

WASTEWATER RECLAMATION AUTHORITY
COMPARISON OF LAST YEAR AND CURRENT YEAR CIP SHEETS
 FY2021-2027 6(7) Yr Plan + other WRA commitments

Capital Improvement Projects by Type of Funding

		[last year]	restated	[this year]	
		Budget Amount for each project	Budget Amount for each project	Budget Amount for each project	Chg of Estimate
<u>Core Projects</u>		2021 CIP	2021 CIP	2022 new CIP	
wra 108	ESI Phase 27 Gravity Sewer P 27	80,085,000	80,085,000	81,343,517	1,258,517
wra 088	Ingersoll Run Sewer (CSO & Outlet) P 25	23,786,730	23,786,730	23,786,730	-
Wr 127	WRA So.Tier Interceptor (P10 Seg 6) Improv P 10	6,745,440	6,745,440	6,765,440	20,000
Wr 129	Little Four Mile Interceptor (P15 Seg 1) P 15	7,190,000	7,190,000	7,190,200	200
Wr 112	WRF Phosphorus Recovery	22,276,400	22,276,400	23,676,400	1,400,000
Wr 102	WRF Biogas Conditioning and Injection	18,943,900	18,943,900	19,268,900	325,000
Wr 111	WRF Grit Removal Improvements	15,696,491	15,696,491	17,016,491	1,320,000
Wr 115	WRF Clarifier Improvements	31,883,745	31,883,745	29,495,745	(2,388,000)
Wr 123	WRF Eastside Wet Weather Treatment	65,630,000	65,630,000	65,685,200	55,200
Wr 125	WRF Aeration Improvements	10,090,000	10,090,000	10,180,000	90,000
Wr 124	WRF Effluent Pumping	35,732,500	20,232,500	19,850,000	(382,500)
Wr 129	WRF Disinfection Improvements		15,500,000	15,800,000	300,000
Wr 135	WRF Building 05 Rehabilitation	12,278,100	12,278,100	12,970,000	691,900
Wr 122	WRA Birdland Pump Station Improvements	13,561,500	13,561,500	13,561,500	-
Wr 119	WRF Trickling Filter Removal	4,530,000	4,530,000	3,900,000	(630,000)
Wr 105	WRF Flood Improvements	19,182,250	19,182,250	19,446,580	264,330
Wr 113	WRA Sewer Lining Projects	47,900,000	47,900,000	46,658,000	(1,242,000)
Subtotal Core Projects		415,512,056	415,512,056	416,594,703	1,082,647
<u>Non Core Projects</u>					
wra 107	Southern Tier Interceptor (P10 Seg 1,4,7-8) Expan	10,704,050	10,704,050	11,154,050	450,000
wra 109	Sponsored FourMile Streambank Spons	4,310,000	4,310,000	3,810,000	(500,000)
wra 117	Sponsored SugarCreek Streambank Spons	5,955,400	5,955,400	5,955,400	-
Subtotal 'Other than Core' Projects		20,969,450	20,969,450	20,919,450	(50,000)
<u>Future Projects</u>					
core					
core +	Westside Interceptor 2030	12,300,000	12,300,000	12,300,000	-
core	Secondary Treatment 2026	76,000,000	76,000,000	76,000,000	-
core	Parallel Pipe & Mixing Structure 2025	5,156,200	5,156,200	5,156,200	-
core	Common Trunk 2026	11,100,000	11,100,000	11,100,000	-
expan	Joint Trunk 2027	20,800,000	20,800,000	20,800,000	-
Subtotal Future Projects		125,356,200	125,356,200	125,356,200	-
Total Bonded Project Costs		561,837,706	561,837,706	562,870,353	1,032,647
<u>Non-Bonded / Plant & System Projects</u>					
Sm CIP					
wra 069	Facilities Plan Update (2014 forward)	2,021,467	2,021,467	2,466,467	445,000
wra 078	Facilities Rehabilitation (to 2018) *	1,531,400	1,531,400	1,531,400	-
wra 083	Sewer Maint, Levee & Streambank (2013-17) *	2,106,000	2,106,000	2,106,000	-
wra 120	Sewer Maintenance contract work (2018 forward)	1,275,000	1,275,000	1,605,000	330,000
wra 091	Small CIP projects & Studies (2014 forward)	637,600	637,600	637,600	-
wra 093	Flow Monitoring Meter Replacements (2018-21)	1,546,910	1,546,910	1,871,910	325,000
wra 118	Facilities Rehabilitation (2018 forward)	3,125,000	3,125,000	3,725,000	600,000
wra 121	WRF Site Security, New Entrance	4,555,120	4,555,120	4,789,300	234,180
wra 104	Equalization Basin Improvements	300,000	300,000	300,000	-
wra 106	Small CIP projects & ProcEqRepl. 2013-2016	8,174,927	8,174,927	8,174,927	-
wra 110	Small CIP projects & ProcEqRepl. 2017-2020/21	9,761,951	9,761,951	9,761,951	-
wra 116	Small CIP future projects (2022-2027)	19,843,000	19,843,000	20,199,093	356,093
wra 114	Beaver Creek Sewer Stabilization	1,243,437	1,243,437	1,313,437	70,000
Total Non-Bonded Project Costs		56,121,812	56,121,812	58,482,085	2,360,273
WRA Total Expenses for Projects		617,959,518	617,959,518	621,352,438	3,392,920
Preliminary total, Draft copy for Tech mtg		Last year's total			
		* PROJECT CLOSED		621,352,438	SUMMARY TODAY

