

**Des Moines Metropolitan Wastewater Reclamation Authority**

**2020+ Capital Improvements Program**



2019

Project Number	Project Name	Funding	Page #
	summary total FY2019-2025		4
WRA069	Facility Plan Update - WRA	annual contrib	31
WRA078	Facilities Rehabilitation - WRF 2004-2018	annual contrib	32
WRA083	Contracted Sewer Maintenance (O&M) 2015	Operation funded	34
WRA086	DM River Outfall / New Main Outfall	Core Bond Funds	43
WRA087	Combined Sewer Solids Separation - completed	Core Bond Funds	-
WRA088	Ingersoll Run Overflow	Core Bond Funds	29
WRA091	WRA Studies, Consulting	annual contrib	36
WRA093	Flow Monitoring System Improvements	annual contrib	37
WRA098	Plant Improvement Proj F10-F12 Team Serv	annual contrib	-
WRA099	Mud Creek Interceptor (P19) - completed	Expansion Funds	-
WRA101	Sponsor Four Mile Buy out (Polk) - completed	Interest amendment	-
WRA102	Biomethane Conditioning & Injection	Core Bond Funds	5
WRA103	Southern Tier (Pumping) Improvements	Bond Funds / SW	17
WRA104	Equalization Basin Improvements	annual contrib	39
WRA105	WRF Flood Improvements	Sales tax funds	30
WRA106	Small CIP / Plant Improvement Proj F13-F16	annual contrib	38
WRA107	Southern Tier Improvements (Western/Expansion)	Expansion Funds	18
WRA108	Eastside Interceptor (force main & gravity sewer)	Core Bonds, Special	6
WRA109	Sponsor Four Mile Streambank	Interest amendment	19
WRA110	Small CIP / Plant Improvement Proj F17-F19	annual contrib	40
WRA111	Grit Removal Improvements	Core Bond Funds	7
WRA112	Phosphorus Recovery Facility	Core Bond Funds	8
WRA113	WRA Sewer Lining	Core Bond Funds	9
WRA114	Beaver Creek Sewer Stabilization	annual contrib	41
WRA115	Clarifier Improvements	Core Bond Funds	10
WRA116	Small CIP / Plant Improvement Proj F20-F25	annual contrib	42
WRA117	Sponsor Sugar Creek Streambank	Interest amendment	20
WRA118	Facilities Rehabilitation - WRF 2019-2029	annual contrib	33
WRA119	Trickling Filter removal	Core Bond Funds	11
WRA120	Contracted Sewer Maintenance (O&M) 2018	Operation funded	35
WRA121	Site Security & Access Improvements	annual contrib	28
WRA1xx	Birdland Pump Station Improvements	Core Bond Funds	12
WRA1xx	Aeration basins (improvements)	Core Bond Funds	13
WRA1xx	Eastside Wet Weather Treatment	Core Bond Funds	14
WRA	Preliminary Treatment - replaced, see Wet Weather	Core Bond Funds	-
WRA1xx	(Chlor) Disinfection & Effluent pumping	Core Bond Funds	15
WRA1xx	Southern Tier Improvements (Core) Seg 6	Core Bond Funds	21
WRA1xx	Building 05 Rehabilitation	Core Bond Funds	16
WRA1xx	Little Four Mile Creek Improvements	Core Bond Funds	22
WRA1xx	Secondary Treatment	Core Bond Funds	23
WRA1xx	Parallel Pipe & Mixing Structure	Core Bond Funds	24
WRA1xx	Common Trunk	Expansion Funds	25
WRA1xx	Joint Trunk	Expansion Funds	26
WRA1xx	Westside Interceptor	Core Bond Funds	27
WRA	Nutrient Removal - no longer in the CIP	Core Bond Funds	-
WRA	Final clarifiers - no longer in the CIP	Core Bond Funds	-

