



PRESCOTT CITY COUNCIL JOINT WORKSHOP/ SPECIAL MEETING - AGENDA

**PRESCOTT CITY COUNCIL
JOINT WORKSHOP/SPECIAL MEETING
TUESDAY, SEPTEMBER 7, 2010
2:00 PM**

**Prescott Council Chambers
201 South Cortez
Prescott, Arizona
(928) 777-1100**

The following Agenda will be considered by the Prescott City Council at its **Joint Workshop/Special Meeting** pursuant to the Prescott City Charter, Article II, Section 13. Notice of this meeting is given pursuant to Arizona Revised Statutes, Section 38-431.02.

- ◆ **CALL TO ORDER**
- ◆ **PLEDGE OF ALLEGIANCE** Councilwoman Suttles
- ◆ **ROLL CALL:**

MAYOR AND CITY COUNCIL:

Mayor Kuykendall	
Councilman Blair	Councilwoman Linn
Councilman Hanna	Councilwoman Lopas
Councilman Lamerson	Councilwoman Suttles

WORKSHOP

I. PUBLIC COMMENTS

- A. Introduction of new businesses.
- B. Update by the Yavapai Humane Society
- C. Report on Upcoming Activities of the Make-a-Wish Foundation.
- D. Update by Representatives of the Prescott Convention and Visitors Bureau.
- E. Sanford Cohen re Commemoration of KPPV's 25th Anniversary and launch of Travelradio at the Grand Canyon.

II. PRESENTATIONS

- A. Board / Commission Liaison reports.

III. DISCUSSION ITEMS

- A. Discussion and direction re water/wastewater rate increase.
- B. Update on Regional Communication Center.

IV. ADJOURNMENT

SPECIAL MEETING

1. Call to Order.
2. Recess into Executive Session.
3. EXECUTIVE SESSION:
 - A. Discussion or consultation for legal advice with the attorney or attorneys of the public body, pursuant to ARS §38-431.03(A)(3).
 - i. ADWR Application No. 33-96926 pertaining to Instream Flow.
 - B. Discussion or consultation for legal advice with the attorney or attorneys of the public body, discussion or consultation with the attorneys of the public body in order to consider its position and instruct its attorneys regarding the public body's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation or in settlement discussions conducted in order to avoid or resolve litigation, and discussions or consultations with designated representatives of the public body in order to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property, pursuant to ARS §38-431.03(A)(3), (4) and (7).
 - i. Potential property acquisition north of SR89A.
 - C. Discussion or consultation with the attorneys of the public body in order to consider its position and instruct its attorneys regarding the public body's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation or in settlement discussions conducted in order to avoid or resolve litigation, pursuant to ARS §38-431.03(A)(4).
 - i. Spire Engineering v. City of Prescott.

4. Adjournment.

CERTIFICATION OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Prescott City Hall on _____ at _____ .m. in accordance with the statement filed by the Prescott City Council with the City Clerk.

Elizabeth A. Burke, City Clerk

COUNCIL AGENDA MEMO – September 7, 2010
DEPARTMENT: Public Works
AGENDA ITEM: Discussion / direction regarding process for prospective rate increases necessary to Fund the FY 11-16 Water and Wastewater Capital Improvement Programs

Approved By:	Date:
Department Head: Mark Nietupski	
Finance Director: Mark Woodfill	
City Manager: Steve Norwood 	09/01/10

Item Summary

This item is in follow-up to the August 17, 2010, Council workshop wherein the process to increase utility rates was discussed to provide for current and future operations costs and funding of the FY 2011-16 Water and Wastewater Capital Improvement Program (CIP).

Background

Since the August 17th meeting staff again reviewed the proposed CIP to verify that all projects listed are critical and priority needs. It should be noted that beginning in FY 2008, the utilities CIP for has already been substantially reduced several times with projects deferred in each fiscal year. The attached 5-Year Utilities Capital Projects Description provides a summary of CIP with information pertaining to the identified projects indicating the need for and importance of each.

