	23,368,095		23,368,095							
<b>ENDING BALANCE</b>	0	102,752	(102,752)	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE						ACCOUNT			
<b>Wastewater Reclamation Authority Improvements</b>				<b>Southwest Area Diversion Facilities Phase 21 and 22</b>						<b>AG267 WRA990000 WRA081</b>			
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F23	
							F18	F19	F20	F21	F22		F23
Expenses	97,140,786	97,124,247	16,539	97,140,786		97,140,786							last time in book
Beginning Balance													
Interest Earnings	2,447,620	2,447,620		2,447,620		2,447,620							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	23,609,366	23,623,085	(13,719)	23,609,366		23,609,366							
SRF Drawdowns Available	71,083,800	71,433,800	(350,000)	71,083,800		71,083,800							
Other													
Total Resources	97,140,786	97,504,505	(363,719)	97,140,786		97,140,786							
<b>ENDING BALANCE</b>	0	380,258	(380,258)	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 have been constructed and have reached 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 - F13/15

**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 operations and maintenance costs.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Sewer Maintenance (Inspections &amp; Repairs)</b>								<b>AG267 WRA990000 WRA083</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	2,100,000	681,036	677,227	1,358,263	141,737	1,500,000	100,000	100,000	100,000	100,000	100,000	100,000	
Beginning Balance					62,737								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding O&M budget (803 9)	2,100,000	460,600	960,400	1,421,000	79,000	1,500,000	100,000	100,000	100,000	100,000	100,000	100,000	
Total Resources	2,100,000	460,600	960,400	1,421,000	141,737	1,500,000	100,000	100,000	100,000	100,000	100,000	100,000	
<b>ENDING BALANCE</b>	0	(220,436)	283,173	62,737	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRA Four Mile Interceptor Extension Phase 24				AG267 WRA990000 WRA085					
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	20,487,132	20,485,185	1,947	20,487,132		20,487,132							last time in book
Beginning Balance													
Interest Earnings	155,355	155,355		155,355		155,355							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	10,467,988	10,467,988		10,467,988		10,467,988							
SRF Drawdowns	9,835,860	9,835,860		9,835,860		9,835,860							
Other / POLK CO. & Core97	27,929	27,929		27,929		27,929							
Total Resources	20,487,132	20,487,132		20,487,132		20,487,132							
<b>ENDING BALANCE</b>	0	1,947	(1,947)	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

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 F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	64,399,635	64,001,183	(98,478)	63,902,705	496,930	64,399,635							
Beginning Balance					496,930								
Interest Earnings	384,416	337,356	47,060	384,416		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	51,948,600		51,948,600		51,948,600							
Other / Utility credits, CDM	363,340	130,490	232,850	363,340		363,340							
Total Resources	64,399,635	64,119,725	279,910	64,399,635	496,930	64,399,635							
<b>ENDING BALANCE</b>	0	118,542	378,388	496,930	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 CSSS Facility (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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				Combined Sewer Solids Separation Facility Phase 17				AG267 WRA990000 WRA087					
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	51,961,995	50,394,983	157,414	50,552,397	1,409,598	51,961,995							
Beginning Balance					1,384,598								
Interest Earnings	104,995	54,995	25,000	79,995	25,000	104,995							
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	550,000	550,000		550,000		550,000							
SRF Drawdowns	51,307,000	51,307,000		51,307,000		51,307,000							
Other													
Total Resources	51,961,995	51,911,995	25,000	51,936,995	1,409,598	51,961,995							
<b>ENDING BALANCE</b>	0	1,517,012	(132,414)	1,384,598	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

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 F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	12,862,275				614,195	614,195	3,897,030	4,441,050	3,910,000				
Beginning Balance							4,385,805	2,488,775	3,047,725				
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (revenues Flood Mit)	12,862,275				5,000,000	5,000,000	2,000,000	5,000,000	862,275				
Total Resources	12,862,275				5,000,000	5,000,000	6,385,805	7,488,775	3,910,000				
<b>ENDING BALANCE</b>	0	0	0	0	4,385,805	4,385,805	2,488,775	3,047,725	0	0	0	0	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 in F17 moved forward to utilize Flood Mitigation funding.

