CITY OF CHENEY PURPLE PIPE PROJECT

AWC Conference

6/22/2023

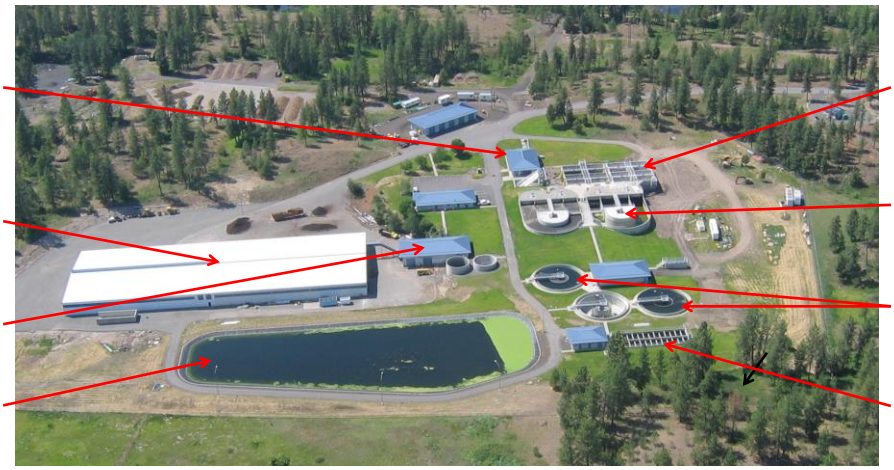
1

Wastewater Treatment and Reclamation Plant

- In 1994 the City of Cheney transitioned to an advanced wastewater treatment facility from a lagoon system.
- Effluent from the wastewater treatment plant is discharged into a 100-acre constructed wetland.
- In 2007 an engineering study concluded that the city could provide 1.0 million gallons of reclaimed water from the wastewater plant and still maintain the viability of the constructed wetlands.
- In 2016 an engineering study looked at reclaimed water alternatives based on the reclaimed supply from the 2007 study.

2

City of Cheney Wastewater Treatment and Reclamation Plant Began Operation in 1994, Upgraded in 2010, 1.9 MGD AADF



Aerial photo courtesy of Dr. Larry Esvelt, PhD

3

CITY OF CHENEY CONSTRUCTED WETLANDS

Aerial photo courtesy of Dr. Larry Esvelt, PhD

100 acres

4

Project Objectives

- Provide a new source and supply of up to 1.0 million gallons per day (MGD) of irrigation water during the summer.
- Reduce the demand on the City's existing potable water supply system and eliminate watering restrictions associated with the existing seasonal water source deficit.

5

CITY OF CHENEY WATERING RESTRICTIONS

Letter from the Mayor…

Dear Community Members:

In advance of extreme temperatures in the coming week and the drought conditions we are experiencing in this region, the City of Cheney is requiring irrigation conservation measures to sustain our potable water resources. The conservation measures include the following:

1. Odd/even irrigation schedule: Your address will be your irrigation day. Odd number addresses water on odd dates and even addresses water on even dates.
2. Restricting watering times by ½: Reset your irrigation runtimes by ½ or reduce your manual water times by ½.
3. Irrigation watering times: Irrigation watering times will be 10:00 p.m. to 6:00 a.m. Irrigation restriction will be from 6:00 a.m. to 10:00 p.m.

