



# Wastewater Treatment Plant Financing Challenges



# Background Information and Statistics

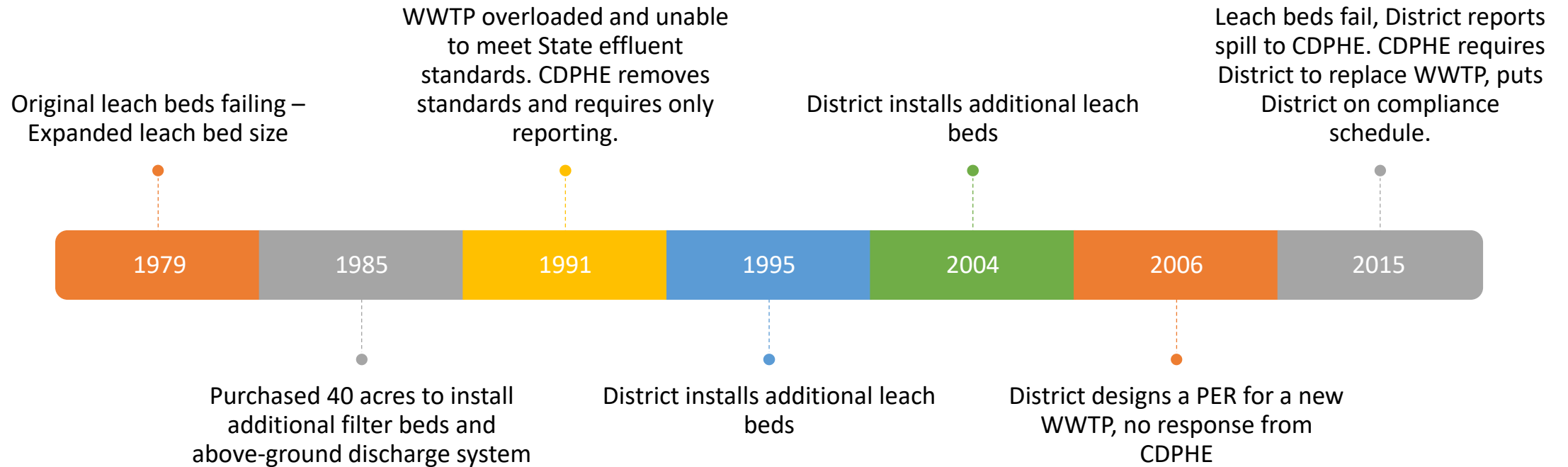
# Operations

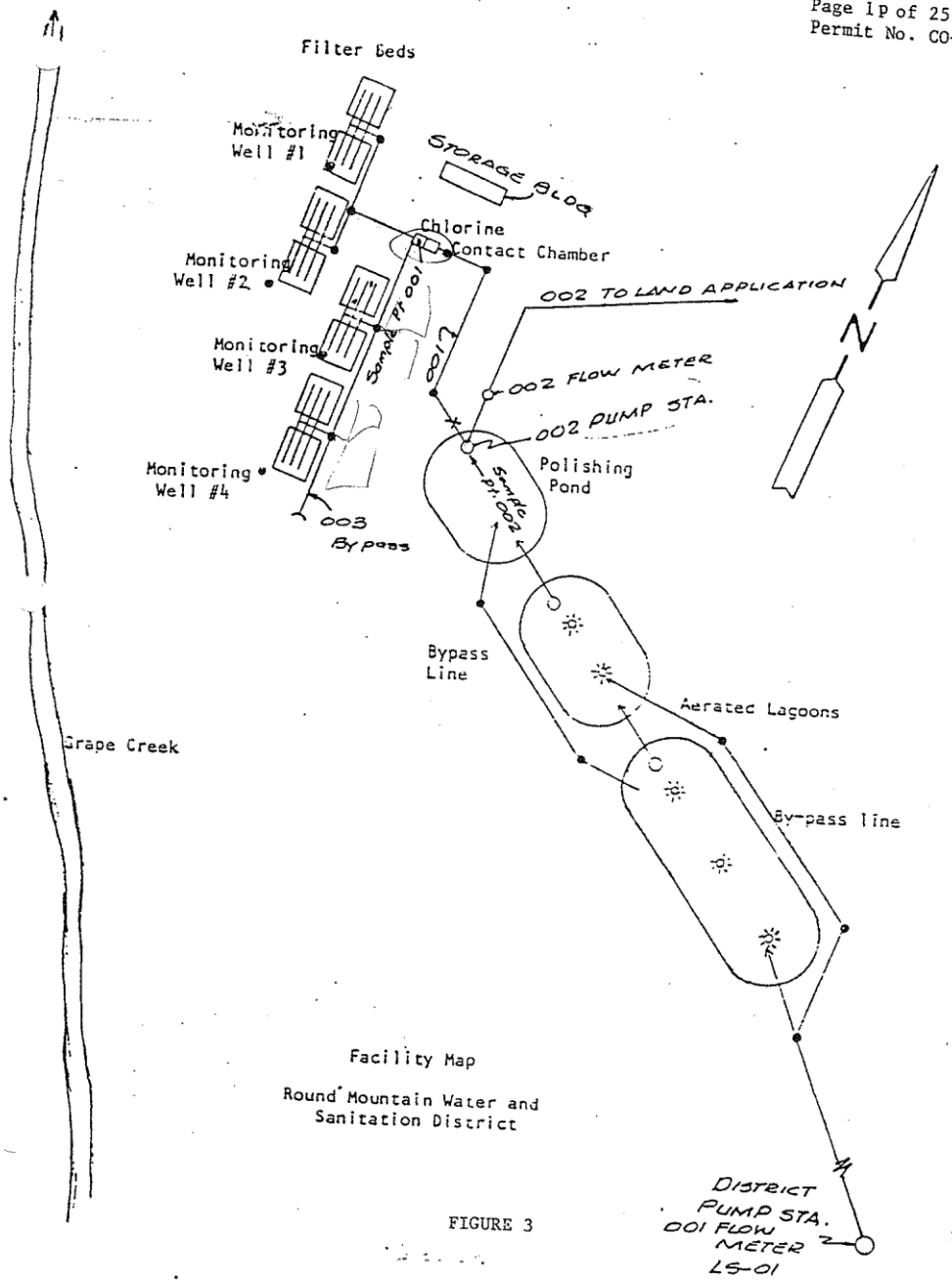
- Round Mountain WSD formed in 1969
- District Size – 6485 acres
- District population - 1450
- Silver Cliff and Westcliffe municipal water systems deeded to RMWSD in 1975 and connected to make one water system
- Sewer collection system and treatment plant built in 1975
- 26 miles of water mains, 18 miles of sewer mains
- 6 full-time staff
- 685 water taps, 650 sewer taps