WASTEWATER RECLAMATION AUTHORITY  
 COMPARISON OF LAST YEAR AND CURRENT YEAR CIP SHEETS  
 FY2019-2025 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
			2019 CIP	2019 CIP	2020 FILE	
<b>Core Projects</b>						
wra 086	DM River Outfall / New Main Outfall	P 17	65,199,635	65,199,635	65,199,635	-
wra 087	Combined Sewer Solids Separation Design	*	51,961,995	0		
wra 108	ESI Phase 27 Gravity Sewer	P 27	76,708,250	76,708,250	78,820,000	2,111,750
wra 088	Ingersoll Run Sewer (CSO & Outlet)	Flood M	13,175,400	13,175,400	12,894,400	(281,000)
wra 093	Flow Monitoring System (Meter Replacement now)	*	6,684,740	0		
Wr 1xx	WRA So.Tier Interceptor (P10 Seg 6) Improv	P 10	6,745,440	6,745,440	6,745,440	-
Wr 112	WRF Phosphorus Recovery		20,000,000	20,000,000	22,273,620	2,273,620
Wr 102	WRF Biogas Conditioning and Injection		17,147,058	17,147,058	18,638,900	1,491,842
Wr 111	WRF Grit Removal Improvements		12,338,100	12,338,100	15,463,700	3,125,600
Wr 115	WRF Clarifier Improvements		20,040,000	20,040,000	29,292,500	9,252,500
Wr 1xx	WRF Eastside Wet Weather Treatment	change 1		0	65,630,000	65,630,000
Wr 1xx	WRF Preliminary Treatment	change 1	30,600,000	30,600,000	0	(30,600,000)
Wr 1xx	WRF Aeration (basins) Improvements	change 2		0	10,090,000	10,090,000
Wr 1xx	WRF Disinfection & Effluent pumping	change 3		25,345,000	35,482,500	10,137,500
Wr 1xx	WRF Building 05 Rehabilitation	new		0	12,128,100	12,128,100
Wr 1xx	WRA Birdland Pump Station Improvements	move up		13,747,830	13,761,500	13,670
Wr 119	WRF Trickling Filter Removal	new L/yr	6,733,600	6,733,600	5,730,000	(1,003,600)
Wr 105	WRF Flood Improvements		14,224,746	14,224,746	17,329,300	3,104,554
Wr 113	WRA Sewer Lining Projects		26,225,000	26,225,000	43,422,500	17,197,500
<b>Subtotal Core Projects</b>			<b>367,783,964</b>	<b>348,230,059</b>	<b>452,902,095</b>	<b>104,672,036</b>
<b>Non Core Projects</b>						
wra 099	Mud Creek Interceptor (Phase 19)	*	20,208,500	0		
wra 107	Southern Tier Interceptor (P10 Seg 1,4,7-8)	Expan M	9,478,700	9,478,700	9,478,700	-
wra 103	Southern Tier Interceptor (P10 Seg 14,15-17)	*	17,218,730	17,218,730	17,218,730	-
wra 101	Sponsored Project [Polk] (Sw SRF loans)	*	3,201,300	0		
wra 109	Sponsored FourMile Streambank	Spons		3,181,400	3,181,400	-
wra 117	Sponsored SugarCreek Streambank	Spons	4,281,400	1,100,000	1,100,000	-
<b>Subtotal 'Other than Core' Projects</b>			<b>54,388,630</b>	<b>30,978,830</b>	<b>30,978,830</b>	<b>-</b>
<b>Future Projects</b>						
core	Little Four Mile Interceptor (P15 Seg 1)	2025	7,190,000	7,190,000	7,190,000	-
core	Birdland Pump Stn	2023	13,747,830	0		
core +	Westside Interceptor	2030	12,300,000	12,300,000	12,300,000	-
core	Nutrient Removal (no longer needed)	change 4	105,500,000	105,500,000	0	(105,500,000)
core	Secondary Treatment	change 4	0	0	76,000,000	76,000,000
core	Parallel Pipe & Mixing Structure	new		0	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	-
core	WRF Chlorination & Effluent pumping	change 3	25,345,000	0		
core	WRF Final clarifiers (no longer needed)	change 5	41,900,000	41,900,000	0	(41,900,000)
core	WRF Aeration (basins) Improvements	change 2	96,600,000	96,600,000	0	(96,600,000)
<b>Subtotal Future Projects</b>			<b>334,482,830</b>	<b>295,390,000</b>	<b>132,546,200</b>	<b>(162,843,800)</b>
<b>Total Bonded Project Costs</b>			<b>756,655,424</b>	<b>674,598,889</b>	<b>616,427,125</b>	<b>(58,171,764)</b>
<b>Sm CIP Non-Bonded / Plant &amp; System Projects</b>						
wra 069	Facilities Plan Update (2014 forward)		1,572,761	1,572,761	1,866,467	293,706
wra 078	Facilities Rehabilitation (to 2018)	*	4,226,400	1,401,400	1,401,400	-
wra 083	Sewer Maint, Levee & Streambank (2013-17)	*	1,720,000	1,720,000	1,936,000	216,000
wra 120	Sewer Maintenance contract work (2018 forward)		600,000	600,000	625,000	25,000
wra 091	Small CIP projects & Studies (2014 forward)		627,612	627,612	612,600	(15,012)
wra 093	Flow Monitoring Meter Replacements (2017 forward)		1,546,910	1,546,917	1,546,910	(7)
wra 118	Facilities Rehabilitation (2018 forward)			2,825,000	3,125,000	300,000
wra 121	WRF Site Security, New Entrance	new L/yr	3,455,120	3,455,120	4,555,120	1,100,000
wra 104	Equalization Basin Improvements		300,000	300,000	300,000	-
wra 106	Small CIP projects & ProcEqRepl. 2013-2016		7,965,248	7,965,248	8,274,927	309,679
wra 110	Small CIP projects & ProcEqRepl. 2017-2019		7,187,938	7,187,938	7,327,406	139,468
wra 116	Small CIP future projects (2020-2025)		16,593,590	16,593,590	19,080,000	2,486,410
wra 114	Beaver Creek Sewer Stabilization		1,235,575	1,235,575	1,237,437	1,862
<b>Total Non-Bonded Project Costs</b>			<b>47,031,154</b>	<b>47,031,161</b>	<b>51,888,267</b>	<b>4,857,106</b>
<b>WRA Total Expenses for Projects</b>			<b>803,686,578</b>	<b>721,630,050</b>	<b>668,315,392</b>	<b>(53,314,658)</b>
		new	Last year's total			
	Preliminary total as Draft copy for Tech mtg	* PROJECT CLOSED			668,315,392	SUMMARY TODAY