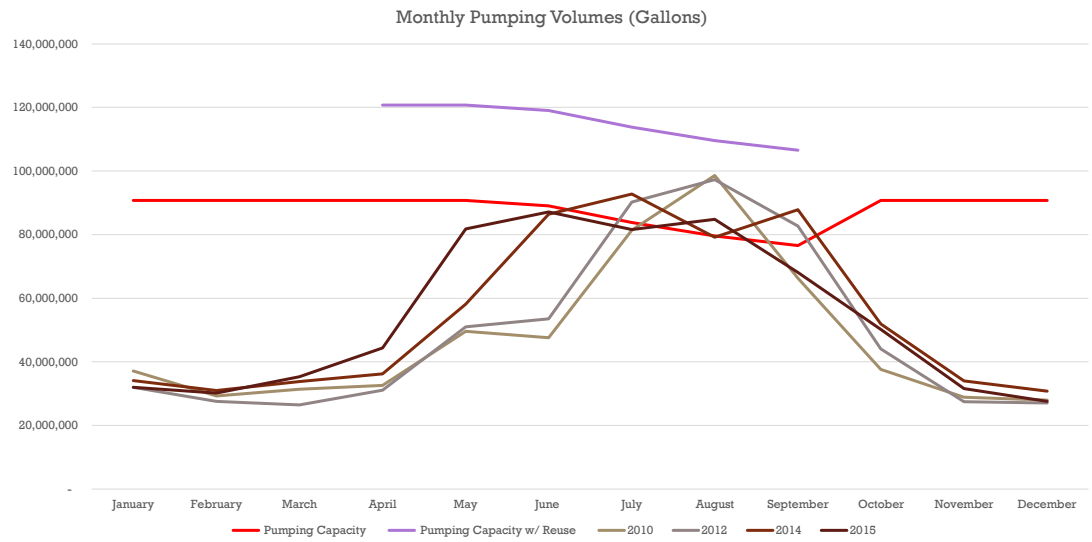
6

Pumping Totals 2015

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Well #1	410	410	410	400	396	381	366	359	346	328		
Well #2	225	245	250	225	227	220	204	197	187	178	196	203
Well #5	460	455	450	450	441	431	424	422	423	418	414	407
Well #6				418	400	387	360	338	321	300		
Well #7					170	154	133	127	135	132		
Well #8				400	445	488	452	399	360	345	335	317
Totals	1095	1110	1110	1893	2079	2061	1939	1842	1772	1701	945	927

7

Water Usage



8

		ADD (GPM)	MDD (GPM)	PHD (GPM)
2018	Entire System	1,208	2,247	3,714
	Main Zone	894	1,663	2,779
	High School Zone	272	506	927
	Scenic Heights Zone	42	78	208
2028	Entire System	1,385	2,576	4,241
	Main Zone	1,025	1,907	3,169
	High School Zone	312	580	1,046
	Scenic Heights Zone	48	90	231
2038	Entire System	1,589	2,955	4,846
	Main Zone	1,176	2,187	3,617
	High School Zone	357	665	1,182
	Scenic Heights Zone	56	103	258

9

	Cheney		US Average	
	gpd	%	gpd	%
Indoor	140	41	210	70
Outdoor	198	59	90	30
Total	339	100	300	100

10

Project Alternatives

- Do nothing
  - Least cost.
  - Continued irrigation restrictions.
  - May reduce economic development.
  - May reduce City recreational program opportunities.
- Drill a new groundwater supply well
  - Less cost than other alternatives.
  - No guarantee of reliable long-term supply.
  - Contributes to declining groundwater level in supply aquifer.
- Import and purchase water from the City of Spokane
  - Nearly equal in cost to the proposed purple pipe project.
  - Subject to price increases and use restrictions by the City of Spokane.
  - Seasonal restrictions due to Spokane River minimum instream flow rule.
  - Emergency uses only - such as for drinking water.
- Proposed Purple Pipe Project

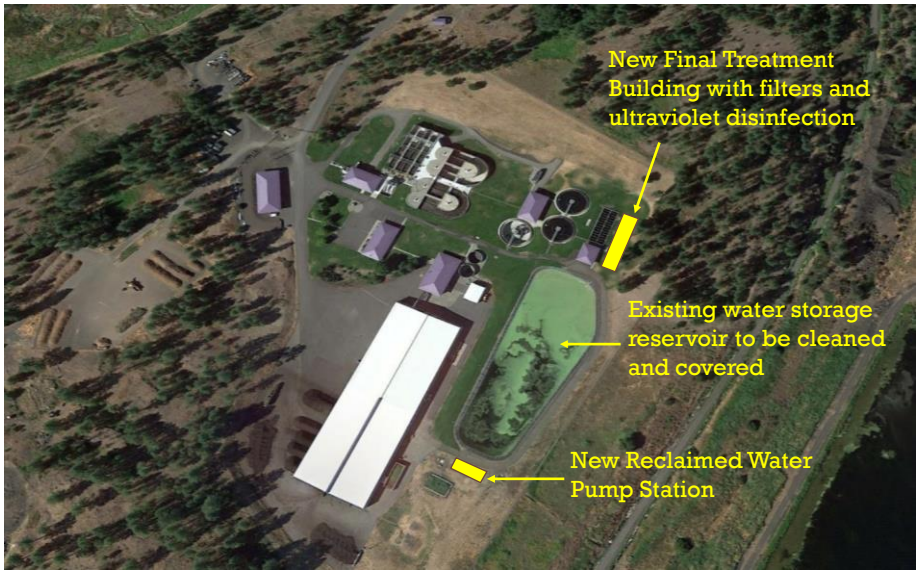
11

Benefits of Proposed Project

- Provides a new reliable and drought-tolerant water supply.
- Eliminates mandatory summertime watering restrictions.
- Reduces withdrawals from the City's potable water supply aquifer and slows the groundwater level decline.
- Supports economic development.
- Supports City recreational opportunities.
- Provides a water source that will increase with development and the associated discharges to sewer.
- Provides the distribution infrastructure for other potential sources of non-potable water, such as treated stormwater.
- Provides a water source that is not reliant on imported water and the associated use restrictions and potential price increases.
- Modernizes existing electrical equipment at the City's treatment plant and utilizes unused facilities for storage of reclaimed water.

