


# **Nampa Industrial Working Group**



## **Workshop #2**

November 29, 2017



**NAMPA***Proud*


City of Nampa  
Wastewater Division  
[www.cityofnampa.us/wastewater](http://www.cityofnampa.us/wastewater)




# **Introductions and Today's Workshop**

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Nate Runyan, P.E., Deputy Public Works Director





## Today's Objectives

- Provide wastewater upgrade process update
- Present Cost of Service Study results
- Review local limits and provide an Industrial Permit update
- Explain 2018 wastewater upgrade activities



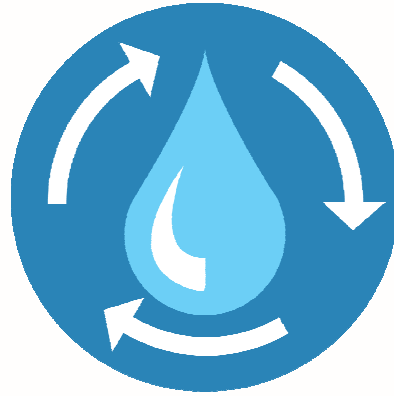
## NWAG/Industrial Working Group Feedback

- When asked to choose just one alternative, NWAG members overwhelmingly favored Alternative 2.5
- Alternatives 2 and 2.5 were ranked the highest on comment sheets
  - NWAG members saw value in reusing water and the benefits to industry and/or irrigation customers
  - Members indicated the need to consider the future and long-term growth
- IWG is interested in developing recycled water program and sees potential in industrial reuse
- Alternatives 5 and 6 were ranked the lowest due to concerns with the risks associated



## Direction from City Council

- Develop a recycled water program for Nampa to maximize the value of Nampa's treated water
- Look for opportunities to maximize the amount of water reused through a combination of industrial and irrigation reuse



## Addressing Fatal Flaws for Irrigation Reuse

- City staff and Wastewater Program Management are working with irrigation districts and DEQ to allow for irrigation reuse
- Potential obstacles (fatal flaws) associated with discharge to an irrigation canal:
  - Developing an agreement with irrigation canal company to allow discharge
  - Negotiating a recycled water permit that meets the assumed conditions for temperature discharge