Wastewater Reclamation Authority
CIP Spending by Project and Category

WRA 2022

<u>Expenditures from CIP sheets</u>		2021	2022	2023	2024	2025	2026	2027	subtotal Spending
<u>WRA Projects & WRF Projects (R&R or Special Funding)</u>									
120 oper	Sewer Maintenance Contracts	22,278.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	622,278.0
69 smCip	Facility Plan update	115,924.0	315,000.0	315,000.0	115,000.0	115,000.0	115,000.0	115,000.0	1,205,924.0
118 smCip	Facilities Rehabilitation	145,701.0	630,000.0	630,000.0	400,000.0	300,000.0	300,000.0	300,000.0	2,705,701.0
91 smCip	Studies (small CIP)	45,519.0	34,988.0	35,000.0	35,000.0	35,000.0	35,000.0	35,000.0	255,507.0
93 smCip	Flow Monitoring (Meter Repl)	443,558.0	15,000.0	350,000.0					808,558.0
121 R&R	Site Security, Access Improvements	374,630.0	2,200,000.0	2,100,000.0					4,674,630.0
114 R&R	Beaver Creek Stabilization	8,644.0							8,644.0
104 smCip	Equalization Basin Improvements	287,542.0							287,542.0
110 smCip	Plant/System Projects (Eq Repl, sm CIP)	6,816,175.0							6,816,175.0
116 smCip	Plant/System Projects (Eq Repl, sm CIP)	98,916.0	2,800,000.0	2,800,000.0	3,321,000.0	3,570,000.0	3,650,000.0	3,810,000.0	20,049,916.0
107 Expan	Southern Tier Improvements	166,301.0	1,705,080.0	713,450.0	453,600.0	4,655,950.0	2,790,450.0		10,484,831.0
109 spons	Sponsor'd Four Mile Streambank	137,960.0	458,600.0	1,181,400.0					1,777,960.0
117 spons	Sponsor'd Sugar Creek Streambank	946,347.0	2,800,000.0	1,048,000.0					4,794,347.0
83 oper	Sewer Maint (SoTier)	21,721.0							21,721.0
	Small CIP & Sponsored Total	\$ 9,631,216.0	\$ 11,058,668.0	\$ 9,272,850.0	\$ 4,424,600.0	\$ 8,775,950.0	\$ 6,990,450.0	\$ 4,360,000.0	\$ 54,513,734.0
<u>WRA Projects & WRF Projects (Core or other Funding)</u>									
88 Ph 25	Ingersoll Run CSO	457,886.0	8,042,400.0	11,442,150.0	3,481,600.0				23,424,036.0
108 Ph 27	Eastside Interceptor	2,424,732.0							2,424,732.0
127 Ph 10	Southern Tier Improv, Seg 6		110,000.0	300,000.0	4,755,440.0	1,600,000.0			6,765,440.0
102 WRF	Biomethane Conditioning, Injection	406,695.0							406,695.0
105 WRF	Flood Improvements	6,037,430.0	9,150,000.0	2,200,000.0	80,000.0	720,000.0			18,187,430.0
111 WRF	Grit Basin Improvements	3,527,799.0	1,293,082.0						4,820,881.0
112 WRF	Phosphorus Recovery Facility	833,376.0	5,890,600.0	10,794,000.0	5,670,000.0				23,187,976.0
115 WRF	Clarifier Improvements	3,315,333.0	10,100,000.0	12,500,000.0	2,500,000.0				28,415,333.0
119 WRF	Trickling Filter Removal	1,670,828.0							1,670,828.0

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

123 WRF	Eastside Wet Weather Treatment	29,792.0	1,555,900.0	11,644,000.0	31,210,300.0	21,245,000.0		65,684,992.0	
124 WRF	Effluent pumping	112,000.0	712,000.0	8,605,200.0	6,870,700.0	3,550,100.0		19,850,000.0	
129 WRF	Disinfection (separated from above)			645,000.0	4,605,000.0	9,000,000.0	1,550,000.0	15,800,000.0	
125 WRF	Aeration Improv		190,000.0	1,460,000.0	6,445,000.0	2,085,000.0		10,180,000.0	
135 WRF	Building 05 Improv		312,000.0	368,000.0	8,190,000.0	4,100,000.0		12,970,000.0	
WRF	Parallel Pipe & Mixing Structure					131,800.0	5,024,400.0	5,156,200.0	
WRF	Secondary Treatment Improv						76,000,000.0	76,000,000.0	
113 WRA	Sewer Lining Projects	4,413,113.0	5,396,000.0	5,600,000.0	5,800,000.0	6,000,000.0	6,200,000.0	6,500,000.0	
122 WRA	Birdland Pump Stn Improv	397,650.0	1,957,900.0	6,463,500.0	4,670,000.0			13,489,050.0	
89 WRA	Little Four Mile Improv			60,000.0	370,000.0	5,060,200.0	1,700,000.0	7,190,200.0	
WRA	Common Trunk						11,100,000.0	11,100,000.0	
WRA	Joint Trunk							10,600,000.0	
WRA	Westside Interceptor							-	
	WRA & WRA Project Total	\$ 23,626,634.0	\$ 44,709,882.0	\$ 72,081,850.0	\$ 84,648,040.0	\$ 53,492,100.0	\$ 101,574,400.0	\$ 17,100,000.0	
<u>summary subtotal</u>								\$ 451,746,640.0	
	Revised Estimate for F21	\$ 33,257,850.0						\$ 33,257,850.0	
	2022		\$ 55,768,550.0						
	2023			\$ 81,354,700.0					
	2024				\$ 89,072,640.0				
	2025					\$ 62,268,050.0			
	2026						\$ 108,564,850.0		
	2027							\$ 21,460,000.0	
	Summary of Costs, Six-Year-Period							\$ 418,488,790.0	
<u>summary sheet</u>		\$ 33,257,850.0	\$ 55,768,550.0	\$ 81,354,700.0	\$ 89,072,640.0	\$ 62,268,050.0	\$ 108,564,850.0	\$ 21,460,000.0	\$ 451,746,640.0

Summary

Wastewater Reclamation Authority Improvements FY2021-F2022+

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	TOTAL ESTIMATED COST	COST THROUGH F20	COST ESTIMATE F21	TOTAL ESTIMATED COST THROUGH	COST FOR SIX-YEAR PERIOD	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
						F22	F23	F24	F25	F26	F27	
Expenses , detail on following page	621,352,438	147,105,798	33,257,850	180,363,648	418,488,790	55,768,550	81,354,700	89,072,640	62,268,050	108,564,850	21,460,000	22,500,000
Resources:												
Beginning Balance	0	0	35,145,346	0		21,837,440	52,387,243	97,026,767	47,725,093	5,851,900	6,438,000	0
Interest Earnings	256,764	55,181	110,392	165,573	91,191	25,000	15,000	16,191	10,000	10,000	15,000	0
Renewal & Replacement Fund	0	0	0	0	0	0	0	0	0	0	0	0
Communities	58,373,765	27,306,365	4,200,000	31,506,365	26,867,400	4,500,000	4,733,400	4,701,000	4,415,000	4,211,000	4,307,000	0
Future Funding	383,559,832	602,625	500,000	1,102,625	359,957,207	74,903,000	121,482,717	33,378,900	14,762,640	104,829,950	10,600,000	22,500,000
Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0	0
SRF Drawdowns	137,517,500	131,491,299	8,726,201	140,217,500	(2,700,000)	300,000	(2,200,000)	(200,000)	(600,000)	0	0	0
Other (Flood Mit Rev & Oper)	41,644,577	22,795,674	6,413,351	29,209,025	12,435,552	6,590,353	1,963,107	1,874,875	1,807,217	100,000	100,000	0
Total Resources	621,352,438	182,251,144	55,095,290	202,201,088	396,651,350	108,155,793	178,381,467	136,797,733	68,119,950	115,002,850	21,460,000	22,500,000
Flood/Sales tax revenue \$36.6M		15,123,048	2,050,090			1,942,353	1,863,107	1,774,875	1,707,217	-	-	0

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Facility Plan Update & Consulting								WR809855 WR 069	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	2,466,467	1,148,460	112,083	1,260,543	115,924	1,376,467	315,000	315,000	115,000	115,000	115,000	115,000	
Beginning Balance					(4)								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commtty funds SmCIP	2,466,467	1,148,456	112,083	1,260,539	115,928	1,376,467	315,000	315,000	115,000	115,000	115,000	115,000	
Total Resources	2,466,467	1,148,456	112,083	1,260,539	115,924	1,376,467	315,000	315,000	115,000	115,000	115,000	115,000	
ENDING BALANCE	0	(4)	0	(4)	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 for future.