The City Water and Sewer Models were completed in 2005 and 2007, respectively, to provide understanding of the City’s utility systems capabilities and deficiencies. Through use of the Models and operation of the water and wastewater systems necessary improvements have been identified. The attached Utilities Systems Challenges explains the history and operational issues now regularly encountered.

The FY 11-16 CIP recommended in May during the budget process has been developed over the last several years to address system deficiencies and meet operational needs in the delivery of adequate water and sewer service to the community. The projects contained in the program are all priority projects.

Dan Jackson’s rate presentation in January 2010 effectively focused on Scenario 2, of the four which were defined. Scenario 2 included critically needed improvements to the City’s Wastewater Treatment Plants but excluded the major capital infrastructure expense of the Big Chino Water Ranch project. Scenario 2 rates were based on capital improvement costs in the amounts of \$121 Million for water and \$132.7 Million for sewer for the period of 2010-2019, an approximate total of \$254 Million.

Agenda Item: Discussion / direction regarding process for prospective rate increases necessary to Fund the FY 11-16 Water and Wastewater Capital Improvement Programs

It is recommended a Capital Improvement Program in the amount of \$83,161,698 for water and \$80,152,961 for wastewater provide the basis for the rate study going forward in the total amount of \$163.3 Million for the period of 2011 – 2016. The amounts include of \$5 Million in each area for unforeseen projects needs that may be identified in future years.

The Finance Department is developing a financial model to calculate the rates necessary to support the recommended CIP. Information from the model will be shared with the public and City Council as the rate setting process proceeds.

A detailed timetable was prepared (attached) to illustrate a possible calendar and approach to a rate setting process which could be implemented pursuant to prior Council discussion. Pending general direction from the Council to continue, the process will proceed initially with meetings with large water users. Two evening meetings with the general public will follow and occur prior to a November 2, 2010, workshop to discuss public comments received. Other dates and activities relative to the process are included in the timetable which extends over a five-month period.

Attachments

- FY 2011-16 CIP Priority Projects
- Timetable and Rate Setting Process
- Prescott Utilities Systems Challenges
- 5-Year Utilities Capital Projects Description

Recommended Action: Discuss and provide direction for activities associated with the Timetable for the proposed rate setting process

Water Fund Capital – FY11

Page No.	Project Description	FY2011
56	Surface Water Recharge Pipeline (Debt Issue)	3,247,854
55	Airport Zone 12 New Tank Reservoir & Booster Station (Debt Issue)	3,075,000
54	Prescott Canyon 1.25 MG Tank Reservoir & Piping (Debt Issue)	2,285,814
53	Airport Zone 12 Tank Reservoir Transmission Piping (Debt Issue)	2,200,000
52	Big Chino Water Ranch (BCWR)	2,808,280
51	Copper Basin Tank Reservoir	1,900,000
50	New Thumb Butte Reservoir	1,680,000
49	Water Meter Change-Out Program	1,500,000
48	Airport Zone Production/Recovery Wells	1,330,000
47	Prescott Resort Pump Station Upgrade	1,300,000
46	Small Water Main Replacements	1,100,000
45	Upper Thumb Butte Tank	1,075,000
18	Williamson Valley Road	1,000,000
21	Rosser Street Reconstruction & Utility Upgrade	800,000
44	Lower Thumb Butte Pump Sta	775,000
43	12" Line Thumb Butte Road - Hassayampa Village Rd to Lower Thumb Butte PS	700,000
42	A/P New Zone 101 Pump Station	600,000
69	Intermediate Pump Station and Reservoirs	500,000
70	Indian Hill Reservoir	300,000
71	Arsenic Treatment Plant	298,000