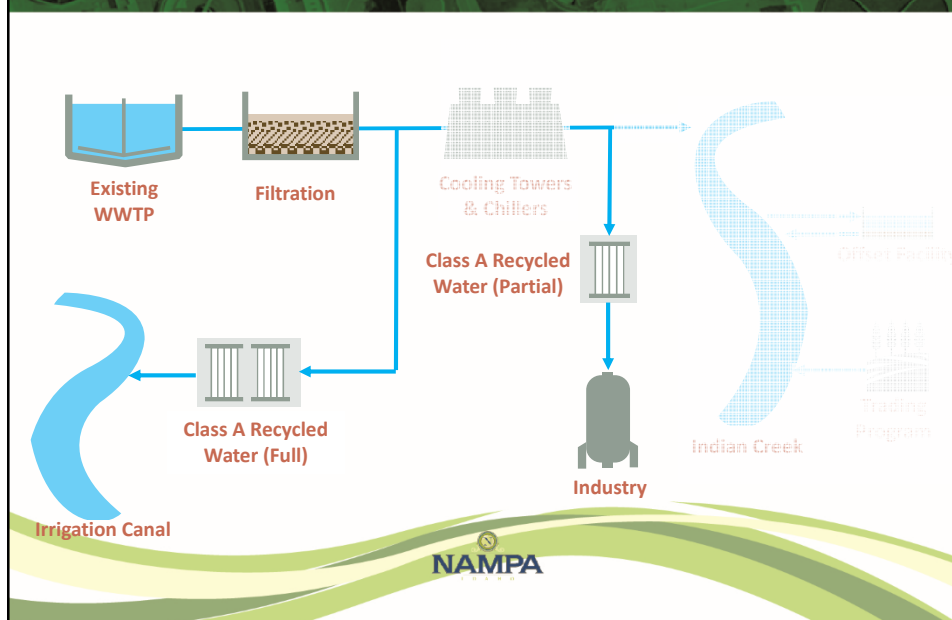


## Overview of Cost-of-Service Methodology

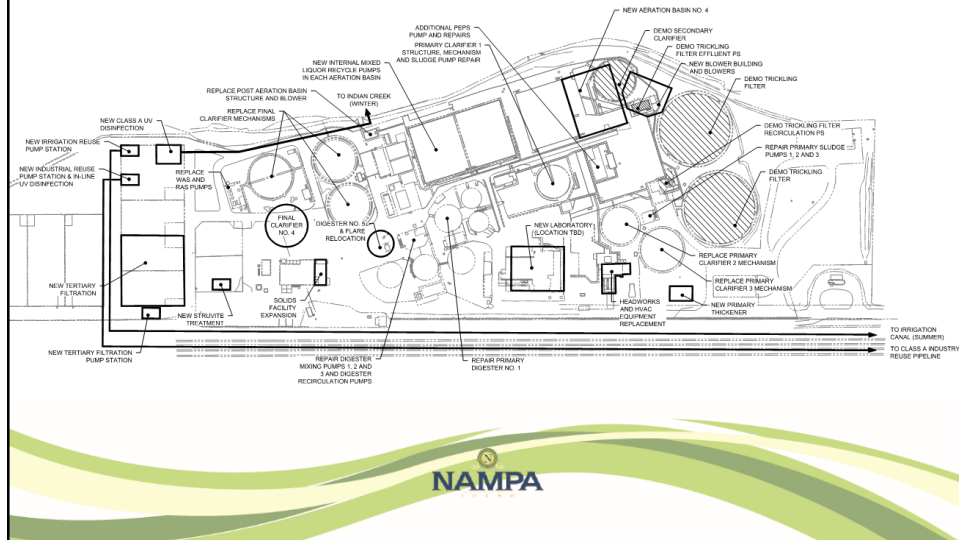
Matt Gregg, P.E., Brown and Caldwell



## Preferred Alternative



## Preferred Alternative – Nampa's Recycled Water Program



## Preferred Alternative



**CAPITAL COSTS: \$120.9 million**

**OPERATIONS & MAINTENANCE COSTS:**  
**\$9.7 million annual average**

Total costs from 2026-2040 = \$142.3 million



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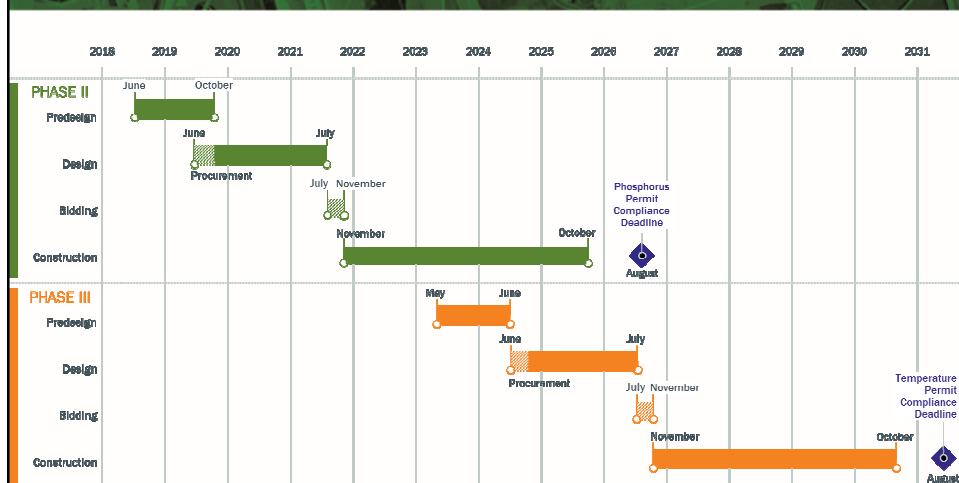
## Capital Improvements Plan

Project Component	Cost*
Phase II Upgrades	\$108,957,000
Phase III Upgrades	\$11,919,000
Repair and Replacement Projects	\$13,223,000
Programmatic Contingency	\$15,488,000
<b>TOTAL</b>	<b>\$149,587,000</b>

\*Costs are presented in 2017 dollars.



## Capital Improvements Schedule



## Question #1 – Capital Improvements Plan

***Do you have any questions or comments regarding the capital improvements plan for Nampa's wastewater upgrade?***



## Reminder: Critical Success Factors

1. Preserve our natural resources and our environment to promote a caring community where people live, work, play, worship, and raise their families
2. Provide a healthy, professional environment that empowers our employees to succeed
3. ***Maintain affordable wastewater service for rate payers through long-term, fiscally-sound decision-making***
4. Stimulate economic development by efficient utilization of resources and providing sufficient utility capacity
5. Anticipate future regulatory requirements by considering economic ramifications to environmental action