Scheduling:

Ongoing.

Relationship to General Plan and Other Projects:

Small CIP funds

Operating Budget Effect:

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRF Facilities Rehabilitation [Sm CIP, 2002-2018]				AG267 WRA809 WR078					
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	1,531,400	1,471,088	54,064	1,525,152	6,248	1,531,400							last time in CIP
Beginning Balance					6								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	1,531,400	1,471,094	54,064	1,525,158	6,242	1,531,400							
Total Resources	1,531,400	1,471,094	54,064	1,525,158	6,248	1,531,400							
ENDING BALANCE	0	6	0	6	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 HVAC Replacement.

F18: HVAC Replacements; Building 35 Roof replacement, Building 5 Boiler replacement, Building 93 Boiler replacement.

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Facilities Rehabilitation [Sm CIP]								AG267 WRA809 WR118	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	3,725,000	6,819	1,018,728	1,025,547	139,453	1,165,000	630,000	630,000	400,000	300,000	300,000	300,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	3,725,000	6,819	1,018,728	1,025,547	139,453	1,165,000	630,000	630,000	400,000	300,000	300,000	300,000	
Total Resources	3,725,000	6,819	1,018,728	1,025,547	139,453	1,165,000	630,000	630,000	400,000	300,000	300,000	300,000	
ENDING BALANCE	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:

F20: HVAC Replacements; Boiler replacements HVAC Replacements;

F21: Building 05 heat recovery ventilator replacement, Building 05 MAU replacement

F21 and Beyond: HVAC Replacements and Continued Roof Replacements as needed.

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY			PROJECT TITLE					ACCOUNT					
Wastewater Reclamation Authority Improvements			WRA Sewer Maintenance (Repair of Levee Gates and Stream banks)					AG267 WRA809 WR083					
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F27	
							F22	F23	F24	F25	F26		F27
Expenses	2,106,000	2,056,141	28,138	2,084,279	21,721	2,106,000							
Beginning Balance					1								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding O&M budget (803 9)	2,106,000	2,056,000	28,280	2,084,280	21,720	2,106,000							
Total Resources	2,106,000	2,056,000	28,280	2,084,280	21,721	2,106,000							
ENDING BALANCE	0	(141)	142	1	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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Sewer Maintenance (Inspections & Repairs)								AG267 WRA809 WR120	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	1,605,000	280,111	702,611	982,722	22,278	1,005,000	100,000	100,000	100,000	100,000	100,000	100,000	
Beginning Balance					(300,002)								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding O&M budget (803 19)	1,605,000	280,100	402,620	682,720	322,280	1,005,000	100,000	100,000	100,000	100,000	100,000	100,000	
Total Resources	1,605,000	280,100	402,620	682,720	22,278	1,005,000	100,000	100,000	100,000	100,000	100,000	100,000	
ENDING BALANCE	0	(11)	(299,991)	(300,002)	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:

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Studies [Sm CIP consulting]								AG267 WRA809 WR091	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	637,600	380,907	1,186	382,093	45,519	427,612	34,988	35,000	35,000	35,000	35,000	35,000	
Beginning Balance							(12)						
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	637,600	380,907	1,186	382,093	45,507	427,600	35,000	35,000	35,000	35,000	35,000	35,000	
Total Resources	637,600	380,907	1,186	382,093	45,507	427,600	34,988	35,000	35,000	35,000	35,000	35,000	
ENDING BALANCE	0	0	0	0	(12)	(12)	0	0	0	0	0	0	0

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:

F20: Site entrance and security study

F21: Rate study, Main pump study

F22-27: Studies, as needed

Relationship to General Plan and Other Projects:

small cip funding

Operating Budget Effect:

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Flow Monitoring System Improvements and Meter Replacements								AG267 WRA809 WR093	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	1,871,910	651,793	411,559	1,063,352	443,558	1,506,910	15,000	350,000					
Beginning Balance					158								
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds (reallocated)													
SRF Drawdowns													
Other (R&R commty)	1,871,910	651,910	411,600	1,063,510	443,400	1,506,910	15,000	350,000					
Total Resources	1,871,910	651,910	411,600	1,063,510	443,558	1,506,910	15,000	350,000					
ENDING BALANCE	0	117	41	158	0	0	0	0	0	0	0	0	0

Description: Core Project. This project upgraded 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 were installed to meter the majority of Des Moines flow into the conveyance system. Replacement of meters at end of useful life begins F16.

Justification:

Previous flow monitors were replaced in 2010-2013 with best technology available for order in 2009 (Hach). As the hach meters reach end of useful life they are being replaced with better laser technology. WRA has more than 100 meters in the collection system.

Scheduling:

Design in F08/09, Replacement of very old meters in F09 through F11. Installation continued through F13 as interceptor sewers were completed.

Replacement F16 (3), F17 (7), F18 (12), F19 (31), F20 (31), F21 (31), F22 and beyond includes funding for future needs

Relationship to General Plan and Other Projects:

Bond funds were used for purchase and installation in 2009-2013. Small CIP funds will be used for replacements.

Operating Budget Effect:

This project will increase operation and maintenance cost of the WRA Flow Monitoring System.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRF Small Projects, & Process Equipment Repl for 2013, 2014, 2015, 2016							AG267 WRA809 WR106		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	8,174,927	7,306,502	397,575	7,704,077	470,850	8,174,927							
Beginning Balance					4,670,850		3,800,000	2,000,000					
Interest Earnings	40,000	40,000		40,000									
Repair and Replacement Fund Communities	14,200,000	14,200,000		14,200,000									
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(6,065,073)	(1,520,073)	(345,000)	(1,865,073)	(400,000)	(2,265,073)	(1,800,000)	(2,000,000)					
Total Resources	8,174,927	12,719,927	(345,000)	12,374,927	4,270,850	11,974,927	2,000,000						
ENDING BALANCE	0	5,413,425	(742,575)	4,670,850	3,800,000	3,800,000	2,000,000	0	0	0	0	0	0

Description:
 Renewal and replacement of existing process equipment, includes small plant projects. FY2020 includes radio upgrades and software needs.