Water Fund Capital – FY11

Page No.	Project Description	FY2011
72	Granite Creek and Willow Creek Dam Repairs	250,000
73	Copper Basin Tank Reservoir Piping - Sheriff's Posse Trail to New Reservoir	210,500
74	Water Model Update	200,000
75	Telemetry (SCADA) System Install/Upgrade Program	193,000
76	Irrigation Efficiency Enhancements (Heritage Park & Roughrider Field)	160,000
77	Storage Tank Maintenance Program	155,000
78	Yavapai Hills Lower Pump Station Upgrade	150,000
79	Capital Contingencies	150,000
80	Water Production/Distribution Warehouse	150,000
81	Haisley A (Virginia) Pump Station Rehabilitation	110,000
82	Hassayampa Pump Station - New Zone 19	100,000
83	Booster Station Upgrade	100,000
84	12" Line Virginia St - Virginia St Pump Station to Foothills Pump Station	75,000
85	Fire Hydrants	42,000
86	Production Well Maintenance	40,000
87	PRV Upgrades	37,000
46	Senator Highway	15,000
88	Rates Updates	12,500
89	Leak Detection Program	11,000
N/A	Maintenance Management	10,000
		<u>\$ 30,645,948</u>

Water Fund CIP

Page No.	Project Description	FY2012	FY2013	FY2014	FY2015	FY2016
52	Big Chino Water Ranch (BCWR)	2,855,250	1,810,250	1,035,250	935,250	935,250
51	Copper Basin Tank Reservoir	930,000				
49	Water Meter Change-Out Program	1,000,000				
48	Airport Zone Production/Recovery Wells	133,000	1,197,000	133,000	1,197,000	
46	Small Water Main Replacements	1,000,000	1,167,000	1,061,000	1,239,000	1,126,000
42	A/P New Zone 101 Pump Station	2,687,000				
72	Granite Creek and Willow Creek Dam Repairs	250,000				
73	Copper Basin Tank Reservoir Piping - Sheriff's Posse Trail to New Reservoir	195,500				
74	Water Model Update					
77	Storage Tank Maintenance Program	160,000	165,000	170,000	176,000	232,000
78	Yavapai Hills Lower Pump Station Upgrade	800,000				182,000
79	Capital Contingencies	155,000	160,000	165,000	170,000	176,000
81	Haisley A (Virginia) Pump Station Rehabilitation	390,000				
82	Hassayampa Pump Station - New Zone 19	919,000				
83	Booster Station Upgrade	103,000	106,000	109,000	112,000	115,000
84	12" Line Virginia St - Virginia St Pump Station to Foothills Pump Station	550,000				
85	Fire Hydrants	44,000	46,000	48,000	50,000	52,000
86	Production Well Maintenance	42,000	44,000	46,000	48,000	50,000
87	PRV Upgrades	39,000	41,000	43,000	45,000	47,000
46	Senator Highway	100,000				
88	Rates Updates	15,000	13,000	17,000	15,000	19,000
89	Leak Detection Program	12,000		14,000		16,000
90	Old North Tank Reservoir Repl	4,599,000				
44	Park Avenue	1,130,000				
91	Willow Creek 14" Transmission Main	646,000				
48	Robinson Drive	526,000				
92	Haisley New Tank Reservoir	513,000	1,419,000			
93	SR69 Corridor All Phases Water Infrastructure	510,000	1,650,000			
94	Mt Club System Cross Conn	500,000				
95	36" Line Douglas Ave - Willow Creek Road to North Reservoir	462,000				
47	South Mt Vernon	400,000				
96	Upper Rancho Vista Pump Station Upgrade		478,000			
97	12" Line Skyline, Horizon, Lookout - Upper Thumb Butte PS to Upper TB Tank		75,000	375,000		
98	Mingus Tank Reservoir Replacement			600,000	3,700,000	
99	18" Line Smoke Tree Lane - 30" Main at Willow Creek to Birchwood Cove			200,000	1,465,000	
100	12" Line Meadowbrook, Forest Hills Rd - Thumb Butte Rd to Thumb Butte Tank			160,000	1,100,000	
101	Mingus Pump Station Rehabilitation					100,000
		\$ 21,665,750	\$ 8,371,250	\$ 4,176,250	\$ 10,252,250	\$ 3,050,250