## Defining Affordability

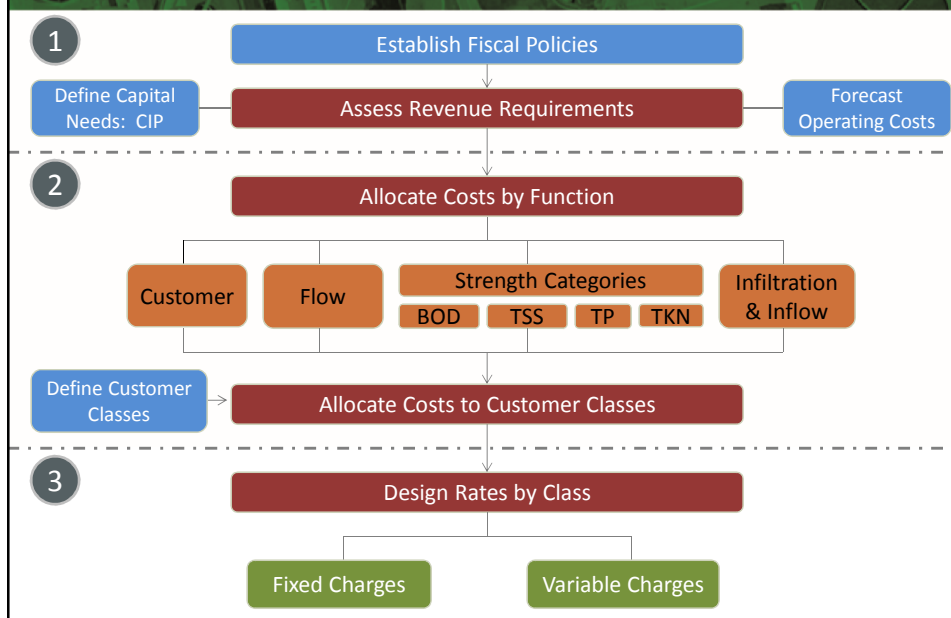
- EPA defines affordability as a percentage of median household income
- What rates are affordable for Nampa's industrial customers?

Affordability Indicator*	Average Residential Monthly Bill (2017 Dollars)
1% of Median Household Income	\$33.38
1.5% of Median Household Income	\$50.08
2% of Median Household Income	\$66.77

\*Based on 2015 median household income of \$40,060 (US Census Bureau)



## Cost-of-Service Rate Analysis

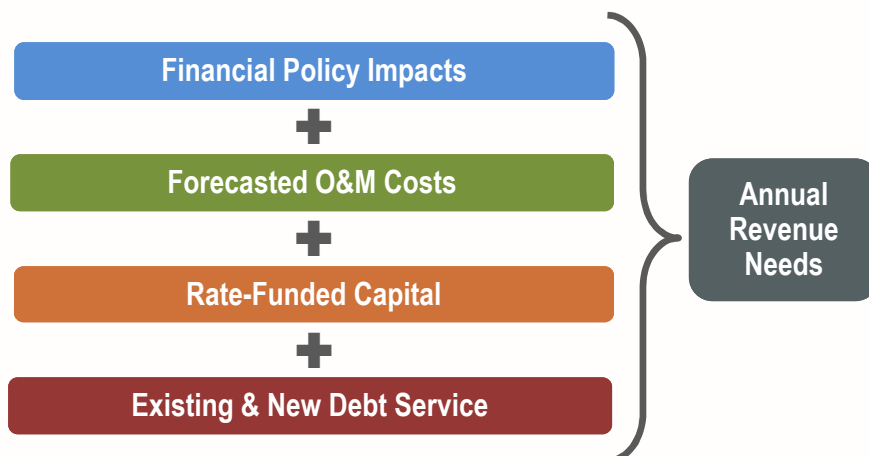


## Overview of Revenue Requirement

- Determines the amount of annual revenue necessary to meet all utility financial obligations
- Evaluates sufficiency of current rates on a standalone basis
- Develops annual rate adjustment strategy
  - Multi-year financial plan



## How Much Revenue is Needed?



## Funding Approaches

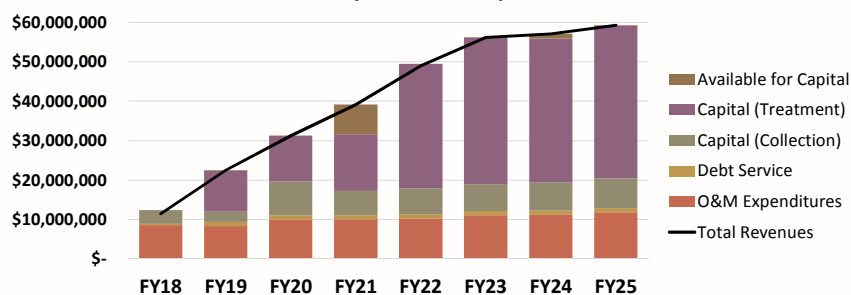
Rate Increase Scenarios	Funding Approach	Rate Increase Pattern
<b>Scenario A – Cash-Only Funding</b>	<ul style="list-style-type: none"> <li>All cash funding</li> </ul>	<ul style="list-style-type: none"> <li>Initial rate increase of 93% in FY19</li> <li>Additional rate increases of 12-35% between FY20 and FY23</li> </ul>
<b>Scenario B – Debt and Cash Funding with Smoothed Increases</b>	<ul style="list-style-type: none"> <li>Mix of cash and debt funding</li> <li>\$165M funded by debt through 2025*</li> </ul>	<ul style="list-style-type: none"> <li>Consistent rate increases of 16.75% annually from FY19 through FY25</li> </ul>
<b>Scenario C – Debt and Cash Funding with Front-Loaded Increases</b>	<ul style="list-style-type: none"> <li>Mix of cash and debt funding</li> <li>\$145M funded by debt through 2025*</li> </ul>	<ul style="list-style-type: none"> <li>Initial rate increase of 88% in FY19</li> <li>Additional rate increases of 4.5% between FY20 and FY25</li> </ul>

\*Accounts for inflation in construction costs from 2017.