**Relationship to General Plan and Other Projects:**

This project is included in the WRA Facility Plan Update.

**Operating Budget Effect:**

None.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Flow Monitoring System Improvements</b>								<b>AG267 WRA990000 WRA093</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	6,783,433	6,538,475	144,600	6,683,075	100,358	6,783,433							last time in book
Beginning Balance					100,358								
Interest Earnings	208,969	168,969	40,000	208,969		208,969							
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	6,783,433	6,743,433	40,000	6,783,433	100,358	6,783,433							
<b>ENDING BALANCE</b>	0	204,958	(104,600)	100,358	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>Mud Creek Interceptor P 19</b>								<b>AG267 WRA990000 WRA099</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	20,568,500	19,730,990	446,638	20,177,628	390,872	20,568,500							
Beginning Balance					390,872								
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds	540,000	830,000	(290,000)	540,000		540,000							
SRF Drawdowns	19,028,500	17,511,500	1,517,000	19,028,500		19,028,500							
Other, Altoona	1,000,000	1,000,000		1,000,000		1,000,000							
Total Resources	20,568,500	19,341,500	1,227,000	20,568,500	390,872	20,568,500							
<b>ENDING BALANCE</b>	0	(389,490)	780,362	390,872	0	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Corridor Preservation</b>								<b>AG267 WRA990000 WRA100</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	F23
Expenses	325,728	317,632	8,096	325,728		325,728							last time in book
Beginning Balance													
Interest Earnings	3,453		3,453	3,453		3,453							
Repair and Replacement Fund Communities	22,275	22,275		22,275		22,275							
Future Funding													
Bond Proceeds	300,000	300,000		300,000		300,000							
SRF Drawdowns													
Other / Small CIP													
Total Resources	325,728	322,275	3,453	325,728		325,728							
<b>ENDING BALANCE</b>	0	4,643	(4,643)	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Preliminary Review January Copy**

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 F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	3,251,300	1,756,346	1,262,415	3,018,761	232,539	3,251,300							
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns	3,251,300	1,753,284	1,262,492	3,015,776	235,524	3,251,300							
Other		3,062	(77)	2,985	(2,985)								
Total Resources	3,251,300	1,756,346	1,262,415	3,018,761	232,539	3,251,300							
<b>ENDING BALANCE</b>	0	0	0	0	0	0	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.

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Biomethane Gas Conditioning and Injection</b>								<b>AG267 WRA99000 WR 102</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	13,970,250		503,819	503,819	996,991	1,500,810	9,858,400	2,611,040					
Beginning Balance					266,181		12,439,440	2,611,040					
Interest Earnings													
Repair and Replacement Fund Communities	90,000		20,000	20,000	40,000	60,000	30,000						
Future Funding	13,880,250				13,880,250	13,880,250							
Bond Proceeds													
SRF Drawdowns			750,000	750,000	(750,000)								
Other													
Total Resources	13,970,250		770,000	770,000	13,436,431	13,940,250	12,469,440	2,611,040					
<b>ENDING BALANCE</b>	0	0	266,181	266,181	12,439,440	12,439,440	2,611,040	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 will have a revenue source for the gas.

**Scheduling:**

The project design is near completion.

**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. WRA Finance Committee met in January 2016 to discuss the funding for this project.

**Operating Budget Effect:**

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

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Flood Improvements</b>								<b>AG267 WRA99000 WR 105</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	8,002,750		41,326	41,326	321,030	362,356	6,117,794	1,522,600					
Beginning Balance					5,955,104		5,634,074	1,522,600					
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (Revenue Flood Mit)	8,002,750		5,996,430	5,996,430		5,996,430	2,006,320						
Total Resources	8,002,750		5,996,430	5,996,430	5,955,104	5,996,430	7,640,394	1,522,600					
<b>ENDING BALANCE</b>	0	0	5,955,104	5,955,104	5,634,074	5,634,074	1,522,600	0	0	0	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.

Construction can be moved forward as this project was in the Flood Mitigation Application.

