

Drinking Water Board Packet

March 3, 2022

Agenda



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF DRINKING WATER
Tim Davis
Director

Drinking Water Board
Kristi Bell, Chair
Eric Franson, P.E., Vice-Chair
Dawn Ramsey
Scott Morrison
Jeff Coombs
David O. Pitcher
Blake Tullis, Ph.D.
Kimberly D. Shelley
Tim Davis
Executive Secretary

DRINKING WATER BOARD MEETING

March 3, 2022 9:00 AM

Via Zoom Webinar & In Person:

Dixie Convention Center

1835 S Convention Center Dr

St George, Utah 84790

Tim Davis Cell # 385-226-6511

1. Call to Order
2. Roll Call – Tim Davis
3. Approval of Meeting Minutes
 - A. [January 11, 2022 Minutes](#)
4. Disclosure for Conflict of Interest
5. Financial Assistance Committee Report
 - A. [Status Report](#) – Michael Grange
 - B. [Project Priority List](#) – Michael Grange
 - C. SRF Applications
 - i) ARPA
 - a. [Cannonville Town](#) – Skye Sieber
 - b. [Tridell Lapoint SSD](#) – Skye Sieber
 - ii) FEDERAL
 - a. [Bridgerland Village Water Company](#) – Michael Grange
 - b. [Covered Bridge HOA](#) – Skye Sieber
 - c. [Irontown Property Owners Association](#) – Skye Sieber
 - d. [Enoch City](#) – Heather Pattee
 - e. [Genola City](#) – Heather Pattee
 - f. [High Valley Water Company](#) – Heather Pattee
 - g. [Spring Creek Water Users](#) – Heather Pattee
6. Rulemaking Activities
 - A. Current Rulemaking Activities

- i. [R309-200-5\(5\)\(a\): Adopt Rule Amendment](#) – Tim Davis
- ii. [R309-530: Adopt Rule Amendment](#) – Tim Davis

- 7. [Lead and Copper Rule Update](#) – Luke Treutel
- 8. [Rural Water Association Report](#) – Dale Pierson
- 9. Directors Report – Tim Davis
 - A. [Enforcement Report](#)
 - B. Legislative Update
 - C. Board Training
 - D. Other
- 10. Public Comment Period
- 11. Open Board Discussion
- 12. Other
- 13. Next Board Meeting

Date: Tuesday June 7, 2022
Time: 1:00 PM
Place: Multi Agency State Office Building / Zoom Webinar
195 N 1950 W
Salt Lake City, Utah 84116

- 14. Adjourn

Agenda Item

3(A)



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DRINKING WATER BOARD MEETING
January 11, 2022 1:00 PM
Via Zoom Webinar

DRAFT MINUTES

1. Call to Order

Kristi Bell, Vice-Chair, called the Drinking Water Board (DWB) meeting to order at 1:05 PM.

2. Roll Call – Tim Davis

Board Members Present: Kristi Bell, Scott Morrison, David Pitcher, Eric Franson, Kim Shelley, Jeff Coombs. Blake Tullis arrived at 1:07 PM and Mayor Dawn Ramsey arrived at 1:47 PM.

Division of Drinking Water (DDW, Division) Staff Present: Tim Davis, Michael Grange, Allyson Spevak, Skye Sieber, Heather Pattee, Elisa Brawley, Nathan Lunstad, Mimi Ujii, Michael Newberry, Dani Zebelean, Sarah Page, Brian Pattee, Mark Berger, and Jeremy Andrews.

3. Drinking Water Board Elections – Tim Davis

A. Board Chair & Vice Chair

This item was covered later in the meeting after Agenda Item 10. Rural Water Association of Utah Report.

- Scott Morrison nominated Kristi Bell to be the new Board Chair. The motion was carried by the Board. There was no second to this motion.
- David Pitcher nominated Eric Franson to be the new Vice-Chair. The motion was carried by the Board. There was no second to this motion.

4. Approval of Meeting Minutes

A. November 2, 2021 Minutes

Scott Morrison had one correction to these minutes on page 8, paragraph 4 which was to add the word “not” before “indicative” in the following sentence; “Scott thinks we’re starting to get down

to the level at .1 where you're going to start to see noise in turbidity meters and you're going to get data points that are [not] indicative of public health concerns.”

B. November 16, 2021 Supplemental Meeting Minutes

- Jeff Coombs moved to approve both the November 2, 2021 and the November 16, 2021 Drinking Water Board meeting minutes. David Pitcher seconded. The motion was carried unanimously by the Board.

5. Disclosure for Conflict of Interest

Eric Franson disclosed a conflict of interest in that Franson Engineers represents Ephraim City. Due to this conflict, the Board decided that Eric would not participate at all in the Ephraim City SRF project agenda item.

6. Impact of Infrastructure Investment and Jobs Act on Utah SRF Program – Michael Grange

Michael Grange presented on the Impact of the Bipartisan Infrastructure Law (BIL) on Utah’s DWSRF Program. The Act was passed in November 2021.

The BIL *authorizes* the following amounts for the indicated purposes in the specified federal fiscal years:

Year	Base DWSRF Fund
FFY2022	\$ 2,400,000,000
FFY2023	\$ 2,750,000,000
FFY2024	\$ 3,000,000,000
FFY2025	\$ 3,250,000,000
FFY2026	\$ 3,250,000,000

The BIL *appropriates* the following amounts for the indicated purposes in the specified federal fiscal years:

Year	Supplemental DWSRF Fund	Lead Service Line Replacement	Addressing Emerging Contaminants
FFY2022	\$ 1,902,000,000	\$ 3,000,000,000	\$ 800,000,000
FFY2023	\$ 2,202,000,000	\$ 3,000,000,000	\$ 800,000,000
FFY2024	\$ 2,403,000,000	\$ 3,000,000,000	\$ 800,000,000
FFY2025	\$ 2,603,000,000	\$ 3,000,000,000	\$ 800,000,000

FFY2026	\$ 2,603,000,000	\$ 3,000,000,000	\$ 800,000,000
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Infrastructure Investment and Jobs Act
DWSRF Appropriations

