



**Madison Water Utility**

**2010-2015 Long Range Capital Improvement Budget**

Updated: May 21, 2009

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Line	Project	Date/Description/Purpose	Tasks	2010	2011	2012	2013	2014	2015	2016
1	<b>Zone 4 Fire Flow Supply Augmentation</b>									
2	This project is scheduled to start construction in 2010 and be finished and in service in 2012.									
3	The <u>Zone 4 Fire Flow Supply Augmentation project</u> will correct a significant system									
4	deficiency identified by the Water Master Plan in the southeast corner of the system. Due to									
5	significant expansion over the years to the south, the hydraulics of the system will not									
6	adequately serve this area for fire flow supply or system reliability and redundancy. There is									
7	also significant development pressure in the southeast and this project will support further									
8	development of the area. Adding a second source of supply to the area will improve fire flow									
9	capacity and bring the water system level of service for the area up to Utility standards.									
10										
11	<b>Arbor Hills Supplemental Fire Flow Supply</b>									
12	This project is scheduled to start construction in 2010 and be finished and in service in 2011.									
13	The <u>Arbor Hills Supplemental Fire Flow Supply</u> will correct a significant system deficiency									
14	identified by the Water Master Plan. Due to the fact that the area is fed by a single 8-inch									
15	main on the Beltline Highway frontage road, the area is vulnerable to water outages and									
16	there is a significant restriction in fire flow capacity. This project will provide the ability to									
17	transfer water from Well 18 in Zone 6. The Project includes a pipeline on the Cannonball Run									
18	Bike Trail that will link the area to the Verona Road Area.									
19										
20	<b>Unit Well No. 8 - Fe and Mn Mitigation</b>									
21	This project is scheduled to start construction in 2011 and be finished and in service by the									
22	end of the year. <u>Unit Well No. 8 - Fe and Mn Mitigation</u> will address the water quality									
23	issues that exist at Well 8 due to iron and manganese levels that exceed the EPA secondary									
24	standard. Due to the colored water that occurs when the well is run, well operation is summer									
25	only. A filter would allow the well to be operational all year long. The project will benefit									
26	existing customers in the east Isthmus area and improve the quality of the water pumped									
27	from Well 8 bringing it up to minimum Utility water quality standards.									
28	<b>Unit Well No. 7 - Fe and Mn Mitigation</b>									
29	This project is scheduled to start construction in 2012 and be finished and in service by the									
30	end of the year. <u>Unit Well No. 7 - Fe and Mn Mitigation</u> will address the water quality									
31	issues that exist at Well 7 primarily due to iron levels that exceed the EPA secondary									
32	standard. Due to the colored water that occurs due to the oxidized iron when the well is run,									
33	current well operation is limited to fill in only. A filter at Well 7 will benefit existing customers									
34	by bringing water quality up to minimum Utility water quality standards.									