Rate increase needed to fund Capital Improvement Plan

Wastewater Fund Capital – FY11

Page No.	Project Description	FY2011
102	Airport Phase 1 (3.2MG) (Debt Issue)	3,360,000
103	Sundog Filter Replacement / Denitrification (Debt Issue)	3,000,000
104	Sewer Mainline Rep/Rehab	1,850,000
105	Cliff Rose Lift Station Upgrade	791,361
106	Granite Dells - Centerpointe East Wastewater Improvements	500,000
107	Sundog Collector/ Sundog Ranch Road (Storm Ranch)	395,000
108	Sundog Digester Cleaning	300,000
109	Capital Contingencies	155,000
110	Lift Station Rehabilitation	150,000
21	Rosser Street	139,100
18	Williamson Valley Rd	130,000
111	Chemical Root Control	105,000
47	South Mount Vernon	15,000
88	Rate Analysis	12,500
N/A	Maintenance Management	10,000
		<u>10,912,961</u>

Wastewater Fund CIP

Page No.	Project Description	FY2012	FY2013	FY2014	FY2015	FY2016
102	Airport Phase 1 (3.2MG)	11,340,000	14,000,000	3,500,000		
104	Sewer Mainline Repl/Rehab	1,030,000	103,000	1,061,000	107,000	1,093,000
106	Granite Dells - Centerpointe East Wastewater Improvements	1,000,000	500,000			
108	Sundog Digester Cleaning			328,000		
109	Capital Contingencies	160,000	165,000	170,000	176,000	182,000
110	Lift Station Rehabilitation	150,000	153,000	157,000	111,000	115,000
111	Chemical Root Control	80,000	83,000	115,000	89,000	92,000
47	South Mount Vernon	520,000				
88	Rate Analysis	15,000		17,000		19,000
112	Sundog Solids Dewatering	2,320,000	5,280,000			
113	Granite St - Granite Creek to Leroux	800,000	1,400,000	1,400,000	1,400,000	
114	Sundog Trunk Main	750,000		350,000	3,250,000	1,820,000
44	Park Ave	674,000				
48	Robinson Drive	349,000				
115	WW Collection Model Update	200,000				
116	WWTP SCADA System	75,000	75,000			
117	Hassayampa			650,000		
118	Sundog Headworks, Septage Receiving and Odor Control				340,000	2,376,000
119	Pleasant Valley					3,400,000
120	Brush-Lincoln (See Gurley)					600,000
						100,000
		19,463,000	21,759,000	7,748,000	5,473,000	9,797,000

Rate increase needed to fund Capital Improvement Plan

City of Prescott 5-Year Utilities Capital Projects Description FY 2011-16

Water Fund	Need
Big Chino Water Ranch	The BCWR has been identified by Council as a critical need to assure water supply for the City's current and future residents.
Old North Reservoir Replacement and Douglas 36" water main	The original reservoir dates back to the 1940's and is deteriorated and leaking. The new reservoir will also double the current capacity. This reservoir serves Zone 0 and all downstream zones and is the single major storage facility for the water system. The project will provide fire flow protection and service for over 28,000 residents.
Surface Water Recharge Pipeline	Surface water recharge credits and the ability to transfer water from the lakes to the recharge basins are critical. The current system is a series of leaking pipes and open ditches and the City loses potentially thousands of gallons of water per year. This project provides for the potential to carry treated effluent from the Sundog plant to the recharge basins. The City is seeking WIFA loans for this project has been preliminarily approved for funding.
Airport Zone 12 New Tank Reservoir & Booster Station	Portions of the infrastructure have already been completed. This project also serves the City's needs by providing service to the Airport area north and south of Highway 89A
Water Meter Change out Program	Continuing program to replace water meters with electronic radio feed meters. This project is a necessary cost-saving program that allows the City to more efficiently and accurately read meters.
Prescott Canyon 1.25 MG Tank and Piping	This project will address system deficiencies along the SR 69 commercial corridor to improve storage capacity and fire flows within Zone 56.
Airport Zone 12 Reservoir Transmission Piping	This project is associated with the Airport Zone 12 Reservoir and Booster Station project above for service in the Airport area.
Copper Basin Tank Reservoir	Project site and easements are being acquired. This reservoir is critical to providing fire flow to Zone 19. Approximately 2500 residents will have improved protection or service.
New Thumb Butte Reservoir	The project site has been acquired. This reservoir is critical to providing fire flow to Zone 27. This reservoir works in conjunction with Zone 24 (Upper Thumb Butte). Approximately 6,500 residents will have improved protection or service in the two zones.
Airport Zone Production/ Recovery Wells	Well siting has been completed and acquisition of property for Airport Well #3 is in progress. This project is critical to providing additional water capacity in the Airport Area. It will also serve an important redundancy function as a limited secondary water source in the event that a failure occurs in the main transmission water lines between Prescott and Chino.
Prescott Resort Pump Station Upgrade	This project is to replace an aged and undersized pump station serving Zone 56 and other zones. More than 3,200 residents and the Prescott Resort are served by this pump station. Water service in this system area will be enhanced increasing safety as a result of the project.
Small Water Main Replacements	This annual program replaces undersized and failing water mains. Most often these are 40+ year old 2" galvanized water lines that are leaking and prone to failure. Replacing these mains provides service and fire flow to residents and reduces water loss.
Upper Thumb Butte Tank	This project has been designed and is currently advertised for bid. This reservoir replaces an existing undersized tank. This reservoir works in conjunction with Zone 27 (New Thumb Butte). Approximately 6,500 residents have inadequate protection or service in the two zones.