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

WRA 2020

<u>Expenditures from CIP sheets</u>		2019	2020	2021	2022	2023	2024	2025	subtotal Spending
<u>WRA Projects &amp; WRF Projects (R&amp;R or Special Funding)</u>									
120	oper Sewer Maintenance Contracts	25,000.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	100,000.0	625,000.0
69	smCip Facility Plan update	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	125,000.0	875,000.0
78	smCip Facilities Rehabilitation	652,506.0	600,000.0	700,000.0	300,000.0	300,000.0	300,000.0	300,000.0	3,152,506.0
91	smCip Studies (small CIP)	58,522.0	39,988.0	35,000.0	30,000.0	30,000.0	30,000.0	30,000.0	253,510.0
93	smCip Flow Monitoring (Meter Repl)	400,720.0	435,000.0	445,000.0	15,120.0				1,295,840.0
121	R&R Site Security, Access Improvements	10,120.0	252,600.0	1,687,400.0	2,605,000.0				4,555,120.0
114	R&R Beaver Creek Stabilization	1,172,758.0							1,172,758.0
104	smCip Equalization Basin Improvements		300,000.0						300,000.0
110	smCip Plant/System Projects (Eq Repl, sm CIP)	5,022,040.0	2,000,000.0						7,022,040.0
116	smCip Plant/System Projects (Eq Repl, sm CIP)		2,795,000.0	2,705,000.0	3,160,000.0	3,455,000.0	3,455,000.0	3,510,000.0	19,080,000.0
107	Expan Southern Tier Improvements	12,045.0	110,000.0	1,550,000.0	650,000.0		90,000.0	6,400,000.0	8,812,045.0
109	spons Sponsor'd Four Mile Streambank	47,171.0	1,058,600.0	981,400.0					2,087,171.0
117	spons Sponsor'd Sugar Creek Streambank	132,150.0	800,000.0						932,150.0
83	oper Sewer Maint (Levee gates/Streambk)	149,476.0							149,476.0
	Small CIP & Sponsored Total	\$ 7,807,508.0	\$ 8,616,188.0	\$ 8,328,800.0	\$ 6,985,120.0	\$ 4,010,000.0	\$ 4,100,000.0	\$ 10,465,000.0	\$ 50,312,616.0
<u>WRA Projects &amp; WRF Projects (Core or other Funding)</u>									
86	Ph 17 DM River Outfall / Main Outfall	14,843.0							14,843.0
88	Ph 25 Ingersoll Run CSO	567,439.0	991,290.0	4,162,790.0	3,815,000.0	3,224,740.0			12,761,259.0
108	Ph 27 Eastside Interceptor	35,376,647.0	16,300,100.0						51,676,747.0
103	Ph 10 Southern Tier for SW ADF	203,619.0							203,619.0
	Ph 10 Southern Tier Improv, Seg 6				2,250.0	420,000.0	3,967,730.0	2,355,460.0	6,745,440.0
102	WRF Biomethane Conditioning, Injection	12,062,233.0	4,140,400.0						16,202,633.0
105	WRF Flood Improvements	289,299.0	6,422,140.0	8,820,000.0	80,000.0	720,000.0			16,331,439.0
111	WRF Grit Basin Improvements	5,822,821.0	5,850,000.0	2,200,000.0					13,872,821.0
112	WRF Phosphorus Recovery Facility	466,000.0	1,440,210.0	10,000,000.0	10,000,000.0				21,906,210.0
115	WRF Clarifier Improvements	412,038.0	3,765,300.0	7,350,600.0	7,030,500.0	8,430,500.0	2,130,100.0		29,119,038.0
119	WRF Trickling Filter Removal	2,688,278.0	3,030,000.0						5,718,278.0
	WRF Disinfection & Effluent pumping		5,225.0	1,247,445.0	667,420.0	14,810,400.0	12,336,860.0	6,415,150.0	35,482,500.0
	WRF Eastside Wet Weather Treatment	100,000.0	1,200,700.0	1,200,000.0	15,644,000.0	31,210,300.0	16,275,000.0		65,630,000.0
	WRF Aeration Improv		160,000.0	250,000.0	6,445,000.0	3,235,000.0			10,090,000.0
	WRF Building 05 Improv				244,500.0	276,100.0	7,636,500.0	3,971,000.0	12,128,100.0
	WRF Parellel Pipe & Mixing Structure							131,800.0	131,800.0
113	WRA Sewer Lining Projects	2,862,680.0	5,146,800.0	5,086,300.0	5,000,000.0	5,000,000.0	4,302,200.0	4,000,000.0	31,397,980.0
	WRA Birdland Pump Stn Improv	5,000.0	285,100.0	612,600.0	3,625,300.0	6,463,500.0	2,770,000.0		13,761,500.0
	WRA Little Four Mile Improv							90,000.0	90,000.0
	WRA & WRA Project Total	\$ 60,870,897.0	\$ 48,737,265.0	\$ 40,929,735.0	\$ 52,553,970.0	\$ 73,790,540.0	\$ 49,418,390.0	\$ 16,963,410.0	\$ 343,264,207.0
	Revised Estimate for F19	\$ 68,678,405.0							
	2020		\$ 57,353,453.0						
	2021			\$ 49,258,535.0					

## Summary

# Wastewater Reclamation Authority Improvements FY2019-F2020+

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

	TOTAL ESTIMATED COST	COST THROUGH F18	COST ESTIMATE F19	TOTAL ESTIMATED COST THROUGH	COST FOR SIX-YEAR PERIOD	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
						F20	F21	F22	F23	F24	F25	
<b>Expenses</b> , detail on following page	668,315,392	132,614,169	68,678,405	201,292,574	324,898,418	57,353,453	49,258,535	59,539,090	77,800,540	53,518,390	27,428,410	142,124,400
<b>Resources:</b>												
Beginning Balance	0	0	74,268,181	0		55,442,277	24,969,771	30,156,726	63,929,500	45,244,067	15,737,092	0
Interest Earnings	1,072,785	456,204	53,570	509,774	563,011	15,000	15,000	498,011	10,000	10,000	15,000	0
Renewal & Replacement Fund	0	0	0	0	0	0	0	0	0	0	0	0
Communities	52,603,929	22,925,679	4,169,000	27,094,679	25,509,250	4,567,750	4,206,500	4,310,000	4,232,000	4,173,000	4,020,000	0
Future Funding	373,381,929	0	10,447,500	10,447,500	240,924,841	18,180,000	45,892,500	88,961,500	53,790,000	18,673,540	15,427,301	122,009,588
Bond Proceeds	17,259,979	16,459,979	800,000	17,259,979	0	0	0	0	0	0	0	0
SRF Drawdowns	181,791,030	151,651,330	32,703,500	184,354,830	(2,263,800)	336,200	1,200,000	(2,500,000)	(880,000)	(720,000)	300,000	(300,000)
Other (Flood Mit Rev & Oper)	42,205,740	15,389,158	1,678,931	17,068,089	14,601,039	3,781,997	3,131,490	2,042,353	1,963,107	1,874,875	1,807,217	10,536,612
<b>Total Resources</b>	<b>668,315,392</b>	<b>206,882,350</b>	<b>124,120,682</b>	<b>256,734,851</b>	<b>279,334,341</b>	<b>82,323,224</b>	<b>79,415,261</b>	<b>123,468,590</b>	<b>123,044,607</b>	<b>69,255,482</b>	<b>37,306,610</b>	<b>132,246,200</b>
Flood/Sales tax revenue \$36.6M		11,914,739	1,387,610			1,823,397	2,050,090	1,942,353	1,863,107	1,774,875	1,707,217	10,536,612