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35										
36		<b>Pressure Zone 9 Storage</b>								
37		This project is scheduled to start construction in 2011 and be finished by the end of the year. The <u>Pressure Zone 9 Storage</u> project will correct a significant system storage deficiency in the Zone 9 area identified by the Water Master Plan. Pressure Zone 9 has developed significantly with not only residential but commercial and institutional facilities. The fire flow requirements have increased due to this development to the point that current facilities do not meet minimum standards. The Master Plan proposes to construct storage on the west side of the zone to hydraulically balance the system.	Public Participation Plan							
38			Reservoir Property Purchase		250,000					
39			Consultant Design Services		153,000					
40			Construct 750,000 gallon elevated reservoir				1,914,000			
41			Construction Contract Administration				115,000			
42			Reservoir Pipeline Construction				260,000			
43			<b>Project Total</b>		-	<b>403,000</b>	<b>2,289,000</b>	-	-	-
44										
45		<b>Rebuilt Booster Pump Station #106</b>								
46		This project is scheduled to start construction in 2011 and be finished and in service by the end of the year. The <u>Rebuilt Booster Pump Station #106</u> project is necessary to bring the pump station up to current safety standards and codes and to improve reliability of operation to the station. This facility allow the Utility to transfer water from Zone 6 to Zone 7.	Public Participation Plan	50,000						
47			Consultant Design contract	110,000						
48			Construction of Pump Station			1,100,000				
49			Construction Contract Administration			77,000				
50			<b>Project Total</b>		<b>160,000</b>	<b>1,177,000</b>	-	-	-	-
51										
52		<b>East Isthmus Unit Well</b>								
53		This project is scheduled to start construction in 2011 and be finished and in service by late 2012. Utility Well #3 was abandoned in early 2008 due to elevated levels of Carbon Tetrachloride. This project is intended to replace that lost supply capacity. The <u>East Isthmus Unit Well</u> will restore lost supply redundancy and reliability to the east Isthmus area.	Public Participation Plan							
54			Property Costs for E. Isthmus Well	150,000						
55			Drill test well for E. Isthmus Well	123,000						
56			Drill new E. Isthmus Well			615,000				
57			Consultant Design contract for E. Isthmus Well Reservoir and Pump Station				316,000			
58			Construction of E. Isthmus Well Reservoir and Pump Station					3,160,000		
59			Pipeline Improvements						1,000,000	
60		Consultant Contract Administration					237,000			
61		<b>Project Total</b>		<b>273,000</b>	<b>615,000</b>	<b>316,000</b>	<b>3,397,000</b>	<b>1,000,000</b>	-	-
62										
63		<b>Unit Well No. 10 - Fe and Mn Mitigation</b>								
64		This project is scheduled to start construction in 2012 and be finished and in service by the end of 2013. <u>Unit Well No. 10 - Fe and Mn Mitigation</u> will address the water quality issues that exist at Well 10 due to iron and manganese levels that exceed the EPA secondary standard. The well has been placed on supply reserve status. A filter would allow the well to be returned to year around service. The project will benefit existing customers in the Zone 7 service area and bring the water quality at Well 10 up to minimum Utility water quality standards.	Public Participation			50,000				
65			Pilot Study				50,000			
66			Deep Well reconstruction				681,000			
67			UW 10 - Filter Design				300,000			
68			Construction Administration Services						262,500	
69			Construction of Unit Well No. 10 Fe and Mn Filter						3,750,000	
70		<b>Project Total</b>		-	-	<b>50,000</b>	<b>1,031,000</b>	<b>4,012,500</b>	-	-



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71											
72		<b>Zone 7 &amp; 8 Supplemental Supply - Whitney Way</b>									
73		This project is scheduled to start construction in 2011 and be finished and in service by the end of 2013. The <u>Zone 7 &amp; 8 Supplemental Supply</u> project provide additional water supply capacity to both Zones 7 & 8. This well was identified in the Water Master Plan to address system supply issues projected in the future.	Public Participation Plan								
74			Additional Water Quality Analysis and Investigation	50,000							
75			Drill test well	123,000							
76			Drill production Well			633,000					
77			Consultant Design contract for Unit Well Reservoir and Pump Station			294,000	3,130,000				
78			Construction of Reservoir and Pump Station				235,000				
79			Consultant Contract Administration				600,000				
80			<b>Project Total</b>		<b>173,000</b>	<b>-</b>	<b>927,000</b>	<b>3,965,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
81											
82		<b>Near West Side Water Supply Project - Glenway</b>									
83		This project is scheduled to start construction in 2017 and be finished and in service by the end of 2019. The <u>Near West Side Water Supply Project</u> project provide additional water supply capacity to both Zones 6 & 7. This well was identified in the Water Master Plan to address system supply issues projected in the future.	Public Participation Plan						50,000		
84			Additional Water Quality Analysis and Investigation								60,000
85			Drill Test Well								147,000
86			Drill production Well								
87			Consultant Design contract for Unit Well, Reservoir and Pump Station								
88			Construction of Unit Well, Reservoir and Pump Station								
89			Construction Contract Administration								
90			Water Main Hydraulic Improvements								
91		<b>Project Total</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>50,000</b>	<b>207,000</b>	
92											
93		<b>Pump Station 220 - Raymond Road PS</b>									
94		This project is scheduled to start construction in 2014 and be finished and in service by the end of the year. The <u>Pump Station 220 - Raymond Road Pump Station</u> project will setup operational flexibility within Pressure Zones 9 and 10. The station will transfer water from Zone 9 to Zone 10 and back again through a PRV. This operation will provide the ability to share water supply resources between zones and fully use existing facilities.	Public Participation Plan			50,000					
95			Dual Zone Pump Station Design				120,000				
96			Dual Zone Pump Station Construction					1,000,000			
97			PRV station					75,000			
98			Booster Station Piping Upgrade						1,000,000	1,100,000	
99			<b>Project Total</b>		<b>-</b>	<b>-</b>	<b>50,000</b>	<b>120,000</b>	<b>1,075,000</b>	<b>1,000,000</b>	<b>1,100,000</b>