## Scenario A: Cash-Only Funding

**Wastewater Utility Revenue Requirement Forecast**

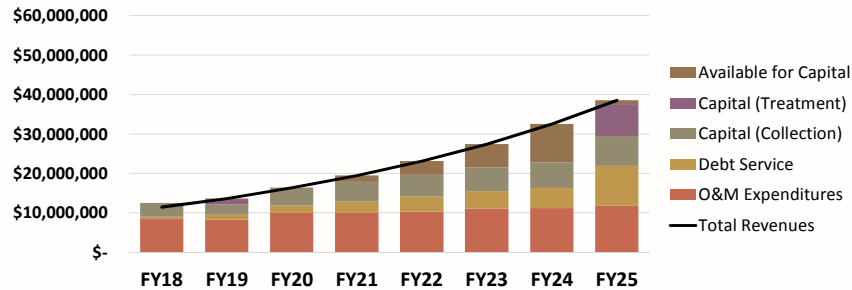


	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Annual Rate Increase	0.00%	93.00%	35.00%	23.00%	23.00%	12.86%	0.00%	2.08%
Average Monthly Residential Bill	\$24.47	\$47.22	\$63.75	\$78.41	\$96.44	\$108.84	\$108.84	\$111.11
1.5% Median Monthly Household Income	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08



## Scenario B: Debt and Cash Funding with Smoothed Increases

**Wastewater Utility Revenue Requirement Forecast**

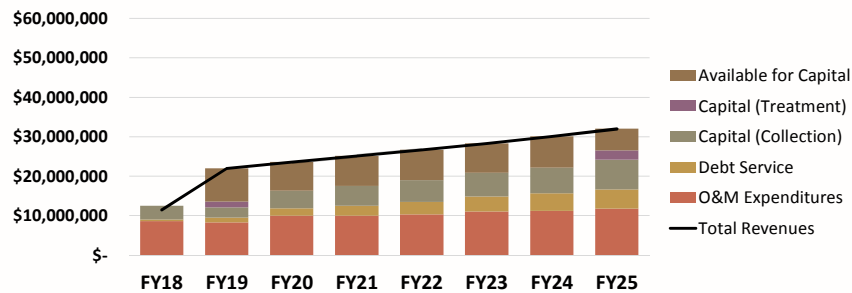


	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Annual Rate Increase	0.00%	16.75%	16.75%	16.75%	16.75%	16.75%	16.75%	16.50%
Average Monthly Residential Bill	\$24.47	\$28.57	\$33.35	\$38.94	\$45.46	\$53.07	\$61.96	\$72.18
1.5% Median Monthly Household Income	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08

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## Scenario C: Debt and Cash Funding with Front-Loaded Increases

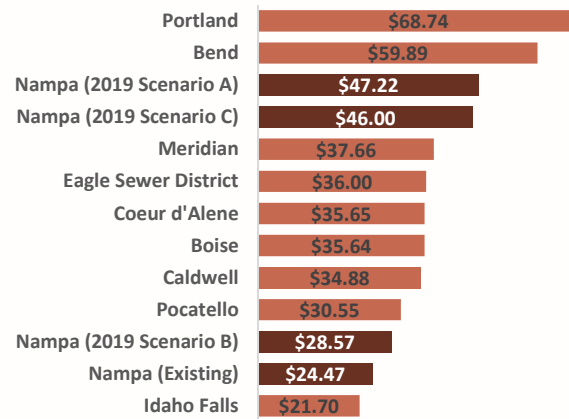
**Wastewater Utility Revenue Requirement Forecast**



	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Annual Rate Increase	0.00%	88.00%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Average Monthly Residential Bill	\$24.47	\$46.00	\$48.07	\$50.23	\$52.49	\$54.85	\$57.32	\$59.90
1.5% Median Monthly Household Income	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08	\$50.08

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## 2017 Monthly Residential Bill Comparison