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

Scheduling:
 Equipment Replacement and repairs. WRF Ferrous Chloride Feed System Improvements, WRA 2nd and Forest Diversion Rehabilitation
 WRA Ankeny Pump Station Improvements, WRA Equalization Basin Electrical Improvements

Relationship to General Plan and Other Projects:
 This project will be funded with community contributions. Transfers out provides funding to other R&R projects. Remaining FY2019 funds can be moved to new Site Security project.

Operating Budget Effect:
 This project will maintain the current level of service and reduce operations and maintenance costs.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Small Projects, & Process Equipment Repl for 2017, 2018, 2019, 2020								AG267 WRA809 WR110	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	9,761,951	2,523,279	893,347	3,416,626	6,345,325	9,761,951							
Beginning Balance					4,179,628								
Interest Earnings	25,772	15,000	181	15,181	10,591	25,772							
Repair and Replacement Fund Communities	14,266,836	7,290,130	3,500,000	10,790,130	3,476,706	14,266,836							
Future Funding Bond Proceeds SRF Drawdowns Other (tsfr out)	(4,530,657)	(3,209,057)		(3,209,057)	(1,321,600)	(4,530,657)							
Total Resources	9,761,951	4,096,073	3,500,181	7,596,254	6,345,325	9,761,951							
ENDING BALANCE	0	1,572,794	2,606,834	4,179,628	0	0	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:

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.

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRA Equalization Basin Improvements				AG267 WRA809 WR104					
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	300,000	4,980	7,478	12,458	287,542	300,000							
Beginning Balance					102								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other, (tsfr from Small CIP)	300,000	4,980	7,580	12,560	287,440	300,000							
Total Resources	300,000	4,980	7,580	12,560	287,542	300,000							
ENDING BALANCE	0	0	102	102	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: F20

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Beaver Creek Sewer Stabilization							AG267 WRA809 WR114		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	1,313,437	431,867	872,926	1,304,793	8,644	1,313,437							
Beginning Balance					(356)								
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (small CIP)	1,313,437	1,064,679	239,758	1,304,437	9,000	1,313,437							
Total Resources	1,313,437	1,064,679	239,758	1,304,437	8,644	1,313,437							
ENDING BALANCE	0	632,812	(633,168)	(356)	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 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 FY19

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Plant & Basin Equipment Replacement & WRA/WRF Small CIP projects								AG267 WRA809 WR116	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	20,199,093		149,177	149,177	98,916	248,093	2,800,000	2,800,000	3,321,000	3,570,000	3,650,000	3,810,000	
Beginning Balance					23		(98,893)	16,000	(40,000)	(30,000)	(20,000)	(10,000)	
Interest Earnings	90,000						25,000	15,000	15,000	10,000	10,000	15,000	
Repair and Replacement Fund													
Communities	24,384,893						4,084,893	4,059,000	3,866,000	4,020,000	4,100,000	4,255,000	
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(4,275,800)		149,200	149,200		149,200	(1,195,000)	(1,330,000)	(550,000)	(450,000)	(450,000)	(450,000)	
Total Resources	20,199,093		149,200	149,200	23	149,200	2,816,000	2,760,000	3,291,000	3,550,000	3,640,000	3,810,000	
ENDING BALANCE	0	0	23	23	(98,893)	(98,893)	16,000	(40,000)	(30,000)	(20,000)	(10,000)	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:

F21: Digester Heat Exchangers, Aeration Basin Sensors, Blended Sludge Mixers

F22: Flume modifications, primary sludge pipe replacement, biobarn repairs

F23 and beyond: 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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE											ACCOUNT
Wastewater Reclamation Authority Improvements		Ingersoll Run [Combined Sewer Overflow, Outlet] Phase 25											AG267 WRA809 WR088
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	23,786,730	216,994	145,700	362,694	457,886	820,580	8,042,400	11,442,150	3,481,600				
Beginning Balance					(5,182)		(603,822)	14,301,778	3,331,600				
Interest Earnings													
Repair and Replacement Fund Communities	404,656	1,710	623	2,333	4,323	6,656	48,000	200,000	150,000				
Future Funding (23M)	23,171,972						22,900,000	271,972					
Bond Proceeds													
SRF Drawdowns (no loan yet)			145,077	145,077	(145,077)								
Other (revenues Flood Mit)	210,102	210,102		210,102		210,102							
Total Resources	23,786,730	211,812	145,700	357,512	(145,936)	216,758	22,344,178	14,773,750	3,481,600				
ENDING BALANCE	0	(5,182)	0	(5,182)	(603,822)	(603,822)	14,301,778	3,331,600	0	0	0	0	0

Description: Core Project.
 This project provides for the elimination of a combined sewer overflow in the 2100 block of High Street in the Ingersoll Run Combined Sewer System and is a requirement of the consent decree and long term control plan.

Justification:
 Needed to conform to NPDES requirements.

Scheduling:
 Project is scheduled to be constructed in FY22-FY24

Relationship to General Plan and Other Projects:
 This project is included in the WRA Facility Plan Update. Funding will include some flood mitigation funds and SRF loans.

Operating Budget Effect:
 This project will increase in flow sent to the CSSSF and WRF and will have an increase in operational expenses.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Flood Improvements								AG267 WRA809 WR105	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	19,446,580	1,082,068	177,082	1,259,150	6,037,430	7,296,580	9,150,000	2,200,000	80,000	720,000			
Beginning Balance					13,693,270		9,746,456	2,578,809	398,809	720,000			
Interest Earnings	1,191								1,191				
Repair and Replacement Fund Communities	140,000	12,943	26,531	39,474	40,526	80,000	40,000	20,000					
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (Revenue Flood Mit)	19,305,389	13,090,533	1,822,413	14,912,946	2,050,090	16,963,036	1,942,353		400,000				
Total Resources	19,446,580	13,103,476	1,848,944	14,952,420	15,783,886	17,043,036	11,728,809	2,598,809	800,000	720,000			
ENDING BALANCE	0	12,021,408	1,671,862	13,693,270	9,746,456	9,746,456	2,578,809	398,809	720,000	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. The improvements include floodwall protection to Building 05, raising electrical transformers that serve Building 05, raising and relocating the incoming power to the WRF, and installing standby power generators to power the WRF in the event of a flood. Funding also includes a contribution for raising the levee surrounding the WRF to a higher elevation to provide levee superiority.