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100										
101		<b>Reconstruct the Lakeview Reservoir</b>								
102		This project is scheduled to start construction in 2014 and be finished and in service by the end of the year. <u>Reconstructing the Lakeview Reservoir</u> will replace an aging storage tank and provide needed water storage in Zone 6 on the north side of the City. This project is justified in the Water Master Plan and would improve fire fighting capacity within the system.	Public Participation Plan			50,000				
103			Consultant Design contract				225,920			
104			Construction Services					197,680		
105			Construct Two Zone Lakeview Reservoir					1,924,000		
106			Water Main Improvements					900,000		
107			Upgrade Booster Pumps @ Res. 113				250,000			
108			Water Main Improvements @ Res 113				350,000			
109			<b>Project Total</b>	-	-	<b>650,000</b>	<b>225,920</b>	<b>3,021,680</b>	-	-
110										
111		<b>North End Supplemental Water Supply - Hoepker Rd</b>								
112		This project is scheduled to start construction in 2015 and be finished and in service by the end of 2016. The <u>North End Supplemental Water Supply - Hoepker Rd</u> project provide additional water supply capacity to the north end of Zone 6. This well was identified in the Water Master Plan to address system supply issues projected in the future.	Public Participation Plan				50,000			
113			Drill test well					134,000		
114			Drill Production Well						731,000	
115			Consultant Design contract						173,000	
116			Construction of Unit Well, Reservoir and Pump Station							3,695,000
117			Consultant Contract Administration							277,000
118				<b>Project Total</b>	-	-	-	<b>50,000</b>	<b>134,000</b>	<b>904,000</b>
119										
120		<b>Booster Station 129</b>								
121		This project is scheduled to start construction in 2015 and be finished and in service by the end of the year. The <u>Booster Station 129</u> project will replace the tempary pump station constructed on the Well 29 site. The station will transfer water from Zone 6 to Zone 123 and back again through a PRV. This operation will provide supply and fire flow capability to the far east side of the system. It will benefit customers through gained reliability.	Public Participation Plan				50000			
122			Design					168,000		
123			Construction Services						84,000	
124			Water Main Improvements						900,000	
125			Construct BPS 129						1,200,000	
126			<b>Project Total</b>	-	-	-	<b>50,000</b>	<b>168,000</b>	<b>2,184,000</b>	-
127										
128		<b>Paterson Street Building Remodel and Upgrade</b>								
129		This project is scheduled to start construction in 2013 and be finished and in service in early 2014. The <u>Paterson Street Building Remodel and Upgrade</u> will rebuild the Utility's Operations Center. The existing facility is outdated and cramped and in need of replacement. A new space will make vehicle maintenance operations more efficient and safe for Utility employees.	Public Participation Plan			50,000				
130			Architectural Services/Review			330,000				
131			Materials Storage Building				900,000			
132			Furnishings and Equipment					250,000		
133			Construction Admin				248,000			
134			Vehicle Maintenance Building Construction					3,230,000		
135			<b>Project Total</b>	-	-	<b>380,000</b>	<b>4,378,000</b>	<b>250,000</b>	-	-