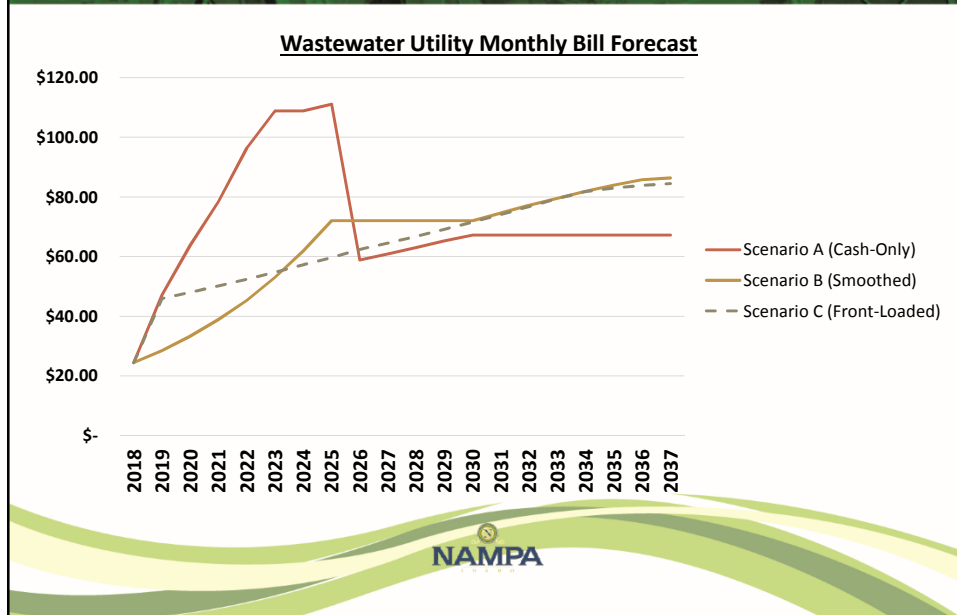
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## Example Industrial Monthly Bill Comparison

	2018	2019	2022	2025
<b>Scenario A – Cash-Only Funding</b>				
	\$100	\$214	\$437	\$504
<b>Scenario B – Debt and Cash Funding with Smoothed Increases</b>				
	\$100	\$135	\$215	\$341
<b>Scenario C – Debt and Cash Funding with Front-Loaded Increases</b>				
	\$100	\$217	\$248	\$283

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## Comparison: Average Monthly Residential Bill



## Question #2 – Funding Approach

***What is your preferred approach for funding of the upgrades?***

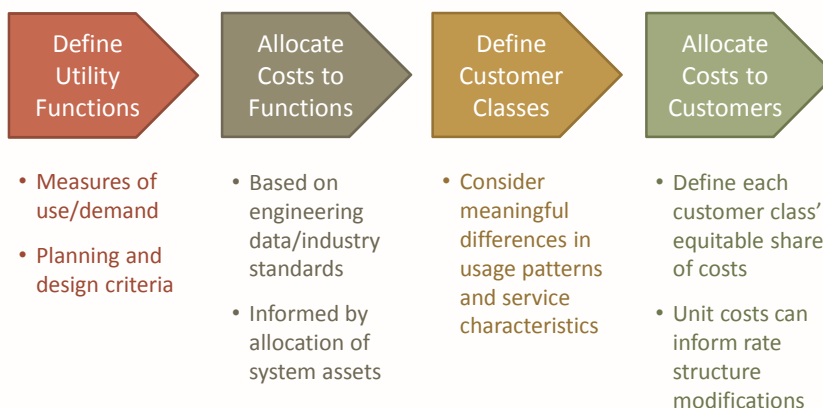
- 1) Scenario A – Cash-Only Funding
- 2) Scenario B – Debt and Cash Funding with Smoothed Increases
- 3) Scenario C - Debt and Cash Funding with Front-Loaded Increases

## Role of Cost-of-Service Analysis

- Allocates the revenue requirement among customer classes
  - Based on the demand each class places on the system
- An equitable distribution of costs can consider:
  - Measures of volume and demand (levels and patterns)
  - Planning, engineering, and design criteria
  - Facility requirements (pumping, treatment, etc.)
- End result
  - Allocated cost by class
  - Unit costs (\$ per customer/unit of usage)