Williamson Valley Road	This budget item is for water main replacement in conjunction with the road project. Water main replacement must be done before the new road is complete.
Rosser Street Reconstruction and Utility Upgrade	This budget item is for water main replacement in conjunction with the road project. Water main replacement must be done before the new road is complete.
Lower Thumb Butte Pump Station	This project replaces an aged and undersized pump station serving zones 27 and 24. It is in conjunction with the New Thumb Butte Reservoir project (Zone 27). Approximately 6,500 residents will benefit from increased capacity and service within the two zones.
12" Line Thumb Butte Rd.	This water main must be installed in conjunction with the Lower Thumb Butte Pump Station project.
A/P New Zone 101 Pump Station	This project is in conjunction with the Zone 12 reservoir project and feeds Zone 101 which is generally south of Hwy 89A and southeast of the Airport.
Intermediate Pump Station and Reservoirs	This project will ultimately provide increased storage and pumping capacity to the benefit of the entire water system. The budgeted amount is for right-of-way and easement acquisition for lands generally on Deep Well Ranch. Acquisition negotiations are currently underway.
Indian Hill Reservoir	This project is nearly complete
Arsenic Treatment Plant	The City is mandated to provide drinking water meeting EPA standards of less than 10 ppm. Landscaping and site improvements at the Chino well sites must be completed per agreement with the Town of Chino Valley.
Granite Creek and Willow Creek Dam Repairs	Dam inspections by ADWR have identified repairs that the City must undertake for dam safety.
Copper Basin Tank Reservoir Piping	This project is in conjunction with the Copper Basin Reservoir project (Zone 19) above to improve capacity, service and safety in this area.
Water Model Update	The Water Model was completed in 2005. The water model has been invaluable in performing system evaluations for both capital and private development project needs. In order for the City to continue to provide reliable and accurate information, the model needs to be updated every 5 years due to growth and changes to the system.
Yavapai Hills Lower Pump Station Upgrade	This project is to begin engineering to replace an undersized pump station generally feeding Zones 7, 6, 87 and others. This station is critical to providing fire flows and service to more than 4,600 residents.
Haisley A (Virginia) Pump Station Rehabilitation	This project is to begin engineering to replace an undersized pump station generally feeding Zones 16, 33 and others. This station is critical to providing fire flows and service to more than 3,000 residents.
Hassayampa Pump Station (New Zone 19)	This project is associated with the Copper Basin Reservoir (Zone 19) project above.
12" Line Virginia St- Virginia St Pump Station to Foothills Pump Station	This project is associated with the Haisley A (Virginia) Pump Station which will improve fire flows in the service area.
Senator Highway / S. Mt Vernon	This project is for water main costs associated with the Senator Highway / S. Mt. Vernon Street improvement project. Water main replacement must be done before the new road is complete.
SR 69 Corridor Water Infrastructure	This is critical water main infrastructure to supply Zones 56, 55, 54, 106, 74 and other downstream zones. This project is inter-related with the Prescott Canyon Reservoir project and the Prescott Canyon Pump Station Project. It also will serve to feed the Yavapai Hills Pump Station and ultimately serve over 9,000 residents.