Year	IIJA Supplemental	State Match		Estimated DWSRF Base	State Match		Total Required State Match	Difference Between State Match and Sales Tax Revenue
		%	Amount		%	Amount		
FY2022	\$ 17,955,000	10%	\$ 1,795,500	\$ 13,212,000	20%	\$ 2,642,400	\$ 4,437,900	\$ 850,900.00
FY2023	\$ 20,787,019	10%	\$ 2,078,702	\$ 15,854,400	20%	\$ 3,170,880	\$ 5,249,582	\$ 1,662,581.90
FY2024	\$ 22,684,472	20%	\$ 4,536,894	\$ 19,025,280	20%	\$ 3,805,056	\$ 8,341,950	\$ 4,754,950.40
FY2025	\$ 24,572,484	20%	\$ 4,914,497	\$ 22,830,336	20%	\$ 4,566,067	\$ 9,480,564	\$ 5,893,564.00
FY2026	\$ 24,572,484	20%	\$ 4,914,497	\$ 27,396,403	20%	\$ 5,479,281	\$ 10,393,777	\$ 6,806,777.44
							\$ 37,903,774	\$ 19,968,774

IIJA Supplemental money is appropriated for 5 years

DWSRF Base is "authorized appropriation" but is subject to change based on actual Congressional appropriations in future years

Annual Sales Tax Revenue to DDW = \$ 3,587,000.00

Estimated DWSRF Base Amount is previous year's allocation plus 20%

Annual Principal Forgiveness Awards (from Jeremy)

2020 Grant: 49% Maximum \$5,395,390 | 21% Minimum \$2,202,200 | Awarded \$2,202,200

2021 Grant: 49% Maximum \$5,390,490 | 21% Minimum \$2,200,200 | Awarded \$4,085,390

Typically what we do is once the minimum is met we will move everything to the next grant so for 2021 \$1,885,190 will be moved to the 2022 grant when we get the grant.

Bipartisan Infrastructure Law (BIL)
DWSRF Funding

Year	IIJA Supplemental	Subsidy			Subsidy			
		%	Amount	DWSRF Base	Minimum %	Minimum Amount	Maximum %	Maximum Amount
FY2022	\$ 17,955,000	49%	\$ 8,797,950	\$ 13,212,000	12%	\$ 1,585,440	35%	\$ 4,624,200
FY2023	\$ 20,787,019	49%	\$ 10,185,639	\$ 15,854,400	12%	\$ 1,902,528	35%	\$ 5,549,040
FY2024	\$ 22,684,472	49%	\$ 11,115,391	\$ 19,025,280	12%	\$ 2,283,034	35%	\$ 6,658,848
FY2025	\$ 24,572,484	49%	\$ 12,040,517	\$ 22,830,336	12%	\$ 2,739,640	35%	\$ 7,990,618
FY2026	\$ 24,572,484	49%	\$ 12,040,517	\$ 27,396,403	12%	\$ 3,287,568	35%	\$ 9,588,741
Total	\$ 110,571,459		\$ 54,180,015	\$ 98,318,419		\$11,798,210		\$ 34,411,447

\$208,880,878 the estimated 5-year total DWSRF infrastructure fund

\$ 54,180,015 the estimated minimum 5-year additional subsidy level

\$ 88,591,462 the estimated maximum 5-year additional subsidy level

**Bipartisan Infrastructure Law (BIL)
Targeted Funding**

Lead Service Line Projects

Year	Amount	Subsidy		State Match	
		%	Amount	%	Amount
FY2022	\$ 28,275,000	49%	\$ 13,854,750	0%	\$ -
FY2023	\$ 28,275,000	49%	\$ 13,854,750	0%	\$ -
FY2024	\$ 28,575,000	49%	\$ 14,001,750	0%	\$ -
FY2025	\$ 28,575,000	49%	\$ 14,001,750	0%	\$ -
FY2026	\$ 28,575,000	49%	\$ 14,001,750	0%	\$ -
Total	\$ 142,275,000		\$ 69,714,750		\$ -

Addressing Emerging Contaminants

Year	Amount	Subsidy		State Match	
		%	Amount	%	Amount
FY2022	\$ 7,540,000	100%	\$ 7,540,000	0%	\$ -
FY2023	\$ 7,540,000	100%	\$ 7,540,000	0%	\$ -
FY2024	\$ 7,620,000	100%	\$ 7,620,000	0%	\$ -
FY2025	\$ 7,620,000	100%	\$ 7,620,000	0%	\$ -
FY2026	\$ 7,620,000	100%	\$ 7,620,000	0%	\$ -
Total	\$ 37,940,000		\$ 37,940,000		\$ -

Dale Pierson asked if the fee proposed in H.B 64 sponsored by Representative Watkins in the upcoming Legislative Session, would be a part of the State Match. Tim replied no, because the fee is intended for an increase in capacity and wouldn't be a part of Federal SRF funding.

Scott Morrison asked about the meaning behind the preference given to American-made products. Michael explained, for example, if a particular valve is specified for a project and it is not made of sufficient quality or quantity in the U.S., the loan recipient can draft a waiver request to the Division. The Division then submits it to the Office of Management and Budget (OMB) for their review to determine if the waiver is valid. If the waiver is determined by OMB to be valid then the loan recipient can use a non-U.S. produced valve for that particular construction project.

Tim clarified that we will have to apply for any of the aforementioned funding each year and we have to match up front the DWSRF base and supplemental DWSRF funds before we could receive them. If we're not able to match that funding then it would be reallocated to other states who would be able to match it. Michael followed up that in addition to applying for the funding, the Division will also have to submit an Intended Use Plan (IUP) or possibly an IUP for each type of funding, and most likely will have to report how the funds are being used.

Dale inquired about how this funding will be implemented. The information he was given by the National Rural Water Association reads that the guidance is to be released in a few months' time,

in the meantime governors have been asked to appoint high-level infrastructure implementation coordinators to oversee these programs as they are rolled out. Tim replied that the guidance affects not only DDW and the Drinking Water Board, but also the Division of Water Quality and its Board, so he believes that the Governor's Office of Planning and Budget (GOPB) will be providing that coordination. Then it will be up to the divisions and their boards to determine how the funding will be used.