# Financial

- District MHI - \$32,000 - only 42% of Colorado MHI
- \$1.1 million budget
- Only 7% of budget comes from property tax
- District implementing 3 critical infrastructure upgrades
  - New CDPHE mandated WWTP - \$13.5 million
  - System wide water meter replacement/municipal well replacement - \$2.1 million
  - Construct State mandated water storage reservoir - \$2.3 million

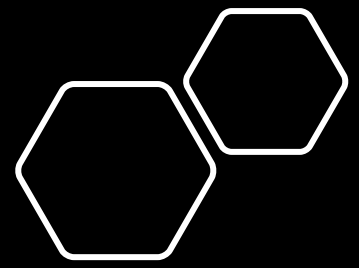
# WWTP Timeline





Facility Map  
Round Mountain Water and  
Sanitation District

FIGURE 3



# WWTP Replacement Design Adventures

- 3/16 – District retains a Design Engineer, obtains PELs from CDPHE, District chooses surface water discharge
- 6/16 – CDPHE informs District that the Feds have listed Grape Creek as impaired due to nutrient loading in DeWeese Reservoir. CDPHE recommends the District to change to a groundwater discharge.
- 7/16 – 3/17 – District argues with State and Feds that the WWTP design falls under the exemption categories in Reg 85. Feds claim 303D supersedes state exemptions.
- 4/17 – District re-designs WWTP for ground discharge. \$6 million price estimate
- 12/17 – District submits PER to CDPHE
- 3/18 – CDPHE requires 6-month TDS study

- 9/18 – District receives \$1 million grant from DOLA, acquires financing from USDA to pay for \$6 million plant
- 10/18 – District re-applies for PELS
- 11/18 – CDPHE requires soil core sampling at leach field site. Soils found unsuitable and CDPHE rejects groundwater discharge site
- 12/18 – District forced to go back surface water discharge. Waits for PELS
- 5/19 District receives PELS. Very strict limits drive a re-design of the WWTP
- 7/20 – District receives WWTP Project approval from CDPHE
- 8/20 – District receives updated project cost estimates from design engineer. Cost more than doubles from \$6 million to \$13.2 million, far beyond the District's ability to finance



2016 Table 1		
Preliminary Effluent Limits for Evaluation under the Site Approval Process Discharge to Grape Creek at a Design Flow of 0.14 MGD		
BOD <sub>5</sub> (mg/l)	45 (7-day average), 30 (30-day average)	
BOD <sub>5</sub> (% removal)	85 (30-day average)	
TSS, mechanical plant (mg/l)	45 (7-day average), 30 (30-day average)	
TSS, mechanical plant (% removal)	85 (30-day average)	
Oil and Grease (mg/l)	10 (maximum)	
pH (s.u.)	6.5-9.0 (minimum-maximum)	
As (total recoverable) (µg/l)	Monitoring	
Other Pollutants	Max. Limits or WQBELS	ADBACs
E. Coli (#/100 mL)	4000 (7-day geomean), 2000 (30-day geomean)	297 (2-yr Avg.)
TRC (mg/l)	0.21 (daily maximum), 0.18 (30-day average)	0.028 (2-yr Avg.)
Total Inorganic Nitrogen as N (mg/l)	109 (Daily Max.)	16 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) January	Report (daily maximum), Report (30-day Avg.)	12 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) February	Report (daily maximum), Report (30-day Avg.)	24 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) March	Report (daily maximum), Report (30-day Avg.)	30 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) April	Report (daily maximum), Report (30-day Avg.)	17 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) May	Report (daily maximum), Report (30-day Avg.)	11 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) June	Report (daily maximum), Report (30-day Avg.)	8.7 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) July	Report (daily maximum), Report (30-day Avg.)	6.3 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) August	Report (daily maximum), Report (30-day Avg.)	6.2 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) September	Report (daily maximum), Report (30-day Avg.)	11 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) October	Report (daily maximum), Report (30-day Avg.)	15 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) November	Report (daily maximum), Report (30-day Avg.)	17 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) December	Report (daily maximum), Report (30-day Avg.)	16 (2-yr Avg.)