Wastewater Fund	
Airport Phase I (3.75MG) WWTP Upgrades	The Airport WWTP is currently operating near maximum capacity. It is at a crucial juncture where upgrades must be completed before the City is non-compliant ADEQ regulations. If the City does not upgrade the plant, it is possible that Prescott will be in the same position as Sedona wherein ADEQ mandated that no new building permits are issued within the service area until plant capacity can be assured.
Sewer Mainline Replacement/ Rehabilitation project	This annual program replaces undersized and failing sewer mains. Most often these are 40+ year old clay sewer mains that are cracked, leaking and/or have inadequate slope to provide proper flow. These types of sewer mains are often subject to overflow and back-ups. ADEQ requires that the City institute measures to protect groundwater from spills and the system from inflow and infiltration.
Granite Dells- Centerpointe East Wastewater Improvements	Portions of this project have already been completed. This project also provides increased service to areas southeast of the Airport Area and generally north and south of Hwy 89A.
South Mt. Vernon	This project is for sewer main costs associated with the Senator Highway / S. Mount Vernon Street project. Sewer main replacement must be done before the new road is complete.
Sundog Solids Dewatering	The dewatering equipment at the Sundog WWTP dates to early 80's and is beyond operating capacity. Increased strength and solids concentrations have pushed the equipment beyond expected lifecycle and capacity. Currently, operations staff are continually adjusting and repairing the equipment to maintain compliance with ADEQ standards. If the equipment is not replaced, service costs will increase along with compliance issues.
Sundog Headworks, Septage Receiving and Odor Control	The head works and septage receiving facilities at the Sundog WWTP are nearing capacity. Improvements are necessary in the near term to avoid equipment failure and/or treatment issues leading to non-compliance.
Granite St. – Granite Creek to Leroux	This project is to replace a major sewer trunk main that handles a large portion of sewage flow in the southern part of the City. The main is undersized and leaking. It is cracked and has significant root intrusion. This main is susceptible to frequent backups and spills into the environment. Inflow and infiltration (I&I) are also problematic
Sundog Trunk Main	This project is to replace the main sewer trunk main that feeds the Sundog Plant. This trunk main is undersized and has significant cracks and root intrusion. Portions of the main have inadequate slope. The majority of the main lies within the Granite Creek floodway and backups and overflows threaten the creek and potentially Watson Lake. I&I also.
Cliff Rose Lift Station Upgrade	Design for this project is nearly complete. This project upgrades an existing sewage lift station the serves the Cliff Rose and other neighborhoods in the Hwy 89 corridor. The wet well and pumps are undersized causing the pumps to run more frequently than a properly sized lift station. This creates a situation in which an overflow is highly possible if a pump malfunctions. An overflow from this lift station could enter the Granite Creek Preserve and Watson Lake.

TIMETABLE FOR SETTING WATER & WASTEWATER RATES - 2010

Requirements for adopting water and wastewater rates are set forth in ARS 9-511.01. The following timetable would comply with the statute:

8/17/10 Completed	Council Workshop	Discussion of rate increases necessary to fund the FY 11-16 Water and Wastewater Capital Improvement Programs (CIP) resumed at this workshop.
9/7/10	Council Workshop Agenda Item	Continuation of discussion with focus on priority projects and schedule for rate setting public process.
9/28/10 - 10/4/10	Meetings with Customers	Meetings with large water users to discuss proposed rates.
10/14/10	Public Meeting (Evening)	Public Meeting #1 to present proposed rates and receive comments.
10/21/10	Public Meeting (Evening)	Public Meeting #2 to present proposed rates and receive comments.
11/2/10	Council Workshop Agenda Item	Presentation and discussion of public comments received; direction to proceed with rate setting process and/or other direction.
11/9/10	Council Action Agenda Item	Adoption of Notice of Intention declares the intent to adjust/raise rates; sets a public hearing; and releases the public report.
12/14/10	Council Public Hearing Agenda Item	Public hearing on the proposed rates not less than 30 days following adoption of the Notice of Intention.
1/11/11	Council Action Agenda Item	Following the public hearing, Council could adopt an ordinance setting adjusted water and wastewater rates.
3/1/11	New Rates in Effect	Ordinance setting new rates effective 30 days after adoption (reflected in (month) customer bills).

The timetable can be extended by the Council in the event additional information or public meetings are determined necessary.

Prescott's Utilities Systems Operational Challenges

Prescott's Water and Wastewater systems provide significant challenges in daily operations due to the age and size of the Production, Distribution, and Collection systems. The five primary water supply wells serving Prescott date back to acquisition and drilling in 1947. Since this time two additional wells have been brought on line providing only an additional 1,400 GPM of supply. The distribution system has pipelines in service today that exceed 80 years of service, well beyond the industry expectation of a 50-year service life for system materials.

With the age and development of the community, system capacity has been reduced with increased water demand. The Water Distribution System Model has revealed many delivery deficiencies that require up-grade to maintain residential usage and fire flows. The Collection System also consists of infrastructure that exceeds 80 years of service. Infrastructure of this age has condition challenges that require frequent inspections, repairs, and increased maintenance.

Topography plays many rolls in the Prescott Utility Systems. It allows for the majority of the system to be fed using gravity to produce the needed amount of pressure for water delivery to customers. Conversely, it also creates many separate pressure zones due to the alternating hills and valleys as well as creating very high pressures that have to be reduced as the elevation drops in areas of the city. With the primary water supply being in Chino Valley for the last 63 years, water has been pumped into the city via a 15 mile pipeline. The combination of the distance and ascending elevation (approximately 1700') into the highest reaches of Prescott creates 350 to 400 PSI of pressure leaving the Chino pumping compound. This situation is a very costly part of the Water Production Operations.

The topography can also be a benefit and detriment to the Wastewater Collection System. A steady descending grade can allow for wastewater to continue flowing down the piping to the treatment plant as a gravity system. It also creates situations where flow becomes trapped at the bottom of areas and then requires pumping back to a high point to begin a gravity descent again. The natural path of gravity also includes washes and creeks that introduce unwanted water into the Collection System as Inflow and Infiltration causing system overloading and spills when the system is filled beyond capacity.

Utility Models and Master Plans are some of the most important tools that Utility System managers have to understand capabilities and deficiencies in order to meet demands and maintain quality service. The Models utilize existing system information in conjunction with the General Plan and zoning information to determine service requirements in all basins of the City. This information is used to calculate water delivery and collection needs for normal usage through high fire flow to identify the required sizing of pump stations, water tanks, and pipelines.

For wastewater the Model uses dry weather flows through wet weather flows to identify piping that is undersized and is unable to carry the required amount of flow. These calculations identify lift stations and piping that need to be up-sized in the Collection System.

The Wastewater Treatment Master Plan has been compiled over the last year and will be finalized in September of this year. This Master Plan has completed a comprehensive review of the conditions of the two treatment plants, including equipment and technologies being utilized,

calculations of the existing treatment plants capabilities and consideration of future treatment needs and approaches. This will allow the Wastewater Treatment Facilities to continue serving the existing customers and handle flows that will be generated in the future.

The Sundog Plant was last expanded in 1989 which relates to many of the structures and equipment running continuously for the last 21 years while the industry life cycle is considered to be 25 years. The Wastewater Treatment Master Plan has also identified that the current treatment capability of the Sundog Plant has been reduced to 3.2 million gallons per day due to the increased loading factor of the current higher concentrations of solids in the waste stream. The Airport Plant has the same challenges with loadings and is approaching 95% of daily flow treatment capacity.