7. DDW Prioritization of Water Projects for ARPA Funding – Tim Davis

Tim laid out the big picture for both ARPA (American Rescue Plan Act) and BIL funding.

The goal for the **BIL funding** is not to just spend the money over the next 5 years, but rather to use it as a long-term funding mechanism in order to:

- help make investments in infrastructure of drinking water systems of all sizes
- complete lead service line inventory by October 16, 2024
- replace lead service lines during that time
- address emerging contaminants

Michael explained to Eric Franson that the BIL funding is federal and if and when the State makes the match payment, the funding will be subject to federal requirements. Furthermore, this funding would only affect State SRF money if we didn't receive the match from the Legislature, and in that case, we would have to dip into our sales tax appropriation.

Tim anticipates that the Division will set up a process for lead service lines and emerging contaminants requests, and not necessarily run each request for that funding through the Board. The Board can then focus on the SRF project funding requests.

ARPA funding, which is the COVID-19 pandemic funding the State received earlier in 2021, is more of a short-term funding mechanism:

- \$25 million has been allocated to DDW; \$3.5 million for the lead in schools program, and \$21.5 million for drinking water projects (individual projects capped at \$3.5 million)
- small, rural disadvantaged communities are targeted
- only grant funds; DDW will work with each community to identify match amounts
- must be obligated by December 2024 and spent by December 2026

Tim's short-term goal is for the Board to get this funding out and into projects that meet the aforementioned criteria. Tim recommends that the Board adopt these criteria for making decisions in authorizing ARPA funding.

Additionally, Governor Cox's Fiscal Year 2023 Budget Recommendations include \$75 million more in ARPA funds for drinking water projects. If those additional funds are approved during the 2022 Legislative Session, the Division will implement a broad campaign inviting water systems to apply.

Tim clarified for David Pitcher that during the May 2021 Special Session the Utah Legislature appropriated \$100 million in APRA funds for water projects including the \$25 million for drinking water projects. During that same session the Legislature appropriated \$50 million to be used for local match for infrastructure projects that would be matched by the local governing bodies. This local match was an application process through GOPB and a legislative committee was established to help make decisions for that funding. There were nearly \$1 billion in requests, half of which were for drinking water projects, for the \$50 million local match appropriation, many of which were funded. The application process did not use the same hardship criteria that the DWB uses nor was it targeted at small, rural disadvantaged communities.

Tim addressed Scott's concern about there being a rush for the initial funding, potentially leaving some water systems out in the cold. Tim explained that the goal is to get the funding on the ground because it's critical to start solving drinking water problems and the ARPA funding must be used relatively quickly. The Division and the Board will work diligently to identify which source of funding a project would be best qualified, whether it be ARPA, SRF, or supplemental SRF. We will have multiple pots of money to solve broader drinking water issues across the State.

Kristi asked if some consideration could be given to those communities that don't quite meet the hardship criteria but still need funding just as much. Tim replied that for the initial \$25 million ARPA funding, the hardship criteria established in conjunction with the GOPB and Legislature will be used. If there is additional funding there may be flexibility to consider those types of communities that Kristi described. Under BIL there are additional funding opportunities for these communities. Michael added that when they determine if a community meets the hardship criteria, both the current conditions and the burden of the cost of the project on the community are considered, which could help some threshold communities to qualify as hardship.

It was determined through a DDW survey that presently there is \$1.8 billion in drinking water infrastructure needs statewide.

8. Financial Assistance Committee Report

A. Status Report – Michael Grange

Michael Grange, Technical Assistance Section Manager with the Division of Drinking Water, reported that as of November 30, 2021 there is approximately \$9.5 million in the State SRF fund. Over the course of the coming year, the Division is expecting another \$3.6 million to be added to the fund. By December 1, 2022 there will be \$13.2 million available for State projects.

Staff is currently working to close State loans for Genola City, Caineville SSD, Pleasant Grove City, La Verkin, and Scofield Town.

Michael then reported that currently there is a balance of just over \$15 million in the Federal SRF. By December 1, 2022 another \$39 million will be added to the fund for a total of just over \$55 million for Federal SRF projects.

Staff is currently working to close several Federal loans including Moroni, Daniel Town, East Grouse Creek, Bicknell, East Carbon, Irontown, Little Meadows Estates HOA, Spring Creek Water Users, Wellington, Cornish Town, and Weber Meadowview.

B. Project Priority List – Michael Grange

Michael reported that 10 new projects are recommended to be added to the Project Priority List:

1. Blanding City - Westwater Community #2 is a planning and design advance portion to allow the city to continue the design process of the Westwater Community Project.
2. San Juan County - NTUA Westwater Community #2 is for the design and geotechnical work for the San Juan County (fiscal agent for the Navajo Tribal Utility Authority) portion of the Westwater Community Project.
3. Church Wells SSD (42.4 priority rating points) – Their project consists of replacing asbestos and undersized waterlines, a booster pump station, repairing an existing well, a new 300,000-gallon storage tank, and adding meters and a SCADA system.
4. Circleville Town (38.3 points) – Their project consists of drilling a new well, building a 500,000-gallon concrete tank and redeveloping an existing spring.
5. Elk Meadows SSD (26.6 points) – Their project consists of new waterlines, hydrants, isolation valves, service connections, meters, and PRV stations to extend service to the West Village Unit 1 Recreational Property.
6. Powder Mountain WSID (22.9 points) – Their project consists of adding a new booster pump, waterlines, PRV station, and hydrants.
7. Skyline Mountain SSD (21 points) – Their project consists of constructing a new underground tank, well house, and completing an impact fee study.
8. Ephraim City (20 points) – Their project consists of a new well, well house and chlorinator and 1.9 miles of pipeline.
9. Heber City (14.9 points) – Their project consists of replacing aging distribution pipelines, fire hydrants, and customer connections in the Old Town Heber area.
10. Bristlecone (11.5 points) – Their project consists of a tank automation SCADA system and relocation of the existing drainage outlet and overflow structure.

The Financial Assistance Committee (FAC) recommends that the Drinking Water Board approve the updated Project Priority List as presented, with the addition of these 10 projects.