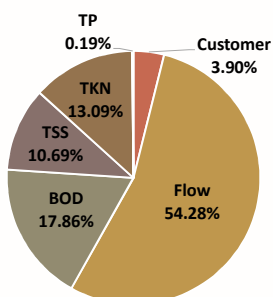


## Elements of Cost-of-Service Analysis

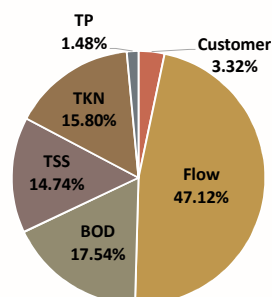


## Functional Allocation *(Based on Scenario B)*

**Allocation Used in Current Rates**



**Updated Allocation**



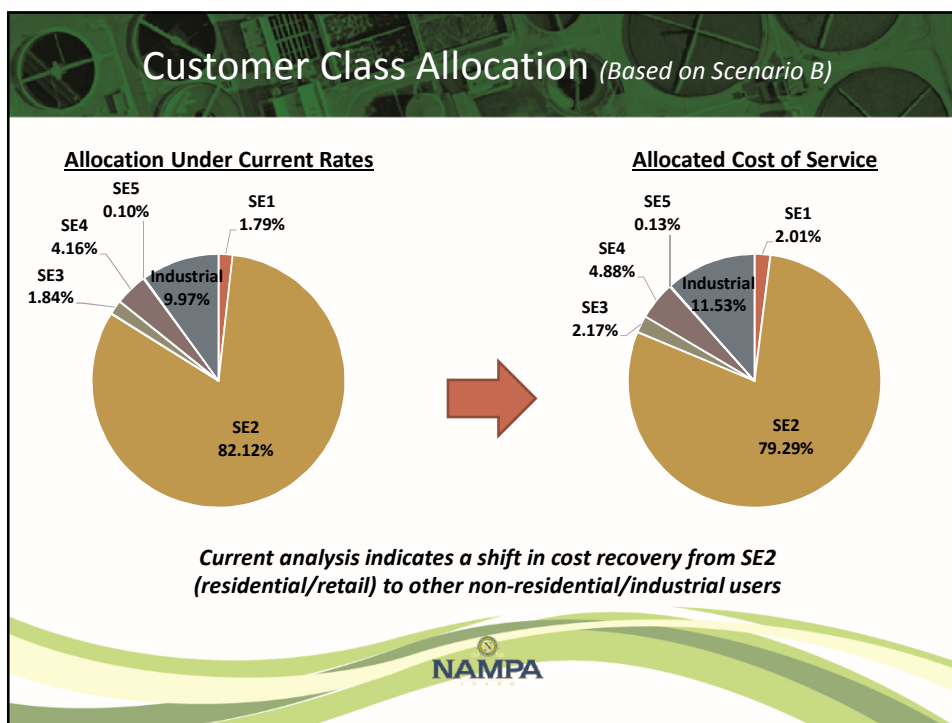
*Current analysis indicates a shift in cost allocation toward treatment-related functions, especially phosphorus removal*



## Current Customer Classes

Customer Class	Example Customer Types	# of Accounts
SE1 (BOD: 0 – 200 mg/L)	Laundromats & car washes	29
SE2 (BOD: 200 – 400 mg/L)	Residential & retail stores	27,302
SE3 (BOD: 400 – 600 mg/L)	Hospitals and daycares	66
SE4 (BOD: 600 – 800 mg/L)	Restaurants	155
SE5 (BOD: 800 – 1,000 mg/L)	Other non-residential	1
SE6 (BOD: 1,000 – 1,500 mg/L)	None currently	None
SE7 (BOD: 1,500 – 2,000 mg/L)	Special permit	None
Industrial	Large industrial users	9





### Rate Alternatives Summary *(Based on Scenario B)*

	Existing (2018) Rates	2019 Rates with Across-the-Board Increase	2019 Rates with Full Cost-of-Service Implementation
<b>All Customers Except Industrial Users:</b>			
Monthly Base Rate (per Account)	\$7.60	\$8.87	\$8.56
<b>Volume Rates (per ccf of Water Use)</b>			
SE1 (BOD: 0 – 200 mg/L)	\$1.94	\$2.26	\$2.54
SE2 (BOD: 200 – 400 mg/L)	\$2.41	\$2.81	\$2.72
SE3 (BOD: 400 – 600 mg/L)	\$3.12	\$3.64	\$4.30
SE4 (BOD: 600 – 800 mg/L)	\$3.66	\$4.27	\$5.04
SE5 (BOD: 800 – 1,000 mg/L)	\$4.52	\$5.28	\$6.58
SE6 (BOD: 1,000 – 1,500 mg/L)	\$5.35	\$6.25	\$8.13
SE7 (BOD: 1,500 – 2,000 mg/L)	\$6.48	\$7.57	\$10.06
<b>Industrial User Rates:</b>			
per Million Gallons of Flow	\$2,374.99	\$2,772.80	\$3,204.79
per Pound of BOD	\$0.210	\$0.245	\$0.283
per Pound of TSS	\$0.170	\$0.198	\$0.229
per Pound of TKN	\$1.450	\$1.693	\$1.957
per Pound of TP	\$0.150	\$0.175	\$0.202

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### Question #3 – Cost of Service Implementation

#### ***What is your preference:***

- 1) Across-the-board rate increases for all customer classes
- 2) Full cost of service implementation (increases are determined based on the customer classes' share of costs)