**Fiscal 2019 and 2020-Fiscal 2025 WRA Capital Improvements Program Draft working Copy Dec-Jan**

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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	18,638,900	887,859	1,548,408	2,436,267	12,062,233	14,498,500	4,140,400						
Beginning Balance					(2,289,857)		3,845,400						
Interest Earnings	30,000				15,000	15,000	15,000						
Repair and Replacement Fund Communities	698,900	20,000	126,410	146,410	272,490	418,900	280,000						
Future Funding Bond Proceeds													
SRF Drawdowns (2018D)	17,910,000	740,000	(740,000)		17,910,000	17,910,000							
Other													
Total Resources	18,638,900	760,000	(613,590)	146,410	15,907,633	18,343,900	4,140,400						
<b>ENDING BALANCE</b>	0	(127,859)	(2,161,998)	(2,289,857)	3,845,400	3,845,400	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 and FY20

**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. The WRA elected to add this project to the CIP in FY16

**Operating Budget Effect:**

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

**Fiscal 2019 and 2020-Fiscal 2025 WRA Capital Improvements Program Draft working Copy Dec-Jan**

PROJECT CATEGORY				PROJECT TITLE				ACCOUNT						
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Eastside Interceptor, Gravity Sewer &amp; Force Main</b>				<b>AG267 WRA99000 WR 108</b>						
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25	
							F20	F21	F22	F23	F24	F25		
Expenses	78,820,000	13,564,109	13,579,144	27,143,253	35,376,647	62,519,900	16,300,100							
Beginning Balance					51,264,997		16,188,350							
Interest Earnings														
Repair and Replacement Fund Communities	1,020,000	408,250	200,000	608,250	300,000	908,250	111,750							
Future Funding Bond Proceeds														
SRF Drawdowns (2016E 2017A)	77,800,000	39,900,000	37,900,000	77,800,000		77,800,000								
Other / CDM & DMWW														
<b>Total Resources</b>	<b>78,820,000</b>	<b>40,308,250</b>	<b>38,100,000</b>	<b>78,408,250</b>	<b>51,564,997</b>	<b>78,708,250</b>	<b>16,300,100</b>							
<b>ENDING BALANCE</b>	<b>0</b>	<b>26,744,141</b>	<b>24,520,856</b>	<b>51,264,997</b>	<b>16,188,350</b>	<b>16,188,350</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 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 2019 and 2020-Fiscal 2025 WRA Capital Improvements Program Draft working Copy Dec-Jan**

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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	15,463,700	706,029	884,850	1,590,879	5,822,821	7,413,700	5,850,000	2,200,000					
Beginning Balance					2,659,001		8,092,800	2,184,000					
Interest Earnings													
Repair and Replacement Fund Communities	120,000	12,997	57,883	70,880	13,120	84,000	20,000	16,000					
Future Funding													
Bond Proceeds													
SRF Drawdowns (2018A 18E)	15,343,700		4,179,000	4,179,000	11,243,500	15,422,500	(78,800)						
Other													
Total Resources	15,463,700	12,997	4,236,883	4,249,880	13,915,621	15,506,500	8,034,000	2,200,000					
<b>ENDING BALANCE</b>	0	(693,032)	3,352,033	2,659,001	8,092,800	8,092,800	2,184,000	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-F21

**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.



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PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>		<b>WRF Phosphorus Recovery Facility</b>										<b>AG267 WRA99000 WR 112</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	22,273,620	211,402	156,008	367,410	466,000	833,410	1,440,210	10,000,000	10,000,000				
Beginning Balance					1,264,000		804,210	(2,230,000)	9,985,000				
Interest Earnings													
Repair and Replacement Fund Communities	73,620	15,625	15,785	31,410	6,210	37,620	6,000	15,000	15,000				
Future Funding	22,200,000							22,200,000					
Bond Proceeds													
SRF Drawdowns			1,600,000	1,600,000		1,600,000	(1,600,000)						
Other													
Total Resources	22,273,620	15,625	1,615,785	1,631,410	1,270,210	1,637,620	(789,790)	19,985,000	10,000,000				
<b>ENDING BALANCE</b>	<b>0</b>	<b>(195,777)</b>	<b>1,459,777</b>	<b>1,264,000</b>	<b>804,210</b>	<b>804,210</b>	<b>(2,230,000)</b>	<b>9,985,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**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 design will take place in FY19-FY20

**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.

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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	F20	F21	F22	F23	F24	F25	BEYOND
	COST	F17	F18	F18	F19	F19							F25
Expenses	43,422,500	202,319	2,022,201	2,224,520	2,862,680	5,087,200	5,146,800	5,086,300	5,000,000	5,000,000	4,302,200	4,000,000	9,800,000
Beginning Balance					218,368		5,415,300	298,500	6,187,200	1,212,200	7,157,200	2,855,000	
Interest Earnings													
Repair and Replacement Fund													
Communities	140,000	14,970	7,918	22,888	32,112	55,000	30,000	30,000	25,000				
Future Funding	43,282,500				10,447,500	10,447,500		10,945,000		10,945,000		10,945,000	
Bond Proceeds													
SRF Drawdowns		220,000	2,200,000	2,420,000	(2,420,000)								
Other													
Total Resources	43,422,500	234,970	2,207,918	2,442,888	8,277,980	10,502,500	5,445,300	11,273,500	6,212,200	12,157,200	7,157,200	13,800,000	
<b>ENDING BALANCE</b>	0	32,651	185,717	218,368	5,415,300	5,415,300	298,500	6,187,200	1,212,200	7,157,200	2,855,000	9,800,000	0

**Description:**

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

**Justification:**

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

**Scheduling:**

Phase 1: Design F18-19; Construction in F19-20.