- Eric Franson moved to approve the updated Project Priority List. Jeff Coombs seconded. The motion was carried unanimously by the Board.

C. SRF Applications

i) FEDERAL

a. Blanding City - Westwater Planning & Design – Michael Grange

Representing both Blanding City and San Juan County were Blanding City Manager David Johnson, Chief Administrative Officer Mack McDonald, San Juan County Chief Administrative Officer, David Shultz with NTUA, and Ryan Barton with the Navajo Nation Department of Water Resources.

Michael informed the Board that Blanding City is requesting \$340,984 in financial assistance for engineering design services to provide drinking water service to the Westwater Community. Infrastructure improvements required to supply drinking water to the community include a new

well, a well house, an arsenic treatment facility, approximately 2,300 feet of new pipeline, and a master meter at the Blanding City/Westwater boundary.

At this point the total estimated project cost, including construction and engineering services, is \$5.68 million. This request for a \$340,984 planning and design advance will allow the City to continue the design process for this important project.

The Westwater Community is a small subdivision immediately west of Blanding City. The property is wholly owned by, and occupied by members of the Navajo Nation, but is outside of Navajo Tribal Lands. Parcels within the Westwater Community have been occupied since approximately 1984 but have never had access to public utilities such as electricity or drinking water.

The Lieutenant Governor's Office assembled a number of entities, including the Navajo Tribal Utility Authority (NTUA), the Indian Health Service, the Navajo Nation, Blanding City, San Juan County, and the Divisions of Water Rights and Drinking Water, to resolve the issues that have delayed bringing these utility services to the Community. In addition, non-profit organizations such as the Church of Jesus Christ of Latter-day Saints and Dig Deep have provided or will provide some financial assistance for this project.

The Blanding project is one part of a two-part project. The second part consists of installing distribution infrastructure within the Westwater Community. San Juan County is currently acting as the fiscal agent for the second part of this project and has applied for financial assistance on behalf of the Westwater Community and NTUA. NTUA will act as water system manager and operator for the Westwater Community system once it is established.

While there is no Median Adjusted Gross Income (MAGI) for the Westwater Community, the local MAGI for Blanding City is \$40,000, which is 84.7% of the State MAGI. The current average water bill is \$42.11 per ERC, which is 1.26% of the local MAGI. However, based on estimated project costs, staff determined that this project will require significant subsidy.

The Financial Assistance Committee recommends the Drinking Water Board authorize a \$340,984 design loan with 100% principal forgiveness to Blanding City for engineering design services as part of the Westwater Community Water Supply Project.

- Scott Morrison moved that the Drinking Water Board authorize a \$340,984 design loan with 100% principal forgiveness to Blanding City for engineering design services as part of the Westwater Community Water Supply Project. Dawn Ramsey seconded. The motion was carried unanimously by the Board.

b. San Juan County/NTUA - Westwater Planning & Design – Michael Grange

This is the second part of the aforementioned Blanding City project.

Michael informed the Board that San Juan County, acting as fiscal agent for the NTUA, is requesting \$457,000 in financial assistance for engineering services to design the distribution and fire protection system that will provide culinary water to the Westwater Community. These funds

will be used to pay for design and geotechnical work on the project and will be overseen in conjunction with and contracted by NTUA.

Total estimated project cost, including construction and engineering services, is \$4.355 million. This request for a \$457,000 planning and design advance will allow the stakeholders to continue with and build upon progress already made to complete this important project.

The Westwater Community is a small subdivision immediately west of Blanding City. The property is wholly owned by, and occupied by members of the Navajo Nation, but is outside of Navajo Tribal Lands. Parcels within the Westwater Community have been occupied since approximately 1984 but have never had access to public utilities such as electricity or drinking water.

The Lieutenant Governor's Office assembled a number of entities, including the Navajo Tribal Utility Authority (NTUA), the Indian Health Service, the Navajo Nation, San Juan County, Blanding City, and the Divisions of Water Rights and Drinking Water, to resolve the issues that have delayed bringing these utility services to the Community. In addition, non-profit organizations such as the Church of Jesus Christ of Latter-day Saints and Dig Deep have provided or will provide some financial assistance for this project.

The San Juan County/NTUA project is the second part of a two-part project. The second part consists of installing a drinking water source and transmission infrastructure from within Blanding City to the Blanding City/Westwater Community boundary. Blanding City is also requesting financial assistance to design the infrastructure it needs to provide culinary water to the Westwater Community.

There is presently no MAGI data for the Westwater Community. In addition, without a water system there is no water bill information. However, based on estimated project costs and the number of available connections, staff determined that this project will require significant subsidy.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a \$457,000 design loan with 100% principal forgiveness to San Juan County, acting as fiscal agent for the Westwater Community/NTUA, for engineering design services as part of the Westwater Community Water Supply Project.

Mack McDonald thanked the Board for their support for this project and the Westwater Community.

Mack replied to Blake's question about the proposed project schedule. They're working to get through design as quickly as possible, but they're concerned about the availability of contractors as they start the lengthy bid process.

David Johnson further explained that a prerequisite to the water project is bringing electricity to the community by December 2021, but due to various issues that will most likely be completed in May 2022. In the meantime, they're getting the water design done. The Lieutenant Governor's Office hoped to have the water project done this calendar year, a timeframe that is dependent upon

availability of labor, materials, and receiving additional funding from the State Legislature or other means.

David Shoultz added that the NTUA has labor and equipment resources from the Navajo Engineering and Construction Authority (NECA), but obtaining materials can be a problem. A preliminary engineering report should be finished in a few weeks which will give them a better idea of the timeline, scope and cost of the project. That report will be shared with the County and the Division.

David thanked the county for their help and the Division for considering their request.

- David Pitcher moved that the Drinking Water Board authorize a \$457,000 design loan with 100% principal forgiveness to San Juan County acting as a fiscal agent for the Westwater Community / NTUA for engineering design services as part of the Westwater Community water supply project. Scott Morrison seconded. The motion was carried unanimously by the Board.

c. Heber City – Michael Grange

Representing Heber City was their City Engineer Russell Funk, City Manager Matt Brower, and their engineering consultants from Sunrise Engineering.