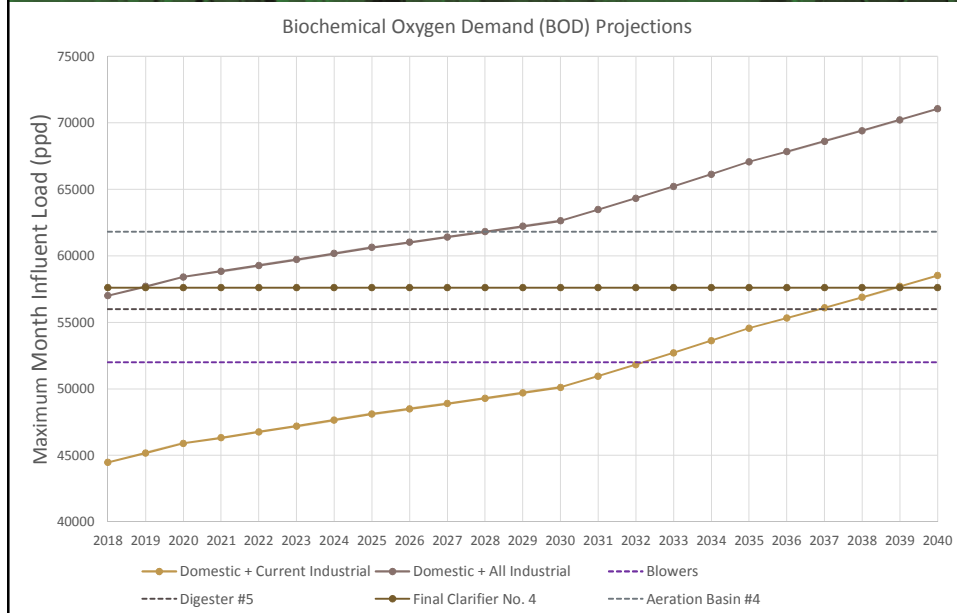


### IWG Discussion Items

- Some of the needed upgrades included in the Preferred Alternative are driven by expected flow and loadings increases from both domestic and industrial customers
- With this in mind, we would like to discuss
  - Industrial growth allocations
  - Pretreatment potential



## Industrial Growth Discussion



## Next Steps

- Workshop with City Council – January 2018
- NWAG #6 – February 2018
- City Council Funding Decision – February/March 2018
- Rates Enacted – October 2018
- Debt Authorization Vote -

## Additional Considerations

- Canyon County Jail may seek bond funding in 2018
- \$5M in State Revolving Fund loan is contingent debt authority approval by June 2018
  - Interest rates likely below market bond rates
  - Repayment begins at end of project
- Positive momentum from public involvement process (e.g., NWAG) and FY18 State Revolving Fund loan approval



## Questions #4 & 5 – Debt Authorization Timing

***If the City decides to pursue debt funding, when should the debt authorization vote occur?***

- 1) May 2018
- 2) November 2018
- 3) May 2019

***If Canyon County decides to pursue debt funding, should the City's potential debt authorization vote be:***

- 1) Concurrent
- 2) After



## Local Limits and Industrial Permit Update

Nate Runyan, P.E., Deputy Public Works Director

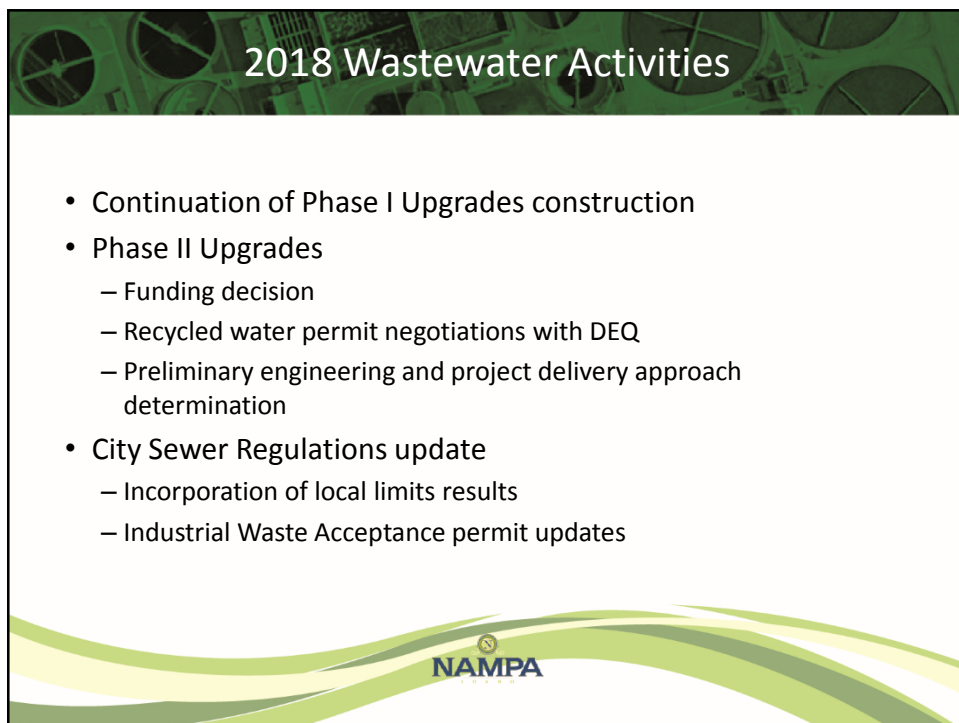
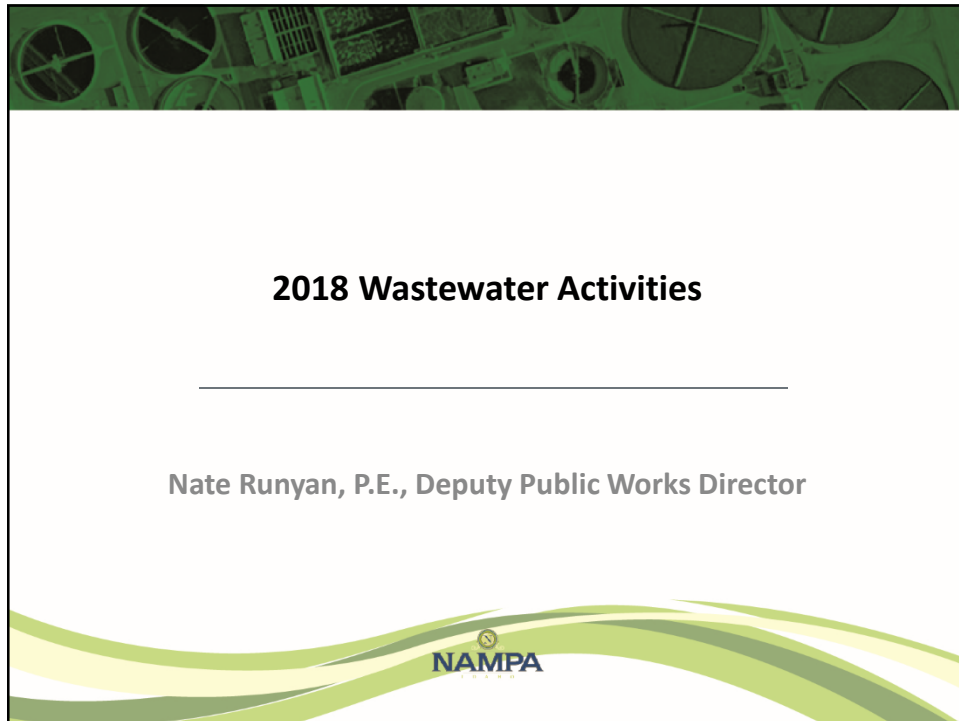