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136											
137		<b>Zone 10 Far West Elevated Reservoir</b>									
138		Construction of the Zone 10 Far West Side Elevated Reservoir is scheduled for 2016. The <b>Zone 10 Far West Elevated Reservoir</b> project will provide additional water storage capacity to Zone 10. As pressure zone 10 has developed with not only residential but commercial and institutional facilities, the existing elevated tank on High Point Road no longer provides sufficient capacity. Providing minimum fire flow requirements to this development is necessary to meet minimum standards. This project is identified in the Master Plan.	Public Participation Plan					50,000			
139			Consultant Design contract					-	150,960		
140			Construction Services								132,090
141			Construct 750,000 gallon reservoir								1,687,000
142			Reservoir piping improvements								200,000
143			Water Main Improvements								500,000
144			<b>Project Total</b>	-	-	-	-	<b>50,000</b>	<b>150,960</b>	<b>2,519,090</b>	
145											
146		<b>Blackhawk Elevated Reservoir</b>									
147		Construction of the Blackhawk Elevated Reservoir is scheduled for the year 2015. The <b>Blackhawk Elevated Reservoir</b> project will provide the planned water storage capacity to Zone 11 and upgrade the service from pumped to gravity. This project will provide reliable service and minimum fire flow pressure zone 11. This project is identified in the Master Plan.	Public Participation Plan				50,000				
148			Consultant Design contract					140,800			
149			Construction Services							123,000	
150			Construct 750,000 gallon reservoir							1,460,000	
151			Reservoir piping improvements							200,000	
152			Water Main Improvements							500,000	
153			<b>Project Total</b>	-	-	-	<b>50,000</b>	<b>140,800</b>	<b>2,283,000</b>	-	
154											
155		<b>SCADA System Upgrade</b>									
156		This project is the upgrade and modernization of the Utility's Supervisory Control and Data Acquisition system. This is a critical control system that has reached the end of its life.	System Wide SCADA Upgrade to PLC (2007 - 2010)	300,000	300,000	50,000	50,000	50,000	150,000	150,000	
157			<b>Project Total</b>	<b>300,000</b>	<b>300,000</b>	<b>50,000</b>	<b>50,000</b>	<b>50,000</b>	<b>150,000</b>	<b>150,000</b>	
158											
159		<b>Infrastructure System Plan Improvements</b>									
160		Madison Water Utility has a planned system replacement and upgrade program that provides for annual main replacements. The Utility needs to replace over 400 miles of pipe in the next 40 years to renew the system. A planned annual increase in spending to accomplish this goal by 2050 will be continued.	Reconstruction Projects	4,410,000	4,564,000	4,724,000	4,889,000	5,060,000	5,237,000	5,420,000	
161			Resurfacing Projects	2,363,000	2,446,000	2,532,000	2,621,000	2,713,000	2,808,000	2,906,000	
162			East Washington Improvements		1,500,000						
163			New Pipeline Construction	750,000	780,000	811,000	843,000	877,000	912,000	948,000	
164			Security Upgrades	184,000	193,000	203,000	213,000	224,000	235,000	241,000	
165			<b>Project Total</b>	<b>7,707,000</b>	<b>9,483,000</b>	<b>8,270,000</b>	<b>8,566,000</b>	<b>8,874,000</b>	<b>9,192,000</b>	<b>9,515,000</b>	
166											
167		<b>Booster Pump Station 114</b>									
168		This project is scheduled to start construction in 2016 and be finished and in service by the end of the year. The <b>Booster Station 114</b> project will provide the Utility with operational flexibility on the west side. The station will transfer water from Zone 6 to Zones 7 and 8 and back again through a PRV. This operation will provide flexibility in source of supply to the west side of the system. It will benefit customers through gained system reliability.	Public Participation Plan					50,000			
169			Consultant Design contract						75,000		
170			Construction Services								60,000
171			Construct BPS 114								750,000
172			Water Main Improvements								900,000
173			<b>Project Total</b>	-	-	-	-	<b>50,000</b>	<b>75,000</b>	<b>1,710,000</b>	