Water Production Operation Challenges: 63 year old production wells, outdated high-pressure booster pumping compound, age and condition of pump stations, age and condition of storage tanks, age and condition of PRV stations, plus the total number of facilities to maintain.

Water Distribution Operation Challenges: Age and condition of piping up to 80 years old, extreme pressure differentials, age and condition of fire hydrants, and inadequate pipe, storage and pumping capacity.

Wastewater Collections Operation Challenges: Age and condition of piping up to 80 years old, location and access to maintain the system, foreign materials and debris that are introduced into the system, grease and roots in the system, inadequate capacity, age, condition and the number of lift stations.

Wastewater Treatment Operation Challenges: Age and condition of the treatment plants, high flow conditions during wet weather, increased solids loading in the waste stream, and reduced capacity.

Outlined below are brief descriptions of the sections of Utilities Operations and facilities included in the systems.

Water Production

- Maintain 7 Production Wells
- Maintain the High pressure Chino Booster Compound
- Maintain 40 Water Pump Stations and 31 Storage Tanks
- Maintain 87 Pressure Reducing Stations

Water Distribution

- Maintain over 2,100 fire hydrants
- Maintain over 400 miles of water mains
- Maintain over 20,000 mainline valves

Metering Services

- Read over 22,330 water meters per month
- Respond to emergency customer service requests
- Replace faulty and/or failing water meters
- Install meters on new service connections

Wastewater Collections

- Maintain over 300 miles of sewer main lines
- Maintain 64 sewer lift stations
- Maintain over 9,800 manholes and clean-outs

Wastewater Treatment

- Operate and maintain the Sundog Ranch Road and the Airport Wastewater Treatment Facilities
- Maintain regulatory compliance through operations, sampling and analysis of treatment processes

Effluent Delivery

- Maintains Effluent Delivery System
- Supplies effluent water to reuse users

Water Protection Services

- Develop and implement a Pre-Treatment Program
- Manage the Backflow and Cross Connection Program

Production Key Activities During the Last Year

- Produced and delivered 7,374 ac/ft of water

- Collected and submitted 1,096 water quality samples, maintaining regulatory compliance
- Completed major repair projects on Well #5 and Booster Pumps #2 and #4

Distribution Key Activities during the Last Year

- Responded to over 1,254 customer service calls
- Performed over 4,700 utility locates and markings
- Installed or repaired 87 water service lines
- Repaired or replaced 128 fire hydrants
- Repaired over 45 water main leaks

Metering Services Key Activities During the Last Year

- Performed over 268,000 meter reads
- Responded to over 5,300 service calls
- Installed over 138 water meters for new services
- Replaced over 238 faulty water meters

Collections Key Activities During the Last Year

- Cleaned over 658,000 linear feet of sewer main lines
- Cleaned Lift Stations a total of 238 times
- Performed video inspection on over 195,000 linear feet of sewer main lines
- Completed over 84 repairs to the sewer collection system
- Completed over 330 inspections and/or repairs on Lift Stations

Treatment Key Activities During the Last Year

- Produced a combined total of 1,268,895,000 gallons (4,134 ac/ft) of treated effluent for reuse and recharge from the two treatment plants
- Partnered with ADEQ for the completion of the Aquifer Protection Permit Amendment
- Completed cleaning, inspections and repairs on both oxidation ditches at the Sundog WWTP and one at the Airport WWTP

Effluent Delivery Key Activities During the Last Year

- Delivered 1,800.43 ac/ft of surface water from Watson and Willow Lakes to the Aquifer Recharge Facility
- Delivered a combined flow from the two treatment plants of 2,699.33 ac/ft to the Aquifer Recharge Facility
- Delivered 1,342.32 ac/ft of treated effluent to major users
- Completed soil cultivation of seven recharge basins
- Completed brush removal and grading to improve Watson/Willow Lake Crossover Channel

Water Protection Key Activities During the Last Year

- Inspected over 200 new and existing backflow prevention assemblies

- Tested and repaired over 75 City-owned backflow prevention assemblies
- Reviewed and revised the City Code for proposed Pretreatment Ordinance adoption