Phase 2: Design F20-21; Construction in F21-22.

Phase 3: Design F24-25; Construction in F25-26.

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

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

**Operating Budget Effect:**

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

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Clarifier Improvements</b>								<b>AG267 WRA99000 WR 115</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	29,292,500		173,462	173,462	412,038	585,500	3,765,300	7,350,600	7,030,500	8,430,500	2,130,100		
Beginning Balance					414,478		9,500	13,874,200	6,555,100	(444,400)	2,100,100		
Interest Earnings													
Repair and Replacement Fund Communities	167,500		2,940	2,940	7,060	10,000	35,000	31,500	31,000	30,000	30,000		
Future Funding	29,125,000						18,180,000			10,945,000			
Bond Proceeds													
SRF Drawdowns			585,000	585,000		585,000	(585,000)						
Other													
Total Resources	29,292,500		587,940	587,940	421,538	595,000	17,639,500	13,905,700	6,586,100	10,530,600	2,130,100		
<b>ENDING BALANCE</b>	0	0	414,478	414,478	9,500	9,500	13,874,200	6,555,100	(444,400)	2,100,100	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 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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Trickling Filter Removal</b>								<b>WR809855 WR119</b>		
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25	
							F20	F21	F22	F23	F24	F25		
Expenses	5,730,000		11,722	11,722	2,688,278	2,700,000	3,030,000							
Beginning Balance					(11,224)		3,300,000							
Interest Earnings														
Repair and Replacement Fund Communities	60,000		498	498	29,502	30,000	30,000							
Future Funding														
Bond Proceeds														
SRF Drawdowns	5,670,000				5,970,000	5,970,000	(300,000)							
Other / from Small CIP														
Total Resources	5,730,000		498	498	5,988,278	6,000,000	3,030,000							
<b>ENDING BALANCE</b>	0	0	(11,224)	(11,224)	3,300,000	3,300,000	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 FY19-20

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

New project in F19 to be funded with SRF funding.

**Operating Budget Effect:**

This project will have no effect on the operating budget.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	13,761,500				5,000	5,000	285,100	612,600	3,625,300	6,463,500	2,770,000		
Beginning Balance								524,900	(77,700)	9,178,500	2,755,000		
Interest Earnings													
Repair and Replacement Fund													
Communities	110,000				5,000	5,000	10,000	10,000	30,000	40,000	15,000		
Future Funding	13,651,500								13,651,500				
Bond Proceeds													
SRF Drawdowns							800,000		(800,000)				
Other													
Total Resources	13,761,500				5,000	5,000	810,000	534,900	12,803,800	9,218,500	2,770,000		
<b>ENDING BALANCE</b>	0	0	0	0	0	0	524,900	(77,700)	9,178,500	2,755,000	0	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 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 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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Aeration Improvements</b>								<b>AG267 WRA99000 WR xx</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	10,090,000						160,000	250,000	6,445,000	3,235,000			
Beginning Balance								160,000	(70,000)	3,205,000			
Interest Earnings													
Repair and Replacement Fund													
Communities	140,000						20,000	20,000	70,000	30,000			
Future Funding	9,950,000								9,950,000				
Bond Proceeds													
SRF Drawdowns							300,000		(300,000)				
Other													
Total Resources	10,090,000						320,000	180,000	9,650,000	3,235,000			
<b>ENDING BALANCE</b>	0	0	0	0	0	0	160,000	(70,000)	3,205,000	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 FY20-21; Construction in FY22-23.

**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.

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PROJECT CATEGORY				PROJECT TITLE									ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Eastside Wet Weather Treatment</b>									<b>A267 WR809855 WR 1xx</b>
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	65,630,000				100,000	100,000	1,200,700	1,200,000	15,644,000	31,210,300	16,275,000		
Beginning Balance							(95,000)	524,300	(655,700)	47,335,300	16,200,000		
Interest Earnings													
Repair and Replacement Fund													
Communities	270,000				5,000	5,000	20,000	20,000	75,000	75,000	75,000		
Future Funding	65,360,000								65,360,000				
Bond Proceeds													
SRF Drawdowns							1,800,000		(1,800,000)				
Other													
Total Resources	65,630,000				5,000	5,000	1,725,000	544,300	62,979,300	47,410,300	16,275,000		
<b>ENDING BALANCE</b>	0	0	0	0	(95,000)	(95,000)	524,300	(655,700)	47,335,300	16,200,000	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 study completed in 2018.

**Scheduling:**

Project Design FY20-21; Construction in FY22-24.