Michael informed the Board that Heber City is requesting \$12,340,000 in financial assistance to repair and replace aging infrastructure in the central Heber City area. The project includes over 31,000 feet of distribution pipeline, adding and replacing fire hydrants, replacing valves, and updating customer connections. Total estimated project cost, including construction and engineering services, is \$12,945,000 and Heber City will contribute \$605,000.

Heber City needs to replace the failing water system distribution infrastructure in the Old Town Heber area. The failing infrastructure was installed prior to 1970 and has surpassed its useful life. Pipe sizes within the project area range from 8 to 20 inches in diameter. The City has completed rate studies and an engineering study for the project and has recently raised its user rates. Heber City expects construction to begin by Spring 2022 and be complete by the end of Summer 2023.

The project location is Old Town Heber between 500 North and 600 South and Main Street and approximately 500 East. This is an area of older residential structures and a diverse population, many of whom have incomes below the Wasatch County median. Furthermore, this area has experienced numerous breaks and service interruptions due to the infrastructure's age.

The local MAGI for Heber City is \$52,800, which is 112% of the State MAGI. The current average water bill is \$42.75 per ERC, which is 0.97% of the local MAGI. The estimated after-project average water bill per connection is \$62.07, which is 1.41% of the local MAGI.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a \$12,340,000 construction loan at 2.20% Hardship Grant Assessment Fee in lieu of interest for 30 years to Heber City. Conditions include that the City continue its efforts to resolve all deficiency points on its IPS report.

Russell Funk thanked the Board for allowing them to present this important and long overdue project. Much of the infrastructure in the first phase of this multi-phase project is over 70 years old which has caused numerous breaks and residential flooding in the Downtown / Old Town Heber City area. There are at least two additional large phases that need to be completed over the next 20 years. Residents in this area will be financially impacted by this project with the increase to their water bill. Russell wondered if the Board would take this financial impact into consideration with regard to their funding authorization.

Scott Morrison replied to Russell that while they do get similar requests from time to time, the Board needs to stay within its funding “guardrails” to be fair to all the water systems who request funding. Furthermore, Scott said that as their future projects come together, their current financial picture will be looked at and reconsidered at that time.

- Eric Franson moved that the Drinking Water Board authorize a \$12,340,000 construction loan at 2.20% Hardship Grant Assessment Fee in lieu of interest for 30 years to Heber City with the conditions that Heber City continue their effort to resolve any deficiency points on their IPS report. Jeff Coombs seconded. The motion was carried unanimously by the Board.

d. Bristlecone WID – Heather Pattee

Representing Bristlecone WID (Water Improvement District) were Board Chair / Garfield County Commissioner Jerry Taylor and Consulting Engineer Dan Hawley of Jones and Demille Engineering.

Heather Pattee informed the Board that Bristlecone Water Improvement District is requesting financial assistance to install a tank automation SCADA system and relocation of the existing drainage outlet and overflow structure. The project cost is \$93,500 and they are requesting the full amount from the Drinking Water Board.

The MAGI for Zip Code 84759 is \$40,100, which is 85% of the State MAGI. The current average water bill is \$153.24/ERC, which is 4.59% of the local MAGI. The estimated after project water bill at full loan would be \$144.75/ERC or 4.33% of the local MAGI. Based on the MAGI and average monthly water bill, Bristlecone Water Improvement District qualifies to be considered for additional subsidy.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a loan of \$ 93,500 with 100% principal forgiveness to Bristlecone WID. Conditions include they resolve all points on their IPS report. Their points are for cross connection control issues which DDW can help them resolve. Heather clarified for David Pitcher that their operational IPS deficiencies are related to cross connection control in that they lack operator training, education, and local authority.

Jerry Taylor further explained that the new Bristlecone WID Board is trying to update and repair their system and add more people because they anticipate growth in the near future. Jerry says they do have an operator and they’re sending him to the upcoming RWAU Conference for training.

- Eric Franson moved that the Drinking Water Board authorize a loan of \$93,500 with 100% principal forgiveness to Bristlecone WID; conditions include that they resolve their points on the IPS report. David Pitcher seconded. The motion was carried unanimously by the Board.

e. Circleville Town – Heather Pattee

Representing Circleville Town were Mayor Koby Willis, and Consulting Engineer Kelly Chappel of Ensign Engineering.

Heather informed the Board that Circleville Town is requesting financial assistance to drill a new well, build a 500,000-gallon concrete tank and redevelop an existing spring. Circleville had a master plan completed in Spring 2021; the new well and tank project were the top priorities. The total project cost is \$4,270,000. Circleville Town will be contributing \$300,000 towards the project and are requesting the balance of \$3,970,000 from the Drinking Water Board.

The local MAGI for Circleville Town is \$33,000, which is 70% of the State MAGI. The current average water bill is \$34.37/ERC, which is 1.25% of the local MAGI. The estimated after-project water bill at full loan would be \$75.54/ERC or 2.75% of the local MAGI. Based on the MAGI and average monthly water bill, Circleville Town qualifies for additional subsidy in the form of a reduced interest rate as well as American Rescue Plan Act of 2021 (ARPA) grant funding.

The Financial Assistance Committee recommends that the Drinking Water Board consider authorizing a loan of \$470,000 at 0.5% interest or fee for 30 years and authorizing ARPA grant funds of \$3,500,000 to Circleville Town. Conditions include they resolve all points on their IPS report.

- Scott Morrison moved that the Drinking Water Board authorize a loan of \$470,000 at 0.5% interest for 30 years to Circleville Town and further authorize ARPA grant funds in the amount of \$3,500,000 toward this project. Conditions include they resolve all points on their IPS report. Blake Tullis seconded. The motion was carried unanimously by the Board.

f. Ephraim City – Heather Pattee

Representing Ephraim City was their City Manager Shaun Kjar, and City Engineer Bryan Kimball.

Heather informed the Board that Ephraim City is requesting financial assistance to build a well house with the ability to chlorinate for a new well, and 1.9 miles of connecting pipeline. The total project cost is \$2,560,000. The city will be contributing \$60,000 towards the project and have received a \$2,000,000 grant from the Army Corps of Engineers. This request from the Drinking Water Board will provide the required match for that grant and allow the project to proceed.