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE							ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Southern Tier Interceptor Improvements - Phase 10 Segment 6</b>							<b>AG267 WRA99000 WR xx</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F23	
							F18	F19	F20	F21	F22		F23
Expenses	6,922,600									2,430	443,930	4,120,780	2,355,460
Beginning Balance											(2,430)	(136,360)	
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	6,922,600											4,560,000	2,362,600
Bond Proceeds													
SRF Drawdowns										310,000	(310,000)		
Other													
Total Resources	6,922,600										307,570	4,113,640	2,362,600
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	(2,430)	(136,360)	(7,140)	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.

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Southern Tier Improvements for SW Area Diversion</b>							<b>AG267 WRA99000 WR 103</b>		
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	17,218,730	16,583,852	89,634	16,673,486	545,244	17,218,730							
Beginning Balance					545,244								
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	13,118,730	13,118,730		13,118,730		13,118,730							
Other / Commty funds SmCIP													
Total Resources	17,218,730	17,218,730		17,218,730	545,244	17,218,730							
<b>ENDING BALANCE</b>	0	634,878	(89,634)	545,244	0	0	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:**

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 Faciltiy (SWADF).

**Operating Budget Effect:**

This project will increase operations and maintenance costs.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Southern Tier Improvements - Western (Expansion Debt)</b>								<b>AG267 WRA99000 WR 107</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	9,620,000	41,599	34,769	76,368	613,632	690,000		110,000	1,550,000	570,000		100,000	6,600,000
Beginning Balance					(76,368)		(23,000)	(23,000)	(133,000)	670,000	100,000	100,000	
Interest Earnings													
Repair and Replacement Fund Communities	10,000				10,000	10,000							
Future Funding	8,953,000								2,353,000				6,600,000
Bond Proceeds	657,000				657,000	657,000							
SRF Drawdowns													
Other													
Total Resources	9,620,000				590,632	667,000	(23,000)	(23,000)	2,220,000	670,000	100,000	100,000	6,600,000
<b>ENDING BALANCE</b>	0	(41,599)	(34,769)	(76,368)	(23,000)	(23,000)	(23,000)	(133,000)	670,000	100,000	100,000	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

(seg 22 included)

**Operating Budget Effect:**

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

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					WRA Eastside Interceptor, Gravity Sewer & Force Main							AG267 WRA99000 WR 108	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	F23
Expenses	72,740,950	1,093,927	2,001,341	3,095,268	7,665,682	10,760,950	40,800,000	21,180,000					
Beginning Balance					32		30,792,600	14,322,500					
Interest Earnings													
Repair and Replacement Fund Communities	610,950				408,250	408,250	202,700						
Future Funding	6,857,500							6,857,500					
Bond Proceeds	65,272,500				39,900,000	39,900,000	25,372,500						
SRF Drawdowns		1,093,900	1,601,400	2,695,300	(1,500,000)	1,195,300	(1,195,300)						
Other / transfer from R&R			400,000	400,000	(350,000)	50,000	(50,000)						
Total Resources	72,740,950	1,093,900	2,001,400	3,095,300	38,458,282	41,553,550	55,122,500	21,180,000					
<b>ENDING BALANCE</b>	0	(27)	59	32	30,792,600	30,792,600	14,322,500	0	0	0	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/F19/20.

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Sponsored [Four Mile Creek] Streambank Restoration Projects</b>								<b>AG267 WRA99000 WR 109</b>
	TOTAL	COST	ACTUAL	COST	Revised	ESTIMATED	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
	ESTIMATED	THROUGH	COST IN	THROUGH	BUDGET	COST THROUGH							BEYOND
	COST	F15	F16	F16	F17	F17	F18	F19	F20	F21	F22	F23	F23
Expenses	4,281,400	73,119	158,365	231,484	709,916	941,400	2,058,600	1,281,400					
Beginning Balance					(231,484)		(17,400)						
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / sponsored project	4,281,400				924,000	924,000	2,076,000	1,281,400					
Total Resources	4,281,400				692,516	924,000	2,058,600	1,281,400					
<b>ENDING BALANCE</b>	0	(73,119)	(158,365)	(231,484)	(17,400)	(17,400)	0	0	0	0	0	0	0

**Description:**

This project was awarded funding in June of 2014 through the Clean Water SRF Water Resource Restoration Sponsored Project Program.