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 F18-19; Construction in F20-22.

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

Relationship to General Plan and Other Projects:

Funding for improvements was included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Southern Tier Improvements - Western (Expansion Debt)								AG267 WRA809 WR107	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	11,154,050	666,655	2,564	669,219	166,301	835,520	1,705,080	713,450	453,600	4,655,950	2,790,450		
Beginning Balance					(2,518)		139,480	736,400	37,950	9,350	2,739,900		
Interest Earnings													
Repair and Replacement Fund Communities	240,000	31,655	46	31,701	8,299	40,000	15,000	15,000	125,000	25,000	20,000		
Future Funding	10,279,050						2,587,000			7,661,500	30,550		
Bond Proceeds													
SRF Drawdowns	635,000	635,000		635,000	300,000	935,000	(300,000)		300,000	(300,000)			
Other													
Total Resources	11,154,050	666,655	46	666,701	305,781	975,000	2,441,480	751,400	462,950	7,395,850	2,790,450		
ENDING BALANCE	0	0	(2,518)	(2,518)	139,480	139,480	736,400	37,950	9,350	2,739,900	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:

Segment 22 Design in F15/16. Construction in F16/17.

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE											ACCOUNT
Wastewater Reclamation Authority Improvements					WRA Sponsored [Four Mile Creek] Streambank Restoration Projects							AG267 WRA809 WR109	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	3,810,000	1,928,685	103,355	2,032,040	137,960	2,170,000	458,600	1,181,400					
Beginning Balance					(918,685)		140,000	1,181,400					
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / sponsored project	3,810,000	1,010,000	103,355	1,113,355	1,196,645	2,310,000	1,500,000						
Total Resources	3,810,000	1,010,000	103,355	1,113,355	277,960	2,310,000	1,640,000	1,181,400					
ENDING BALANCE	0	(918,685)	0	(918,685)	140,000	140,000	1,181,400	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.

Phase 2 & 3 Construction F18-20.

Relationship to General Plan and Other Projects:

Total debt service on SRF Loans will not change but additional principal allows draws for construction of a sponsored project.

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE											ACCOUNT	
Wastewater Reclamation Authority Improvements					WRA Sponsored [Sugar Creek] Streambank Restoration Projects								AG267 WRA809 WR117	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27	
							F22	F23	F24	F25	F26	F27		
Expenses	5,955,400	198,314	962,739	1,161,053	946,347	2,107,400	2,800,000	1,048,000						
Beginning Balance					114,947		800,000	1,048,000						
Interest Earnings														
Repair and Replacement Fund														
Communities														
Future Funding														
Bond Proceeds														
SRF Drawdowns														
Other / sponsored project	5,955,400		1,276,000	1,276,000	1,631,400	2,907,400	3,048,000							
Total Resources	5,955,400		1,276,000	1,276,000	1,746,347	2,907,400	3,848,000	1,048,000						
ENDING BALANCE	0	(198,314)	313,261	114,947	800,000	800,000	1,048,000	0	0	0	0	0	0	

Description:

This project was awarded funding in June of 2016 through the Clean Water SRF Water Resource Restoration Sponsored Project Program.

Justification:

The project will protect WRA Interceptor from stream bank erosion caused by Sugar Creek. The project will improve the condition of the Sugar 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:

Sugar Creek: Design F17-18. Construction F18-20.

Relationship to General Plan and Other Projects:

Total debt service on SRF Loans will not change but additional principal allows draws for construction of a sponsored project.

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements					WRF Biomethane Gas Conditioning and Injection						AG267 WRA809 WR102		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	19,268,900	15,043,764	3,818,441	18,862,205	406,695	19,268,900							
Beginning Balance					(127,511)								
Interest Earnings													
Repair and Replacement Fund													
Communities	256,275	194,285	27,784	222,069	34,206	256,275							
Future Funding	1,102,625	400,000	202,625	602,625	500,000	1,102,625							
Bond Proceeds													
SRF Drawdowns (2018D)	17,910,000	17,910,000		17,910,000		17,910,000							
Other													
Total Resources	19,268,900	18,504,285	230,409	18,734,694	406,695	19,268,900							
ENDING BALANCE	0	3,460,521	(3,588,032)	(127,511)	0	0	0	0	0	0	0	0	0

Description: Core Project.

The WRA evaluated the business case for constructing a biogas conditioning facility and selling renewable natural gas to third parties. The results were favorable and the WRA elected to construct the facilities necessary for conditioning the biogas the WRF produces.

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 is under construction for FY19-FY21

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 D M Metropolitan Reclamation Authority in 2014. The WRA elected to add this project in FY2016.

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRA Eastside Interceptor, Gravity Sewer & Force Main				AG267 WRA809 WR108					
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	81,343,517	56,122,641	22,796,144	78,918,785	2,424,732	81,343,517							
Beginning Balance					1,128,897								
Interest Earnings													
Repair and Replacement Fund Communities	1,599,614	624,555	870,440	1,494,995	104,619	1,599,614							
Future Funding													
Bond Proceeds													
SRF Drawdowns (2016E 2017A)	77,800,000	77,800,000		77,800,000		77,800,000							
Other / CDM & DMWW	1,943,903	527,687	225,000	752,687	1,191,216	1,943,903							
Total Resources	81,343,517	78,952,242	1,095,440	80,047,682	2,424,732	81,343,517							
ENDING BALANCE	0	22,829,601	(21,700,704)	1,128,897	0	0	0	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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRF Grit Removal Improvements							AG267 WRA809 WR111		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F27	
							F22	F23	F24	F25	F26		F27
Expenses	17,016,491	8,645,989	3,549,621	12,195,610	3,527,799	15,723,409	1,293,082						
Beginning Balance					3,511,974		89,975						
Interest Earnings													
Repair and Replacement Fund													
Communities	393,991	176,351	108,733	285,084	105,800	390,884	3,107						
Future Funding	1,200,000						1,200,000						
Bond Proceeds													
SRF Drawdowns (2018A 18E)	15,422,500	15,422,500		15,422,500		15,422,500							
Other													
Total Resources	17,016,491	15,598,851	108,733	15,707,584	3,617,774	15,813,384	1,293,082						
ENDING BALANCE	0	6,952,862	(3,440,888)	3,511,974	89,975	89,975	0	0	0	0	0	0	0

Description: Core Project.

This project will improve grit removal by modifying the existing grit conveyance facilities.

Justification:

The WRF currently has six identical grit basins, and the original concept plan for the WRF included space for two additional grit basins. The WRA evaluated alternatives and it was determined that the installation of a stacked-tray vortex system would be most beneficial to the WRA. The project includes removal of the existing grit basins and installation of new basins designed for the stacked-tray system, modifications to the grit conveyance facilities, and associated electrical and mechanical upgrades.