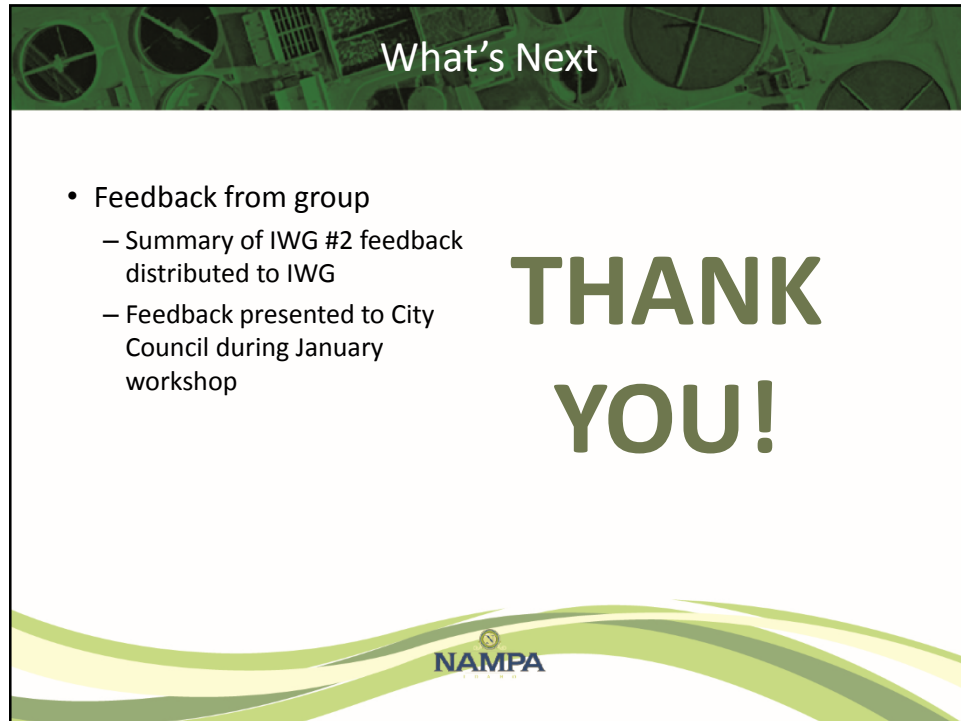
## Proposed Local Limits

Constituent	Existing Local Limit (mg/L)	Maximum Allowable Industrial Loading (lb/day)	Proposed Local Limit (mg/L)
Arsenic	0.09	0.498	0.05
Cadmium	0.26	-- <sup>a</sup>	0.26
Chromium	2.26	--	2.65
Copper	1.04	4.446	0.40
Cyanide	0.23	9.865	0.90
Lead	0.43	-- <sup>a</sup>	0.43
Mercury	.0003	0.00368	0.001
Nickel	1.20	-- <sup>a</sup>	1.20
Silver	0.24	6.334	0.48
Zinc	0.99	20.534	1.87
Fats, oils, and grease (FOG)	250	--	250

<sup>a</sup> Proposing to maintain existing local limit concentration and monitor relative to overall MAHL based on historical loadings analysis. Therefore, MAIL has not been included.








What's Next

- Feedback from group
  - Summary of IWG #2 feedback distributed to IWG
  - Feedback presented to City Council during January workshop

**THANK  
YOU!**

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