The project will include approximately 5000 feet of stream bank restoration along the banks of Four Mile Creek in locations where the WRA Four Mile Interceptor needs protection from stream bank erosion.

**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:**

Four Mile Creek: Design F16-17. Easement acquisition F15-17. Construction (a) winter 2016-2017 (b) F17-18.

Sugar Creek: Design F17

**Relationship to General Plan and Other Projects:**

Total debt service on SRF Loans will not change but addition prinipal allows draws for construction of a sponsored project. IFA/INDR award one closed for \$924,000 F17.

IFA/INDR has awarded additional funds for Four Mile and Sugar creek work to close in future years.

**Operating Budget Effect:**

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

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRF Grit Removal Improvements</b>								<b>AG267 WR809855 WR111</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	9,441,400	3,937	286,681	290,618	563,582	854,200	1,055,500	5,210,300	2,321,400				
Beginning Balance					714,382		155,800	7,531,700	2,321,400				
Interest Earnings													
Repair and Replacement Fund													
Communities	88,400		5,000	5,000	5,000	10,000	78,400						
Future Funding	9,353,000						9,353,000						
Bond Proceeds													
SRF Drawdowns			1,000,000	1,000,000		1,000,000	(1,000,000)						
Other													
Total Resources	9,441,400		1,005,000	1,005,000	719,382	1,010,000	8,587,200	7,531,700	2,321,400				
<b>ENDING BALANCE</b>	0	(3,937)	718,319	714,382	155,800	155,800	7,531,700	2,321,400	0	0	0	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 F17/18; Construction in F18-F20.

**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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRF Phosphorus Recovery Facility										AG267 WRA99000 WR 112	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F23	
							F18	F19	F20	F21	F22		F23
Expenses	19,860,000				1,525,000	1,525,000	7,970,000	10,365,000					
Beginning Balance							(1,525,000)	10,365,000					
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	19,860,000						19,860,000						
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	19,860,000						18,335,000	10,365,000					
<b>ENDING BALANCE</b>	0	0	0	0	(1,525,000)	(1,525,000)	10,365,000	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 company who would blend the phosphorus into fertilizers.

**Scheduling:**

The project design contract has been awarded and an evaluation is underway.

**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.

**Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE									ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Sewer Lining</b>									<b>AG267 WRA99000 WR113</b>
	TOTAL	COST	ACTUAL	COST	Revised	ESTIMATED	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
	ESTIMATED	THROUGH	COST IN	THROUGH	BUDGET	COST THROUGH	F18	F19	F20	F21	F22	F23	BEYOND
	COST	F15	F16	F16	F17	F17							F23
Expenses	26,225,000		46,195	46,195	43,805	90,000	1,875,000	657,200	4,161,800	5,088,800	4,302,200		10,050,000
Beginning Balance					173,805		155,000	4,670,000	4,037,800		4,302,200		
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	26,025,000						6,535,000		9,440,000				10,050,000
Bond Proceeds													
SRF Drawdowns			220,000	220,000		220,000	(220,000)		100,000	(100,000)		100,000	(100,000)
Other	200,000				25,000	25,000	75,000	25,000	24,000	51,000			
Total Resources	26,225,000		220,000	220,000	198,805	245,000	6,545,000	4,695,000	4,161,800	9,391,000	4,302,200	100,000	9,950,000
<b>ENDING BALANCE</b>	0	0	173,805	173,805	155,000	155,000	4,670,000	4,037,800	0	4,302,200	0	100,000	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:**