Scheduling:

Project design in F17/18; Construction in F19-F22

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 Metropolitan Wastewater Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Phosphorus Recovery Facility								AG267 WRA809 WR112	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	23,676,400	435,228	53,196	488,424	833,376	1,321,800	5,890,600	10,794,000	5,670,000				
Beginning Balance					1,164,581		378,200	16,312,600	5,568,600				
Interest Earnings													
Repair and Replacement Fund Communities	200,000	41,036	11,969	53,005	46,995	100,000	25,000	50,000	25,000				
Future Funding (23.5M)	23,476,400						23,400,000		76,400				
Bond Proceeds													
SRF Drawdowns		1,600,000		1,600,000		1,600,000	(1,600,000)						
Other													
Total Resources	23,676,400	1,641,036	11,969	1,653,005	1,211,576	1,700,000	22,203,200	16,362,600	5,670,000				
ENDING BALANCE	0	1,205,808	(41,227)	1,164,581	378,200	378,200	16,312,600	5,568,600	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 will take place in FY19-FY22
Construction will take place FY22-FY24

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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRA Sewer Lining										AG267 WRA809 WR113	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	46,658,000	2,368,527	4,380,360	6,748,887	4,413,113	11,162,000	5,396,000	5,600,000	5,800,000	6,000,000	6,200,000	6,500,000	
Beginning Balance					5,263,690		(15,000)	5,535,000	(15,000)	5,950,000		6,448,000	
Interest Earnings													
Repair and Replacement Fund Communities	450,000	30,006	42,571	72,577	49,423	122,000	60,000	50,000	65,000	50,000	51,000	52,000	
Future Funding	35,183,000						10,886,000		11,700,000		12,597,000		
Bond Proceeds													
SRF Drawdowns (12M)	11,025,000		11,940,000	11,940,000	(915,000)	11,025,000							
Other													
Total Resources	46,658,000	30,006	11,982,571	12,012,577	4,398,113	11,147,000	10,931,000	5,585,000	11,750,000	6,000,000	12,648,000	6,500,000	
ENDING BALANCE	0	(2,338,521)	7,602,211	5,263,690	(15,000)	(15,000)	5,535,000	(15,000)	5,950,000	0	6,448,000	0	0

Description:

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

Justification:

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

Scheduling:

Phase 1-2: Design F18-19; Construction in F20-21.

Phase 3-4: Design F20-21; Construction in F22-23.

Phase 5-6: Design F22-23; Construction in F24-25.

Phase 7-8: Design F24-25; Construction in 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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE									ACCOUNT
Wastewater Reclamation Authority Improvements				WRF Clarifier Improvements									AG267 WRA809 WR115
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	29,495,745	637,244	443,168	1,080,412	3,315,333	4,395,745	10,100,000	12,500,000	2,500,000				
Beginning Balance					(1,047,840)		6,835,855	(3,204,145)	2,460,000				
Interest Earnings													
Repair and Replacement Fund Communities	252,000	16,587	15,985	32,572	55,028	87,600	60,000	64,400	40,000				
Future Funding (18M)	18,099,745							18,099,745					
Bond Proceeds													
SRF Drawdowns (12M)	11,144,000	585,000	(585,000)		11,144,000	11,144,000							
Other													
Total Resources	29,495,745	601,587	(569,015)	32,572	10,151,188	11,231,600	6,895,855	14,960,000	2,500,000				
ENDING BALANCE	0	(35,657)	(1,012,183)	(1,047,840)	6,835,855	6,835,855	(3,204,145)	2,460,000	0	0	0	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 FY19; Construction in FY20-24 in two Phases.

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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Eastside Wet Weather Treatment								AG267 WRA809 WR123	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	65,685,200		208	208	29,792	30,000	1,555,900	11,644,000	31,210,300	21,245,000			
Beginning Balance							(25,000)	274,100	52,420,100	21,329,800			
Interest Earnings													
Repair and Replacement Fund Communities	345,000		208	208	4,792	5,000	55,000	90,000	120,000	75,000			
Future Funding (65.6M)	65,340,200							65,500,000		(159,800)			
Bond Proceeds													
SRF Drawdowns							1,800,000	(1,800,000)					
Other													
Total Resources	65,685,200		208	208	4,792	5,000	1,830,000	64,064,100	52,540,100	21,245,000			
ENDING BALANCE	0	0	0	0	(25,000)	(25,000)	274,100	52,420,100	21,329,800	0	0	0	0

Description: Core Project.

The project will construct a new wet weather treatment facility to handle flows conveyed through 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 and a project titled WRF Preliminary Treatment was included in the CIP. The facility was anticipated to handle flow the WRA Eastside Interceptor and the WRA Four Mile Interceptor and send the flow to another portion of the WRF. The WRA subsequently identified an alternative option through the WRF Secondary Treatment Alternatives Evaluation

Scheduling:

Project Design FY21-22; Construction in FY23-25.

Relationship to General Plan and Other Projects:

This improvement was identified in the WRA Secondary Treatment Alternatives Evaluation study and is being constructed in lieu of the WRF Preliminary Treatment project that was identified in the WRA Facility Plan Update - 2012

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRF Trickling Filter Removal							AG267 WRA809 WR119		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	3,900,000	833,996	1,395,176	2,229,172	1,670,828	3,900,000							
Beginning Balance					3,819,318								
Interest Earnings													
Repair and Replacement Fund Communities	319,000	24,844	53,646	78,490	240,510	319,000							
Future Funding													
Bond Proceeds													
SRF Drawdowns (6M)	3,581,000	5,970,000		5,970,000	(2,389,000)	3,581,000							
Other / from Small CIP													
Total Resources	3,900,000	5,994,844	53,646	6,048,490	1,670,828	3,900,000							
ENDING BALANCE	0	5,160,848	(1,341,530)	3,819,318	0	0	0	0	0	0	0	0	0

Description:

Six of the twelve Trickling Filters at the WRF will need to be removed for immediate capital improvement project needs. The filters are no longer used for process treatment.

Justification:

The WRA is improving the WRF with improvements identified as the WRF Phosphorus Recovery Project, WRF Flood Improvements Project, WRF Preliminary Treatment Project, and WRF Site Security and Access Improvements. All of these improvement will be in the vicinity of the trickling filters so the filters will need to be demolished to accomodate the improvements.

Scheduling:

Design and Demolition in FY19-21

Relationship to General Plan and Other Projects:

Project to be funded with SRF funding.