The local MAGI for Ephraim City is \$39,400, which is 83% of the State MAGI. The current average water bill is \$48.47/ERC, which is 1.48% of the local MAGI. The estimated after-project water bill at full loan would be \$58.45/ERC or 1.78% of the local MAGI. Based on the after-

project water bill, Ephraim City does qualify for additional subsidy in the form of a reduced interest rate.

Due to Eric Franson's aforementioned conflict of interest regarding this project, there was not a recommendation from the Financial Assistance Committee. Furthermore, due to this conflict Eric will not be voting on this item.

Division staff recommends that the Drinking Water Board authorize a loan of \$500,000 at 1.0% interest for 20 years to Ephraim City. Conditions include they resolve all points on their IPS report.

- David Pitcher moved that the Drinking Water Board authorize a loan of \$500,000 at 1.0% interest for 20 years to Ephraim City with the condition that they resolve all points on their IPS report. Blake Tullis seconded. The motion was carried by the Board, with Eric Franson abstaining from voting.

Shaun Kjar asked whether this funding was State or Federal. Heather replied that she would discuss this with Michael after the meeting and get back to Shaun with an answer.

g. Church Wells SSD – Skye Sieber

Representing Church Wells SSD (Special Service District) was Board Chair Janette Nielsen, and Consulting Engineer Kelly Chappel with Ensign Engineering.

Skye Sieber informed the Board that Church Wells SSD is requesting financial assistance to construct several water system improvements identified in their 2020 master plan which include replacing asbestos and undersized waterlines, a booster pump station, repairing an existing well, a new 300,000-gallon storage tank, adding meters, and a SCADA system. The total project cost is estimated at \$2,262,000. Church Wells could contribute \$10,000 cash or in-kind labor towards this project and is requesting \$2,252,000 from the Drinking Water Board.

The Median Adjusted Gross Income is \$37,300, which is 71% of the State MAGI and their current average monthly water bill is \$50.26/ERC, which is 1.79% of the local MAGI. The after-project water bill at a full loan for 30 years at 0% interest would be \$115.02/ERC, which is 4.10% of the local MAGI. Based on the local MAGI and monthly water bill, the district qualifies to be considered for APRA funding.

The Financial Assistance Committee recommends that the Drinking Water Board consider an ARPA grant of \$2,252,000 to Church Wells Special Service District for water system improvements. Conditions include that they resolve all issues on their compliance report.

- Scott Morrison moved that the Drinking Water Board authorize an ARPA grant of \$2,252,000 to Church Wells Special Service District for water system improvements as described today. Conditions include that they resolve all issues on their compliance report. Dawn Ramsey seconded. The motion was carried unanimously by the Board.

Janette Nielsen expressed their gratitude for this funding and excitement to start the project.

h. Elk Meadows SSD – Skye Sieber

Representing Elk Meadows SSD (Special Service District) was Leo Kanell, attorney for the system, and Consulting Engineer Devan Shields with Sunrise Engineering.

Skye informed the Board that Elk Meadows SSD is requesting financial assistance to extend water service to individual district ratepayers that do not have a water connection at the West Village Unit 1 Recreational Property. The project includes installing waterlines, hydrants, isolation valves, service connections, meters, and three PRV stations. This project would extend water service to 69 lots that currently pay an obligation fee. West Village Unit 1 has been established as a Special Assessment Area and costs for extending the service will be divided evenly between the property owners in this area. The total project cost requested from the Drinking Water Board is \$1,660,000.

Elk Meadows SSD is a transient non-community system with 57 residential connections (22 of which serve 140 condo units), 4 commercial, and 1 institutional. The MAGI is \$37,700, which is 80% of the State MAGI and their current average monthly residential water bill is \$50.00/ERC, which is 1.59% of the local MAGI.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a loan of \$1,660,000 for 15 years with a 1.97% interest rate/fee to Elk Meadows Special Service District to extend water distribution service to the West Village Unit 1 special assessment area.

Leo Kanell expressed his appreciation for the Board's consideration of their request and confirmed that all information presented in their packet was accurate.

Skye explained to Scott that the lower interest rate (1.97%) reflects the shorter loan term of 15 years, rather than providing an additional subsidy to the system. The district is giving lot owners the option of paying the assessment fee once up front or as an annual fee with interest over 15 years, so the loan terms mirror that option. Their water bill, once connected, will be in addition to this assessment fee.

David Pitcher asked what security the SSD has that the 69 lots would keep paying if they chose to do an annual payment. Leo explained that the assessment area requires that the lots to be the security for the loan. If a lot owner didn't pay, the SSD would have the ability to sell the lot to pay the assessment fee.

- Dawn Ramsey moved that the Drinking Water Board authorize a loan of \$1,660,000 for 15 years with a 1.97% interest rate/fee to Elk Meadows Special Service District to extend water distribution service to the West Village Unit 1 special assessment area. David Pitcher seconded. The motion was carried unanimously by the Board.

i. Powder Mountain WSID – Skye Sieber

Representing Powder Mountain WSID (Water and Sewer Improvement District) were Treasurer / Recorder Carrie Zenger, Bond Attorney Brandon Johnson, Consulting Engineer Brad Gilson of Gilson Engineering, and Marcus Keller of Zions Bank.

Skye informed the Board that Powder Mountain WSID is requesting financial assistance to install a new booster pump, waterlines, PRV station, and hydrants. Total project costs are estimated at \$1,397,000 and they're requesting the full amount from the Drinking Water Board.

The Powder Mountain water system is a transient, non-community system with 139 active water connections and 369 stand-by connections. The water system MAGI is \$76,800, which is 163% of the State MAGI and the current average monthly water bill is \$87.55, which is 1.37% of the local MAGI. The after-project water bill at a full loan for 20 years would be \$113.59/ERC, which is 1.77% of the local MAGI.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a loan of \$1,397,000 for 30 years with a 2.54% interest rate/fee to Powder Mountain Water and Sewer Improvement District to install a new booster station, waterlines, PRV station, and hydrants. Conditions include that they resolve all issues on their compliance report.