**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.

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PROJECT CATEGORY				PROJECT TITLE						ACCOUNT			
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Disinfection &amp; Effluent Pumping</b>						<b>AG267 WRA99000 WR 2x3</b>			
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	35,482,500						5,225	1,247,445	667,420	14,810,400	12,336,860	6,415,150	
Beginning Balance								(225)	(13,670)	(647,090)	17,147,617	6,645,632	
Interest Earnings													
Repair and Replacement Fund Communities	205,000						5,000	34,000	34,000	42,000	60,000	30,000	
Future Funding	19,395,689									31,900,000		(1,967,699)	(10,536,612)
Bond Proceeds								1,200,000		(1,200,000)			
SRF Drawdowns / P&D										1,863,107	1,774,875	1,707,217	10,536,612
Other (Flood money)	15,881,811												
Total Resources	35,482,500						5,000	1,233,775	20,330	31,958,017	18,982,492	6,415,150	
<b>ENDING BALANCE</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>(225)</b>	<b>(13,670)</b>	<b>(647,090)</b>	<b>17,147,617</b>	<b>6,645,632</b>	<b>0</b>	<b>0</b>

**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 and Disinfection 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 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.



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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Building 05 Rehabilitation</b>								<b>A267 WR809855 WR xx</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	12,128,100							244,500	276,100	7,636,500	3,971,000		
Beginning Balance									160,500	(65,600)	3,936,000		
Interest Earnings													
Repair and Replacement Fund Communities	140,000							5,000	50,000	50,000	35,000		
Future Funding	11,988,100									11,988,100			
Bond Proceeds								400,000		(400,000)			
SRF Drawdowns													
Other													
Total Resources	12,128,100							405,000	210,500	11,572,500	3,971,000		
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	160,500	(65,600)	3,936,000	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 rehabilitation 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.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	17,218,730	17,007,256	7,855	17,015,111	203,619	17,218,730							last time in book
Beginning Balance					203,619								
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 / Commtty funds SmCIP													
Total Resources	17,218,730	17,218,730		17,218,730	203,619	17,218,730							
<b>ENDING BALANCE</b>	0	211,474	(7,855)	203,619	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 was included in the WRA Facility Plan Update (prior to 2004, shown as Expansion project), categorized as SW Area Diversion Faciltiy (SWADF) funding.

**Operating Budget Effect:**

This project will increase operations and maintenance costs.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	9,478,700	665,731	924	666,655	12,045	678,700	110,000	1,550,000	650,000		90,000	6,400,000	
Beginning Balance					26,096		15,000	(95,000)	660,000	10,000	10,000	(50,000)	
Interest Earnings													
Repair and Replacement Fund													
Communities	72,000	35,127	924	36,051	949	37,000		5,000			30,000		
Future Funding	8,750,000							2,300,000				6,450,000	
Bond Proceeds	656,700	656,700		656,700		656,700							
SRF Drawdowns													
Other													
Total Resources	9,478,700	691,827	924	692,751	27,045	693,700	15,000	2,210,000	660,000	10,000	40,000	6,400,000	
<b>ENDING BALANCE</b>	0	26,096	0	26,096	15,000	15,000	(95,000)	660,000	10,000	10,000	(50,000)	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:**

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.

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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	F20	F21	F22	F23	F24	F25	BEYOND
	COST	F17	F18	F18	F19	F19	F20	F21	F22	F23	F24	F25	F25
Expenses	3,181,400	1,069,034	25,195	1,094,229	47,171	1,141,400	1,058,600	981,400					
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / sponsored project	3,181,400	1,069,034	25,195	1,094,229	47,171	1,141,400	1,058,600	981,400					
Total Resources	3,181,400	1,069,034	25,195	1,094,229	47,171	1,141,400	1,058,600	981,400					
<b>ENDING BALANCE</b>	0	0	0	0	0	0	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.

Phase 2 & 3 Construction F18-20.

**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.

**Operating Budget Effect:**

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

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PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Sponsored [Sugar Creek] Streambank Restoration Projects</b>								<b>AG267 WRA99000 WR 117</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	F17	F18	F18	F19	F19	F20	F21	F22	F23	F24	F25	F25
Expenses	1,100,000	75,416	92,434	167,850	132,150	300,000	800,000						
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / sponsored project	1,100,000	75,416	92,434	167,850	132,150	300,000	800,000						
Total Resources	1,100,000	75,416	92,434	167,850	132,150	300,000	800,000						
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	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 addition prinipal 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.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	6,745,440								2,250	420,000	3,967,730	2,355,460	
Beginning Balance										(250)	(60,250)	2,350,460	
Interest Earnings													
Repair and Replacement Fund Communities	60,000								2,000	40,000	13,000	5,000	
Future Funding	6,685,440										6,685,440		
Bond Proceeds													
SRF Drawdowns										320,000	(320,000)		
Other													
Total Resources	6,745,440								2,000	359,750	6,318,190	2,355,460	
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	(250)	(60,250)	2,350,460	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; Construction F23/24

**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.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Secondary Treatment								A267 WR809855 WR xx	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST starts F26
							F20	F21	F22	F23	F24	F25	
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
<b>ENDING BALANCE</b>	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.



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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
Wastewater Reclamation Authority Improvements				WRF Parallel Pipe and Mixing Structure								A267 WR809855 WR xx	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	5,156,200											131,800	5,024,400
Beginning Balance													
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												5,156,200
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	(131,800)	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.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST FY2026
							F20	F21	F22	F23	F24	F25	
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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Joint Trunk East &amp; West</b>								<b>AG267 WRA99000 WR 1x3</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST
							F20	F21	F22	F23	F24	F25	2027 2030
Expenses	20,800,000												20,800,000
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding	20,800,000												20,800,000
Bond Proceeds													
SRF Drawdowns													
Other													
Total Resources	20,800,000												20,800,000
<b>ENDING BALANCE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

**Description: Expansion Project.**

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

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

**Justification:**

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

**Scheduling:**

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

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

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

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

**Operating Budget Effect:**

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

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST F 2030
							F20	F21	F22	F23	F24	F25	
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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Site Security and Access Improvements</b>								<b>WR809855 WR121</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	4,555,120				10,120	10,120	252,600	1,687,400	2,605,000				
Beginning Balance								892,400	205,000				
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / from Small CIP	4,555,120				10,120	10,120	1,145,000	1,000,000	2,400,000				
Total Resources	4,555,120				10,120	10,120	1,145,000	1,892,400	2,605,000				
<b>ENDING BALANCE</b>	0	0	0	0	0	0	892,400	205,000	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, Construction in FY21-22