Operating Budget Effect:

This project will have no effect on the operating budget.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Site Security and Access Improvements								AG267 WRA809 WR121	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	4,789,300	285	114,385	114,670	374,630	489,300	2,200,000	2,100,000					
Beginning Balance							300,000	100,000					
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / from Small CIP	4,789,300	285	114,385	114,670	674,630	789,300	2,000,000	2,000,000					
Total Resources	4,789,300	285	114,385	114,670	674,630	789,300	2,300,000	2,100,000					
ENDING BALANCE	0	0	0	0	300,000	300,000	100,000	0	0	0	0	0	0

Description:

A study was performed in 2017 to evaluate ways to improve WRF site access, minimize traffic queuing on Vandalia Road, improve circulation of trucks within the WRF, and to improve security opportunities for the WRF.

Justification:

The department of Homeland Security categorizes the WRF as critical infrastructure, and as such security within the facility and access to the facility should be prioritized. The site security and access improvements will provide the benefit of improving site security and safety for vehicular traffic entering and exiting the facility.

Scheduling:

Design in FY20-21, Construction in FY22-23

Relationship to General Plan and Other Projects:

Small CIP funding.

Operating Budget Effect:

This project will increase operational cost in future years with additional contract security staffing.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Disinfection Improvements								AG267 WRA809 WR129	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	15,800,000							645,000	4,605,000	9,000,000	1,550,000		
Beginning Balance									(105,000)	10,372,000	1,535,000		
Interest Earnings													
Repair and Replacement Fund Communities	220,000							40,000	60,000	105,000	15,000		
Future Funding (15.6M)	15,580,000								15,522,000	58,000			
Bond Proceeds													
SRF Drawdowns / P&D								500,000	(500,000)				
Other													
Total Resources	15,800,000							540,000	14,977,000	10,535,000	1,550,000		
ENDING BALANCE	0	0	0	0	0	0	0	(105,000)	10,372,000	1,535,000	0	0	0

Description: Core Project.

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

Justification:

The WRF presently has difficulty discharging 200 MGD of flow to the Des Moines River under elevated river conditions. The WRA will need to construct an effluent pumping station to allow the discharge of flow 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 effluent pumping project it is necessary to replace the existing chlorination facility.

Scheduling:

Disinfection Design FY23-24; Construction in FY24-26.

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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Effluent Pumping								AG267 WRA809 WR124	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	19,850,000				112,000	112,000	712,000	8,605,200	6,870,700	3,550,100			
Beginning Balance							(2,199)	(674,199)	7,548,708	1,812,883			
Interest Earnings	99,801				99,801	99,801							
Repair and Replacement Fund Communities	180,000				10,000	10,000	40,000	40,000	60,000	30,000			
Future Funding (15M)	14,625,000							14,925,000	(300,000)				
Bond Proceeds													
SRF Drawdowns / P&D													
Other (Flood money)	4,945,199							1,863,107	1,374,875	1,707,217			
Total Resources	19,850,000				109,801	109,801	37,801	16,153,908	8,683,583	3,550,100			
ENDING BALANCE	0	0	0	0	(2,199)	(2,199)	(674,199)	7,548,708	1,812,883	0	0	0	0

Description: Core Project.

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

Justification:

The WRF presently has difficulty discharging 200 MGD of flow to the Des Moines River under elevated river conditions. The WRA will need to construct an effluent pumping station to allow the discharge of flow 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 effluent pumping project it is necessary to replace the existing chlorination facility.

Scheduling:

Effluent Pumping Design FY21-22; Construction in FY23-25.

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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Birdland Pump Station								AG267 WRA809 WR122	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	13,561,500		72,450	72,450	397,650	470,100	1,957,900	6,463,500	4,670,000				
Beginning Balance					(1)		352,400	11,548,500	5,120,000	0	0	0	
Interest Earnings													
Repair and Replacement Fund Communities	106,500		3,727	3,727	18,773	22,500	24,000	35,000	25,000				
Future Funding (14M SRF)	13,455,000						13,930,000		(475,000)				
Bond Proceeds													
SRF Drawdowns			68,722	68,722	731,278	800,000	(800,000)						
Other													
Total Resources	13,561,500		72,449	72,449	750,050	822,500	13,506,400	11,583,500	4,670,000	0	0	0	
ENDING BALANCE	0	0	(1)	(1)	352,400	352,400	11,548,500	5,120,000	0	0	0	0	0

Description: Core Project.

This project will rebuild existing Birdland pump 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 Consent Decree and 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 FY20-22; Construction FY22-24.

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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Aeration Improvements								AG267 WRA809 WR125	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F22	F23	F24	F25	F26	F27	
Expenses	10,180,000						190,000	1,460,000	6,445,000	2,085,000			
Beginning Balance								230,000	8,350,000	2,055,000			
Interest Earnings													
Repair and Replacement Fund Communities	160,000						20,000	30,000	80,000	30,000			
Future Funding (10M)	10,020,000							9,950,000	70,000				
Bond Proceeds													
SRF Drawdowns							400,000	(400,000)					
Other													
Total Resources	10,180,000						420,000	9,810,000	8,500,000	2,085,000			
ENDING BALANCE	0	0	0	0	0	0	230,000	8,350,000	2,055,000	0	0	0	0

Description: Core Project.

The project will convert the existing 4-pass nitrifying activated sludge process system to include an anoxic/anaerobic zone in pass one of each basin, and the project will replace corroded electrical conduits, replace existing membrane disc air diffusers and associated piping, and replace the existing four 2,000 HP process air blowers.

Justification:

Much of the WRF's aeration facility is approaching the end of its service lives and a rehabilitaton project will be required in the near future. Additionally, some of the improvements completed in the WRF Aeration Improvements will benefit the WRA with removing phosphorus and will help with sending that phosphorus to the Phosphorus Recovery Facility

Scheduling:

WRF Aeration Improvements: Design FY22-23; Construction in FY23-25.

Relationship to General Plan and Other Projects:

The project was identified in the WRF Secondary Treatment Alternatives Evaluation study and was added to the CIP in FY20.

Operating Budget Effect:

It is anticipated that the project will reduce operations and maintenance costs to the WRA.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRA Southern Tier Interceptor Improvements - Phase 10 Segment 6								AG267 WRA809 WR 127	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	6,765,440						110,000	300,000	4,755,440	1,600,000			
Beginning Balance								200,000	(385,000)	1,546,060			
Interest Earnings													
Repair and Replacement Fund Communities	60,000						10,000	15,000	20,000	15,000			
Future Funding (6.7M)	6,705,440								6,666,500	38,940			
Bond Proceeds													
SRF Drawdowns							300,000	(300,000)					
Other													
Total Resources	6,765,440						310,000	(85,000)	6,301,500	1,600,000			
ENDING BALANCE	0	0	0	0	0	0	200,000	(385,000)	1,546,060	0	0	0	0

Description: Expansion Project.