Brad Gilson thanked the Board for considering this critical project.

- Jeff Coombs moved that the Drinking Water Board authorize a loan of \$1,397,000 for 30 years with a 2.54% interest rate/fee to Powder Mountain Water and Sewer Improvement District to install a new booster station, waterlines, PRV station, and hydrants. Conditions include that they resolve all issues on their compliance report. Scott Morrison seconded. The motion was carried unanimously by the Board.

j. Skyline Mountain SSD – Skye Sieber

Representing Skyline Mountain SSD (Special Service District) were Board Chair Craig Godwin, Treasurer / Recorder Roy Fox, and Consulting Engineer Richard Noble of Hansen, Allen, & Luce.

Skye informed the Board that Skyline Mountain SSD is requesting financial assistance to construct a new underground tank, well house, and complete an impact fee study. As part of this project, the SSD is also requesting to refinance their 2013 Bond (30 years at 2.5% interest with a current principal balance of \$2,564,000) to reduce their annual debt service (\$143,250 current annual payment). The total funding requested from the Drinking Water Board is \$3,123,000.

The MAGI for the area is \$46,300, which is 98% of the State MAGI and their current average monthly water bill is \$64.61/ERC, which is 1.67% of the local MAGI. The after-project water bill for a 20-year loan would be \$86.42/ERC, which is 2.24% of the local MAGI. Based on the after-project water bill, the SSD qualifies to be considered for a reduced interest rate.

The Financial Assistance Committee recommends that the Drinking Water Board authorize a loan of \$3,123,000 for 30 years at 2.09% interest/fee to Skyline Mountain Special Service District to construct a new tank and well house and refinance their existing loan. The SSD has no points on their IPS report.

Craig Godwin thanked the Division for entertaining this request. By requesting the refinance of their existing loan, the system is trying to be proactive in order to be financially stable in the future. Craig pointed out that only about \$500,000 of this request is “new” money.

Richard Noble commented that during his 15 years consulting with the District, they have been able to make significant improvements to the system, enabling them to resolve all of their IPS points.

- Eric Franson moved that the Drinking Water Board authorize a loan of \$3,123,000 for 30 years at 2.09% interest/fee to Skyline Mountain Special Service District to construct a new tank, well house and refinance their existing loan. Dawn Ramsey seconded. The motion was carried unanimously by the Board.

ii) ADDITIONAL FUNDING REQUESTS

a. Pleasant Grove Additional Funding – Heather Pattee

Representing Pleasant Grove were Public Works Director Marty Beaumont, and Consulting Engineer Brett Wood of Horrocks Engineers.

Heather informed the Board that Pleasant Grove City is requesting financial assistance to drill a new well, install a well house, a mobile generator, and switch gear modifications to various well houses. The City was authorized funding by the Drinking Water Board in June of 2021 in the amount of \$3,745,000 at 1.60% interest/fee for 20 years. Based on the date of the engineer’s cost estimate and the current cost climate, the City would like to request an increase in funding of \$1,255,000 for a total \$5,000,000. The new estimate is \$5,400,000 and the City will contribute \$400,000 towards the project.

The local MAGI for Pleasant Grove City is \$49,100, which is 104% of the State MAGI. The current average water bill is \$73.48/ERC, which is 1.8% of the local MAGI. The estimated after-project water bill at full loan would be \$61.19/ERC or 1.50% of the local MAGI. The system is currently charging enough to cover additional loan debt as they were proactive in raising their water rates to create a substantial reserve fund. There is also a fluctuation in the income as they do receive more income from their commercial connections vs. the residential connections, percentage wise.

Division staff recommends that the Drinking Water Board authorize an increase in funding of \$1,255,000 for a total loan of \$5,000,000 at 1.60% interest or fee for 20 years to Pleasant Grove City. Conditions include that they resolve deficiency points on their IPS report.

Marty Beaumont reports that they’ve recently received bids for the well drilling and the prices have increased. They’re trying to make sure they have enough funding to cover all the project related costs many of which have increased.

- David Pitcher moved that the Drinking Water Board authorize a loan of \$5,000,000 at 1.60% interest or fee for 20 years to Pleasant Grove City. Conditions include that they resolve deficiency points on their IPS report. Dawn Ramsey seconded. The motion was carried unanimously by the Board.

b. Little Meadows Estates Additional Funding – Skye Sieber

Representing Little Meadows Estates were HOA President Paul Blad and Consulting Engineer Jesse Ralphs of Sunrise Engineering.

Skye informed the Board that Little Meadows Estates HOA is requesting assistance to construct a booster station and PRV, install a chlorination system, and modify their storage tanks to meet Division requirements. The total estimated project cost has increased to \$314,000.

On June 8, 2021, the Board authorized a loan of \$246,000 for 25 years at a 0% interest/fee with \$74,000 in principal forgiveness. The project was advertised for bids in September, and they received only one bid which was significantly higher than estimated. Little Meadows put the project out to bid again in November and received multiple bids, all still higher than the engineering estimate from April 2021. The system needs an additional \$68,000 to cover the apparent low bid and maintain a 15% construction contingency.

The local MAGI is \$37,000 which is 78% of the state MAGI, and the current average monthly water bill is \$16.67, which is 0.54% of the local MAGI. The after-project monthly water bill at a full loan for 20 years would be \$146.05/ERC, which is 4.74% of the local MAGI.

The Financial Assistance Committee is in favor of the Drinking Water Board deauthorizing a loan of \$246,000 for 25 years at a 0% fee with \$74,000 in principal forgiveness, and authorizing a loan of \$314,000 for 25 years at a 0% fee with \$94,000 in principal forgiveness for a total repayable amount of \$220,000 to Little Meadows Estates HOA for water system improvements. Conditions include that they resolve all issues on their compliance report.

- Scott Morrison moved that the Drinking Water Board deauthorize a loan of \$246,000 for 25 years at a 0% fee with \$74,000 in principal forgiveness, and authorize a loan of \$314,000 for 25 years at a 0% fee with \$94,000 in principal forgiveness for a total repayable amount of \$220,000 to Little Meadows Estates HOA for water system improvements. Conditions include that they resolve all issues on their compliance report. Jeff Coombs seconded. The motion was carried unanimously by the Board.