**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.

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PROJECT CATEGORY		PROJECT TITLE										ACCOUNT	
Wastewater Reclamation Authority Improvements		Ingersoll Run [Combined Sewer Overflow, Outlet] Phase 25										WR809855 WR 088	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	12,894,400	92,761	40,380	133,141	567,439	700,580	991,290	4,162,790	3,815,000	3,224,740			
Beginning Balance							(8,580)	130	6,991,740	3,199,740			
Interest Earnings	100,000	31,050	40,380	71,430	28,570	100,000							
Repair and Replacement Fund Communities	75,000	1,710		1,710	290	2,000		25,000	23,000	25,000			
Future Funding	10,447,500							10,447,500					
Bond Proceeds													
SRF Drawdowns													
Other (revenues Flood Mit)	2,271,900	60,001		60,001	529,999	590,000	1,000,000	681,900					
Total Resources	12,894,400	92,761	40,380	133,141	558,859	692,000	991,420	11,154,530	7,014,740	3,224,740			
<b>ENDING BALANCE</b>	0	0	0	0	(8,580)	(8,580)	130	6,991,740	3,199,740	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:**

Project is scheduled to be constructed in FY21-FY23

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

This project is included in the WRA Facility Plan Update.

**Operating Budget Effect:**

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

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	17,329,300	180,282	817,579	997,861	289,299	1,287,160	6,422,140	8,820,000	80,000	720,000			
Beginning Balance					10,856,877		11,425,189	5,826,446	(1,625,364)	720,000			
Interest Earnings	483,011								483,011				
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (Revenue Flood Mit)	16,846,289	9,745,772	2,108,966	11,854,738	857,611	12,712,349	823,397	1,368,190	1,942,353				
Total Resources	17,329,300	9,745,772	2,108,966	11,854,738	11,714,488	12,712,349	12,248,586	7,194,636	800,000	720,000			
<b>ENDING BALANCE</b>	0	9,565,490	1,291,387	10,856,877	11,425,189	11,425,189	5,826,446	(1,625,364)	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.

**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; Construction in F19-20.

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 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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Facility Plan Update &amp; Consulting</b>								<b>WR809855 WR 069</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	1,866,467	495,463	496,004	991,467	125,000	1,116,467	125,000	125,000	125,000	125,000	125,000	125,000	
Beginning Balance					(4)								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	1,866,467	495,463	496,000	991,463	125,004	1,116,467	125,000	125,000	125,000	125,000	125,000	125,000	
Total Resources	1,866,467	495,463	496,000	991,463	125,000	1,116,467	125,000	125,000	125,000	125,000	125,000	125,000	
<b>ENDING BALANCE</b>	0	0	(4)	(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 through 2040.

**Scheduling:**

Ongoing.

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

Small CIP funds

**Operating Budget Effect:**



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PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Facilities Rehabilitation [ Sm CIP, 2002-2018 ]</b>				<b>AG267 WRA990000 WRA078</b>					
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	1,401,400	838,020	535,874	1,373,894	27,506	1,401,400							
Beginning Balance					6								
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	1,401,400	838,020	535,880	1,373,900	27,500	1,401,400							
Total Resources	1,401,400	838,020	535,880	1,373,900	27,506	1,401,400							
<b>ENDING BALANCE</b>	0	0	6	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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Facilities Rehabilitation [ Sm CIP ]</b>								<b>WR809855 WR 118</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	3,125,000				625,000	625,000	600,000	700,000	300,000	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	3,125,000				625,000	625,000	600,000	700,000	300,000	300,000	300,000	300,000	
<b>Total Resources</b>	<b>3,125,000</b>				<b>625,000</b>	<b>625,000</b>	<b>600,000</b>	<b>700,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>	
<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:**

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:**

F19: HVAC Replacements; Building 05 heat recovery ventilator replacement, Building 05 MAU replacement

F20: HVAC Replacements; Building 75 boiler replacements

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.

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PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRA Sewer Maintenance (Repair of Levee Gates and Stream banks)				AG267 WRA990000 WRA083					
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD					COST BEYOND F25	
							F20	F21	F22	F23	F24		F25
Expenses	1,936,000	1,632,701	153,823	1,786,524	149,476	1,936,000							
Beginning Balance					62,476								
Interest Earnings													
Repair and Replacement Fund Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding O&M budget (803 9)	1,936,000	1,695,000	154,000	1,849,000	87,000	1,936,000							
Total Resources	1,936,000	1,695,000	154,000	1,849,000	149,476	1,936,000							
<b>ENDING BALANCE</b>	0	62,299	177	62,476	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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Sewer Maintenance (Inspections &amp; Repairs)</b>								<b>WR809855 WR 120</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	625,000				25,000	25,000	100,000	100,000	100,000	100,000	100,000	100,000	
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Funding O&M budget (803 19)	625,000				25,000	25,000	100,000	100,000	100,000	100,000	100,000	100,000	
Total Resources	625,000				25,000	25,000	100,000	100,000	100,000	100,000	100,000	100,000	
<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 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.