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

Justification:

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

Scheduling:

Design F22-23; Construction F23-25

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 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		WRA Little Four Mile Phase 15										AG267 WRA99000 WR 2 x 1	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	7,190,200							60,000	370,000	5,060,200	1,700,000		
Beginning Balance									245,000	(110,000)	1,728,800		
Interest Earnings													
Repair and Replacement Fund Communities	80,000							5,000	15,000	35,000	25,000		
Future Funding (7.2M)	7,110,200									7,164,000	(53,800)		
Bond Proceeds													
SRF Drawdowns								300,000		(300,000)			
Other													
Total Resources	7,190,200							305,000	260,000	6,789,000	1,700,000		
ENDING BALANCE	0	0	0	0	0	0	0	245,000	(110,000)	1,728,800	0	0	

Description: Core Project.

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

Justification:

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

Scheduling:

Design F24; Construction in F25-26.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Parallel Pipe and Mixing Structure							AG267 WRA809 WR xx	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST F 2026
							F22	F23	F24	F25	F26	
Expenses	5,156,200									131,800	5,024,400	
Beginning Balance											(131,800)	
Interest Earnings												
Repair and Replacement Fund Communities												
Future Funding	5,156,200										5,156,200	
Bond Proceeds												
SRF Drawdowns												
Other												
Total Resources	5,156,200										5,024,400	
ENDING BALANCE	0	0	0	0	0	0	0	0	0	(131,800)	0	0

Description: Core Project.
 The project consists of the installation of a parallel 60-inch pipeline between the roughing filter control chamber and the secondary treatment facilities along with a structure to connect and mix flows

Justification:
 In order to convey 200 MGD of plant flow from the primary treatment facilities to the secondary treatment facilities without pumping the flow the WRA must construct a parallel 60-inch pipeline between the roughing filter control chamber and the secondary influent distribution chamber

Scheduling:
 Design F25-26; Construction in F26-27.

Relationship to General Plan and Other Projects:
 This project was identified in the WRF Secondary Treatment Alternatives Evaluation Study and is necessary to completely eliminate the use of the WRF's trickling filter and intermediate pump station during peak flow scenarios.

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Building 05 Rehabilitation								AG267 WRA 809 WR135	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F27
							F22	F23	F24	F25	F26	F27	
Expenses	12,970,000						312,000	368,000	8,190,000	4,100,000			
Beginning Balance								203,000	12,091,000	4,070,000			
Interest Earnings													
Repair and Replacement Fund Communities	115,000						15,000	20,000	50,000	30,000			
Future Funding (12.8M)	12,855,000							12,736,000	119,000				
Bond Proceeds													
SRF Drawdowns							500,000	(500,000)					
Other													
Total Resources	12,970,000						515,000	12,459,000	12,260,000	4,100,000			
ENDING BALANCE	0	0	0	0	0	0	203,000	12,091,000	4,070,000	0	0	0	0

Description: Core Project.
 This project will rehabilitate Building 05 (Preliminary Treatment Building) which contains the WRF's raw water pumps. It is anticipated that pumps, piping and other equipment will require replacement.

Justification:
 Building 05 houses the WRF's raw water pumps and the pump station has a harsh, corrosive environment that is hard on equipment and materials. The pumps, piping, and other equipment is approaching the end of its service lives and a rehabilitaton project will be required in the near future.

Scheduling:
 Design F22-23; Construction in F24-25.

Relationship to General Plan and Other Projects:
 The project was identified in the WRF Secondary Treatment Alternatives Evaluation study and was added to the CIP in FY20.

Operating Budget Effect:
 It is anticipated that the project will slightly reduce operations and maintenance costs to the WRA.

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Westside Interceptor							AG267 WRA99000 WR xx		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST F 2030
							F22	F23	F24	F25	F26	F27	
Expenses	12,300,000												12,300,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding	12,300,000												12,300,000
Bond Proceeds													
SRF Drawdowns													
Other / future 28E agreement													
Total Resources	12,300,000												12,300,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description:

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

Justification:

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

Scheduling:

Design F29; Construction F30-31.

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY					PROJECT TITLE							ACCOUNT	
Wastewater Reclamation Authority Improvements					WRF Secondary Treatment							AG267 WRA 809 WR xx	
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST starts F26
							F22	F23	F24	F25	F26	F27	
Expenses	76,000,000											76,000,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	76,000,000											76,000,000	
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	76,000,000											76,000,000	
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Core Project.

This improvement includes adding two additional aeration basins and four final clarifiers, modifying existing aeration facilities, and all site facilities to enhance the existing conventional activated sludge process.

Justification:

The existing activated sludge basins were modeled at maximum month conditions. The modeling indicated that current facilities will need to be upgraded to treat maximum month conditions to prevent the peak solids loading rate on the final clarifiers from exceeding a recommended limiting rate. If future regulatory requirements change, this improvement could be adjusted to address those requirements.

Scheduling:

Design FY27-28; Construction in FY28-30.

Relationship to General Plan and Other Projects:

This project was identified in the WRF Secondary Treatment Alternatives Evaluation and was added to the CIP in FY20.

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Common Trunk							AG267 WRA99000 WR 1x2		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST FY2026
							F22	F23	F24	F25	F26	F27	
Expenses	11,100,000										11,100,000		
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	11,100,000										11,100,000		
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	11,100,000										11,100,000		
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	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 D M Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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

Fiscal 2021 and 2022-Fiscal 2027 WRA Capital Improvements Program [January Review]

PROJECT CATEGORY				PROJECT TITLE							ACCOUNT		
Wastewater Reclamation Authority Improvements				WRA Joint Trunk East & West							AG267 WRA99000 WR 1x3		
	TOTAL ESTIMATED COST	COST THROUGH F19	ACTUAL COST IN F20	COST THROUGH F20	Revised BUDGET F21	ESTIMATED COST THROUGH F21	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST F2030
							F22	F23	F24	F25	F26	F27	
Expenses	20,800,000											10,600,000	10,200,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	20,800,000											10,600,000	10,200,000
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	20,800,000											10,600,000	10,200,000
ENDING BALANCE	0	0	0	0	0	0	0	0	0	0	0	0	0

Description: Expansion Project.

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

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

Justification:

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

Scheduling:

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

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

Relationship to General Plan and Other Projects:

This improvement is included in the approved WRA Facility Plan Update - 2012 and Second Amended and Restated Agreement for the DM Metropolitan Reclamation Authority (2014 28e)

Operating Budget Effect:

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