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174											
175		<b>Booster Pump Station 320</b>									
176	This project is scheduled to start construction in 2017 and be finished and in service by the end of the year. The <b>Booster Station 320</b> project will provide the Utility with operational flexibility on the west side. The station will transfer water from Zone 6 to Zones 7 and 8 and back again through a PRV. This operation will provide flexibility in source of supply to the west side of the system. It will benefit customers through gained system reliability.		Public Participation Plan						50,000		
177			Consultant Design contract							80,000	
178			Construction Services								
179			Construct BPS 114								
180			Water Main Improvements								
181			<b>Project Total</b>		-	-	-	-	-	<b>50,000</b>	<b>80,000</b>
182											
183		<b>Misc. Pump Station/PRV/Facility Projects</b>									
184	The Water Master Plan identified various minor improvement projects that are necessary to sustain the established level of service. For budgeting purposes, these projects are itemized under a single heading.		PRV Station Vondron Rd			80,000					
185			PRV Station Gammon Rd			80,000					
186			Upgrade Booster Pumps @ UW 25		<b>260,000</b>						
187			Upgrade Booster Pumps @ UW 20								500,000
188			Water Main Improvements @ BPS 125								
189			Upgrade Booster Pumps @ Res. 115			125,000					
190			Water Main Improvements @ BPS 115								
191			PRV @ 115			40,000					
192			PRV @ 126								
193			Generator @ UW 26		<b>125,000</b>						
194			Consultant Services		<b>31,200</b>	19,800	19,200	-	-	-	60,000
195		<b>Project Total</b>		<b>416,200</b>	<b>184,800</b>	<b>179,200</b>	-	-	-	<b>560,000</b>	
196											
197		<b>System Wide</b>									
198	Several system wide tasks are included in the Capital Budget that cover a variety of repair, rehabilitation, and upgrade projects. For budgeting purposes, these projects are itemized under a single heading.		Lead Service Replacement	<b>200,000</b>							
199			Meter Program	<b>339,000</b>	346,000	353,000	360,000	367,000	374,000	381,000	
200			Automated Meter Reading	<b>5,370,000</b>	5,530,000						
201			Safety Additions to the Plant	<b>16,100</b>	17,300	18,600	20,000	21,500	23,100	24,800	
202			Olin Admin Office Rehab	<b>15,800</b>	16,600	17,400	18,300	19,200	20,200	21,200	
203			Unit Well Rehab	<b>100,000</b>	108,000	116,000	125,000	134,000	144,000	155,000	
204			Consultant Services	<b>50,000</b>	51,500	53,000	54,600	56,200	57,900	59,600	
205			Paterson Vehicle Storage Bldg Repair	<b>800,000</b>							
206			Paterson Office and Shop Rehab	<b>50,000</b>	53,000	56,000	59,000	62,000	65,000	68,000	
207			<b>Project Total</b>		<b>6,940,900</b>	<b>6,122,400</b>	<b>614,000</b>	<b>636,900</b>	<b>659,900</b>	<b>684,200</b>	<b>709,600</b>
208											
209			<b>Total Estimated Annual Costs</b>	\$ <b>19,075,100</b>	\$ <b>25,118,700</b>	\$ <b>17,787,700</b>	\$ <b>23,569,820</b>	\$ <b>19,485,880</b>	\$ <b>16,723,160</b>	\$ <b>20,522,690</b>	