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PROJECT CATEGORY					PROJECT TITLE								ACCOUNT
<b>Wastewater Reclamation Authority Improvements</b>					<b>WRA Studies [ Sm CIP consulting]</b>								<b>WR809855 WR 091</b>
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	612,600	367,139	(8,049)	359,090	58,522	417,612	39,988	35,000	30,000	30,000	30,000	30,000	
Beginning Balance					8,037		(12)						
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other / Commty funds SmCIP	612,600	367,139	(12)	367,127	50,473	417,600	40,000	35,000	30,000	30,000	30,000	30,000	
Total Resources	612,600	367,139	(12)	367,127	58,510	417,600	39,988	35,000	30,000	30,000	30,000	30,000	
<b>ENDING BALANCE</b>	0	0	8,037	8,037	(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:**

**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:**

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT		
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Flow Monitoring System Improvements and Meter Replacements</b>								<b>WR809855 WR 093</b>		
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25	
							F20	F21	F22	F23	F24	F25		
Expenses	1,546,910	97,050	154,020	251,070	400,720	651,790	435,000	445,000	15,120					
Beginning Balance							5,120	10,120	15,120					
Interest Earnings														
Repair and Replacement Fund														
Communities														
Future Funding														
Bond Proceeds (reallocated)														
SRF Drawdowns														
Other (R&R commty)	1,546,910	98,700	152,370	251,070	405,840	656,910	440,000	450,000						
Total Resources	1,546,910	98,700	152,370	251,070	405,840	656,910	445,120	460,120	15,120					
<b>ENDING BALANCE</b>	0	1,650	(1,650)	0	5,120	5,120	10,120	15,120	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)

**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.

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PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRF Small Projects, &amp; Process Equipment Repl for 2013, 2014, 2015, 2016</b>				<b>WR809855 WR 106</b>					
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	8,274,927	6,511,876	662,721	7,174,597	1,100,330	8,274,927							
Beginning Balance					5,545,330		4,445,000	3,000,000	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)	(5,965,073)	(1,520,073)		(1,520,073)			(1,445,000)	(1,000,000)	(2,000,000)				
Total Resources	8,274,927	12,719,927		12,719,927	5,545,330	12,719,927	3,000,000	2,000,000					
<b>ENDING BALANCE</b>	0	6,208,051	(662,721)	5,545,330	4,445,000	4,445,000	3,000,000	2,000,000	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 community contributions. Transfers out will provide 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.

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PROJECT CATEGORY				PROJECT TITLE								ACCOUNT	
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Equalization Basin Improvements</b>								<b>WR809855 WR 104</b>	
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	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						
Total Resources	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: F19

**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.



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PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
Wastewater Reclamation Authority Improvements				WRF Small Projects, & Process Equipment Repl for 2017, 2018, 2019				WR809855 WR 110					
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	7,327,406	251,828	1,153,868	1,405,696	3,921,710	5,327,406	2,000,000						
Beginning Balance					4,831,138		2,000,000						
Interest Earnings	25,000	5,000	10,000	15,000	10,000	25,000							
Repair and Replacement Fund Communities	11,247,267	3,850,000	3,900,000	7,750,000	3,497,267	11,247,267							
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(3,944,861)	(323,984)	(1,204,182)	(1,528,166)	(2,416,695)	(3,944,861)							
Total Resources	7,327,406	3,531,016	2,705,818	6,236,834	5,921,710	7,327,406	2,000,000						
<b>ENDING BALANCE</b>	0	3,279,188	1,551,950	4,831,138	2,000,000	2,000,000	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.

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PROJECT CATEGORY				PROJECT TITLE				ACCOUNT					
<b>Wastewater Reclamation Authority Improvements</b>				<b>WRA Beaver Creek Sewer Stabilization</b>				<b>WR809855 WR 114</b>					
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	1,237,437	44,735	19,944	64,679	1,172,758	1,237,437							
Beginning Balance													
Interest Earnings													
Repair and Replacement Fund													
Communities													
Future Funding													
Bond Proceeds													
SRF Drawdowns													
Other (small CIP)	1,237,437	44,735	19,944	64,679	1,172,758	1,237,437							
Total Resources	1,237,437	44,735	19,944	64,679	1,172,758	1,237,437							
<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 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.

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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>WR809855 WR 116</b>		
	TOTAL ESTIMATED COST	COST THROUGH F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses	19,080,000						2,795,000	2,705,000	3,160,000	3,455,000	3,455,000	3,510,000	
Beginning Balance													
Interest Earnings	65,000							15,000	15,000	10,000	10,000	15,000	
Repair and Replacement Fund Communities	23,750,000						4,000,000	4,000,000	4,000,000	3,900,000	3,900,000	3,950,000	
Future Funding Bond Proceeds													
SRF Drawdowns													
Other (tsfr out)	(4,735,000)						(1,205,000)	(1,310,000)	(855,000)	(455,000)	(455,000)	(455,000)	
Total Resources	19,080,000						2,795,000	2,705,000	3,160,000	3,455,000	3,455,000	3,510,000	
<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:**

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:**

**F20-23:** 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.

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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 F17	ACTUAL COST IN F18	COST THROUGH F18	Revised BUDGET F19	ESTIMATED COST THROUGH F19	RECOMMENDED AND SCHEDULED FOR SIX-YEAR PERIOD						COST BEYOND F25
							F20	F21	F22	F23	F24	F25	
Expenses, net of CDM DMWW	65,199,635	64,395,932	788,860	65,184,792	14,843	65,199,635							last time in book
Beginning Balance					(785,157)								
Interest Earnings	329,774	326,364	3,410	329,774		329,774							
Repair and Replacement Fund Communities	54,642	10,992	43,650	54,642		54,642							
Future Funding													
Bond Proceeds	12,503,279	11,703,279		11,703,279	800,000	12,503,279							
SRF Drawdowns	51,948,600	51,948,600		51,948,600		51,948,600							
Other	363,340	363,340		363,340		363,340							
Total Resources	65,199,635	64,352,575	47,060	64,399,635	14,843	65,199,635							
<b>ENDING BALANCE</b>	0	(43,357)	(741,800)	(785,157)	0	0	0	0	0	0	0	0	0

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

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

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

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

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

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