2019 Table 1		
Preliminary Effluent Limits for Evaluation under the Site Approval Process Discharge to Grape Creek at a Design Flow of 0.14 MGD		
BOD <sub>5</sub> (mg/l)	45 (7-day average), 30 (30-day average)	
BOD <sub>5</sub> (% removal)	85 (30-day average)	
TSS, mechanical plant (mg/l)	45 (7-day average), 30 (30-day average)	
TSS, mechanical plant (% removal)	85 (30-day average)	
Oil and Grease (mg/l)	10 (maximum)	
pH (s.u.)	6.5-9.0 (minimum-maximum)	
<b>D.O.</b>	<b>Report</b>	
Other Pollutants	Max. Limits or WQBELS	ADBACs
<b>Temp DM and Temp MWAT (°C) April- Dec</b>	<b>24.2 (daily maximum) 21.3 (MWAT)</b>	<b>NA</b>
<b>Temp DM and Temp MWAT (°C) Jan- March</b>	<b>13.0 (daily maximum) 9.0 (MWAT)</b>	<b>NA</b>
E. Coli (#/100 mL)	126 (30-day geomean), 252 (7-day geomean)	19 (2-yr Avg.)
TRC (mg/l)	0.017 (30-day average), 0.2 (daily maximum)	0.026 (2-yr Avg.)
Total Inorganic Nitrogen as N (mg/l)	105 (daily maximum)	15 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) January	25 (30-day average), 36 (daily maximum)	3.8 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) February	29 (30-day average), 41 (daily maximum)	3.8 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) March	36 (30-day average), 60 (daily maximum)	4.6 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) April	33 (30-day average), 64 (daily maximum)	4.7 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) May	29 (30-day average), 57 (daily maximum)	5.1 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) June	31 (30-day average), 49 (daily maximum)	6.2 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) July	26 (30-day average), 45 (daily maximum)	4.1 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) August	21 (30-day average), 46 (daily maximum)	3.2 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) September	22 (30-day average), 48 (daily maximum)	3.0 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) October	31 (30-day average), 53 (daily maximum)	4.0 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) November	26 (30-day average), 45 (daily maximum)	4.7 (2-yr Avg.)
NH <sub>3</sub> as N, Tot (mg/L) December	27 (30-day average), 40 (daily maximum)	4.1 (2-yr Avg.)
<b>Total Phosphorus (mg/l)</b>	<b>0.025 (annual median)</b>	<b>NA</b>

2019 Table 2	
Preliminary Effluent Limits for Evaluation by the Permittee Discharge to Grape Creek and DeWeese Reservoir at a Design Flow of 0.14 MGD	
<b>As (total recoverable) (µg/l)</b>	<b>0.02 (30-day average)</b>

2019 Table 3	
Preliminary Effluent Limitations for Future Evaluation by the Permittee (Reg 31.17) Discharge to Grape Creek and DeWeese Reservoir at a Design Flow of 0.14 MGD	
<b>Total Nitrogen (mg/l)</b>	<b>9.1 (annual median)</b>

- 10/20 - District hires 2 engineering firms to conduct peer reviews on the WWTP design. Both confirmed that design and expense was necessary to produce the effluent quality desired from CDPHE.
- 1/21 – Applied for a supplemental loan/grant package from USDA
- 7/21 – USDA recommends de-obligating existing funds, doubling wastewater fees and re-applying for loan/grant as a new project
- 7/21 – District desperately looking to anyone for financial assistance!

**HELP!!**

# REALITY CHECK

- The District will be forced to put a moratorium on tap sales effective 1/22 if financing is not in place by the end of 2021.
- The District has spent over \$630,000 for engineering and geotech work. This expense has depleted our reserves and our general funds to unhealthy levels.
- The District needs upwards of \$8 million in grants to complete this project without damaging the community economically.
- Can the District afford to operate the new plant if/when it is constructed? Will high Water/WW fees shutter businesses?
- Will CDPHE's zeal in requiring such restrictive effluent limits unintentionally cause the environmental damage they are trying to prevent as small communities/districts will likely remove themselves from operating WWTPs or are forced into bankruptcy?
- FINANCIAL sustainability and resiliency MUST be the main guiding factor in Water and Wastewater Utility upgrades!!
- Special Districts are currently unable to apply for the new infrastructure money. This needs to change!