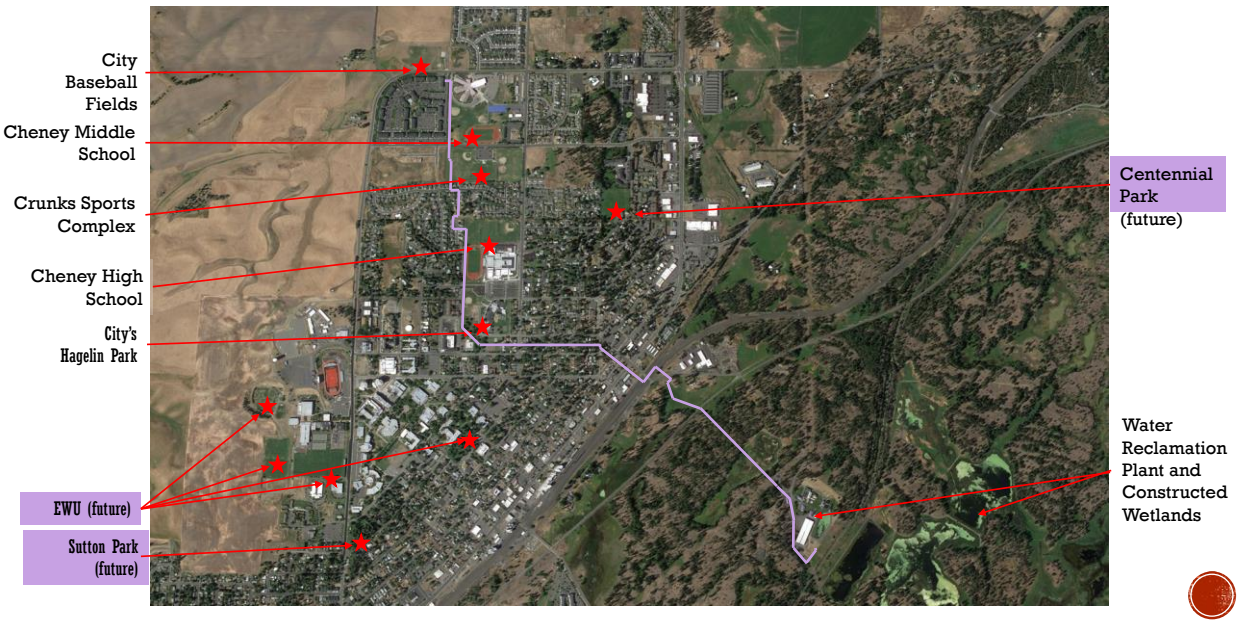
12

RECLAIMED WATER TREATMENT



13

RECLAIMED WATER IRRIGATION SITES AND TRANSMISSION LINE



14

Reclaimed Water Quality

- Reclaimed water will comply with the water quality requirements regulated per Chapter 173-219 WAC Reclaimed Water.
- Chemical coagulation, filtration, and disinfection will remove pathogens from the water so it is safe to use for irrigation.
- Project planning and design documents have been approved by the Washington State Departments of Health and Ecology.

15

Construction Timeline

Year 2022-2023: Electrical Upgrades at Treatment Plant

Year 2023-2024: Reclaimed Water Treatment System

Year 2024: Reclaimed Water Storage and Pump Station

Year 2025: Reclaimed Water Distribution System

Year 2026: Construction Complete

16

Construction Cost Estimate

Construction Contract	Capital Cost
Electrical Upgrades	$1,434,000
Reclaimed Water Treatment System	$10,110,000
Reclaimed Water Storage and Pump Station	$5,116,000
Reclaimed Water Distribution	$7,163,000
Total	*$23,823,000*

17

Construction Funding

Funding Source	Amount
Washington State Department of Commerce - Grants	$13,000,000
US Bureau of Reclamation - Grant	$5,455,750
Washington State Department of Ecology – 1.2% Loan	$5,367,250
Total	*$23,823,000*

18

CHENEY RESIDENTIAL STREET PRESERVATION PROGRAM

- 1998 Cheney citizens voted in support of a 4% electrical and natural gas tax for the preservation of streets and sidewalks:
  - The tax initiative had a 14-year sunset, and the City provided a map and list of street and sidewalks that would be completed during the 14-year period.
  - At the end of the 14-year initiative, the City reported back to its citizens that all streets and sidewalks were completed.
  - 2012 Cheney citizens voted in support to continue the 4% electrical and natural gas tax another 14 years.
  - In addition to preserving residential street (local access, non-arterial) the preservation tax has been used as a match towards arterial streets projects (State / Federal grants) leveraging over $4 Million dollars in preservation grants.
  - CDBG grants were also used to replace water mains using street preservation projects as a match addressing high priority needs. The City has received over $2 Million in grant funds for water main replacement.

19

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water for tomorrow

Thank you!

https://www.cityofcheney.org/429/Water-Reuse

20