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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Little Four Mile Phase 15</b>								<b>AG267 WRA99000 WR 2 x 1</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	7,190,000											90,000	7,100,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	7,190,000												7,190,000
Bond Proceeds													
SRF Drawdowns												300,000	(300,000)
Other													
Total Resources	7,190,000											300,000	6,890,000
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	210,000	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Preliminary Treatment</b>								<b>AG267 WRA99000 WR 2x2</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	30,600,000						1,000,000	1,240,000	9,680,000	13,180,000	5,500,000		
Beginning Balance								800,000	(440,000)	18,680,000	5,500,000		
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	30,600,000								30,600,000				
Bond Proceeds													
SRF Drawdowns							1,800,000		(1,800,000)				
Other													
Total Resources	30,600,000						1,800,000	800,000	28,360,000	18,680,000	5,500,000		
<b>ENDING BALANCE</b>	0	0	0	0	0	0	800,000	(440,000)	18,680,000	5,500,000	0	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Preliminary Review January Copy**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Chlorination & Effluent Pumping								AG267 WRA99000 WR 2x3	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	25,345,000							450,000	1,395,000	7,580,000	11,780,000	4,140,000	
Beginning Balance									650,000	(745,000)	575,000	4,140,000	
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	10,000,000									10,000,000			
Bond Proceeds													
SRF Drawdowns / P&D								1,100,000		(1,100,000)			
Other (Flood money)	15,345,000										15,345,000		
Total Resources	25,345,000							1,100,000	650,000	8,155,000	15,920,000	4,140,000	
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	650,000	(745,000)	575,000	4,140,000	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Final Clarifiers</b>								<b>AG267 WRA99000 WR 2x4</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	41,900,000									650,000	1,930,000	13,100,000	26,220,000
Beginning Balance											1,850,000	(80,000)	
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	41,900,000											20,000,000	21,900,000
Bond Proceeds													
SRF Drawdowns										2,500,000		(2,500,000)	
Other													
Total Resources	41,900,000									2,500,000	1,850,000	17,420,000	21,900,000
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	1,850,000	(80,000)	4,320,000	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Aeration Basins								AG267 WRA99000 WR 2x5	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
							F18	F19	F20	F21	F22	F23	2028 2030
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
<b>ENDING BALANCE</b>	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRF Clarifier Improvements</b>								<b>AG267 WRA99000 WR 2x6</b>
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	20,040,000				10,000	10,000	545,000	6,125,000	2,900,000	25,000	6,425,000	4,010,000	
Beginning Balance							(10,000)	55,000	2,850,000	(50,000)	(75,000)	4,010,000	
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	20,040,000							9,530,000			10,510,000		
Bond Proceeds													
SRF Drawdowns							610,000	(610,000)					
Other													
Total Resources	20,040,000						600,000	8,975,000	2,850,000	(50,000)	10,435,000	4,010,000	
<b>ENDING BALANCE</b>	0	0	0	0	(10,000)	(10,000)	55,000	2,850,000	(50,000)	(75,000)	4,010,000	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Westside Interceptor</b>								<b>AG267 WRA99000 WR 2x7</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
							F18	F19	F20	F21	F22	F23	F 2030
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
<b>ENDING BALANCE</b>	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Nutrient Removal P 1</b>								<b>AG267 WRA99000 WR 1x1</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
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
<b>ENDING BALANCE</b>	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Common Trunk</b>								<b>AG267 WRA99000 WR 1x2</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST FY2026
							F18	F19	F20	F21	F22	F23	
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
<b>ENDING BALANCE</b>	0	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

Fiscal 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review												
PROJECT CATEGORY					PROJECT TITLE							ACCOUNT
Wastewater Reclamation Authority Improvements					WRA Joint Trunk East & West							AG267 WRA99000 WR 1x3
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST
							F18	F19	F20	F21	F22	F23
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
<b>ENDING BALANCE</b>	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 2017/Fiscal 2023 WRA Capital Improvements Program - Copy for Technical Review**

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Birdland Pump Station</b>								<b>AG267 WRA99000 WR 1x4</b>	
	TOTAL ESTIMATED COST	COST THROUGH F15	ACTUAL COST IN F16	COST THROUGH F16	Revised BUDGET F17	ESTIMATED COST THROUGH F17	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F23
							F18	F19	F20	F21	F22	F23	
Expenses	13,500,000										350,000	400,000	12,750,000
Beginning Balance												(350,000)	
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											13,150,000	
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	(350,000)	12,750,000	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.