9. Rulemaking Activities

A. Current Rulemaking Activities

i. Proposed Membrane Turbidity Limit Presentation – Dani Zebelean

Dani Zebelean, engineer with the Division's Permitting section, presented on the proposed membrane turbidity limit.

Surface Water Treatment

Surface water treatment is based on risk of waterborne illness from pathogens which are removed via filtration or inactivated with disinfection. EPA has selected three pathogens to focus on for removal; *Giardia*, *Cryptosporidium*, and virus. *Giardia* can be filtered or disinfected with

chlorine; *Cryptosporidium* can be filtered but are hard to inactivate with chlorine; and viruses are hard to remove with filtration but easy to inactivate with chlorine.

Log Removal Values (LRVs) are baseline treatment goals for surface water established by EPA, in order to make the water safe to drink. LRV is a base 10 removal value. So, 2-log removal is a 99% reduction in organisms. A 3-log removal is a 99.9% reduction in organisms. For a Bin 1 Surface Water Treatment facility the requirements are; 4-log removal (99.99% reduction) of virus; 3-log removal (99.9% reduction) of *Giardia*; and 2-log removal (99% reduction) of *Cryptosporidium*. When reviewing a surface water treatment plan, the Division awards various LRV credits based on the treatment technology used; conventional, direct, direct filtration, slow sand, and membrane.

Real-time indirect performance measures are used to determine if the treatment is working, such as turbidities, flow rates, and media size characterizations and depths. Current research being conducted by the Water Research Foundation shows that turbidity is not a sensitive indicator for pathogen removal.

Membrane Technology

The many benefits of membrane technology include a small footprint compared to conventional treatment facilities, high LRVs for *Cryptosporidium* and *Giardia*, reliance on exclusion, pore-sized smaller than media filters, and chemical addition may not be necessary.

LRV credit approvals are different for membranes than a conventional treatment plant. Membranes are proprietary materials that differ based on manufacturing and composition. Unlike conventional filtration media, each membrane must undergo specific testing to determine its ability. These tests are known as challenge tests. A challenge test is conducted in a laboratory with certain sized bacteria or plastic spheres to determine how well it performs. States can then review the challenge tests to assign LRV values. The Division has not reviewed a challenge test to independently assign values and relies on approvals done by California and Colorado to grant our credits.

In a lab setting the membranes were able to prove they met certain LRVs, but how about in the real world? Same as the other surface water treatment facilities, those using membranes to achieve LRV values submit monthly data to the Division. While they still report flow rates, validation methods are based on detecting "holes" in the membranes. This is done daily through a direct integrity test (DIT) using a pressure-decay test. Additionally, indirect integrity testing is accomplished by watching the filtered water turbidity. EPA sets the standards to run a pressure decay test if the turbidities are above 0.15 NTU for two 15-min consecutive reads. [40 CFR 141.7.19(b)(4)(iv) and R309-215-15(18)(b)(iv)(D)].

Significant Figures

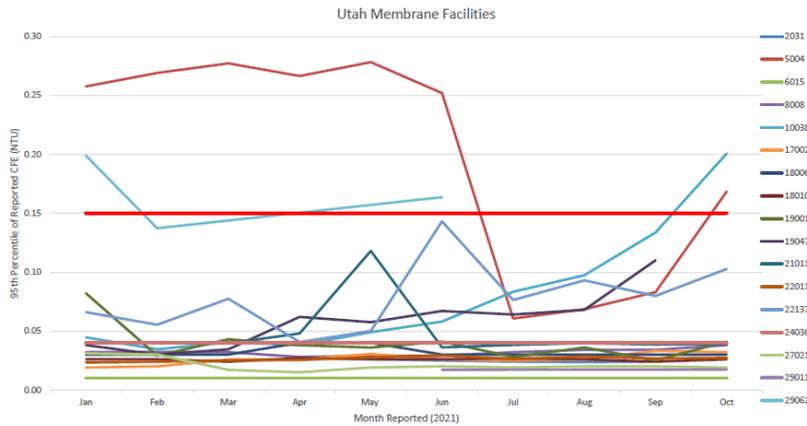
Significant figures are the accuracy of scientific instruments, such as turbidimeters. All the values recorded or displayed by a turbidimeter may not be accurate after the significant figure. The Division's new proposed limit is in line with EPA where all their turbidities rely on a single

significant figure which is 0.1 NTU, not 0.10 NTU. Readings up to 0.149 would be viewed as compliant with this new standard or the 95th percentile.

Utah Membrane Facilities

Utah has 17 membrane facilities which are either micro-filtration or ultra-filtration and do not include any cartridge facilities.

Utah Membrane Facilities



- Three systems would have exceeded the proposed limit at least once during the last 10 months.
- However, 14 of 17 (82%) membrane systems would meet proposed limits.
- Additionally, 12 of 17 (70%) membrane systems never exceeded 0.05 NTU in the last 10 months.

Membrane vs. Conventional Systems in Utah

The proposed turbidity standard is lower than the conventional treatment train; however, unlike conventional with multiple barriers for *Giardia*, most applications of membranes are a single barrier for *Giardia* in Utah.

Treatment Type	Barriers	Turbidity Requirement	Virus	Giardia	Cryptosporidium
Conventional	Coagulation, flocculation, sedimentation, filtration	< 0.3 NTU 95% of the time	2	2.5	2
Membrane	Filtration	SEE LRV APPROVALS	--	3-4	3-4

The EPA recognizes that most membranes can meet filtered turbidities of 0.03 to 0.07 NTU (EPA Membrane Filtration Guidance, November 2005). Fifteen of 27 (55%) conventional surface water treatment plants in October 2021 would have met the new turbidity standard.

Public Health Risks

Membranes are allowed to be the single barrier for *Giardia* in Utah. By allowing higher turbidity than granted on the LRV credit approvals, they may have a “hole” large enough to pass greater amounts of *Giardia* through. The disinfection sequences are not sized to provide additional inactivation of *Giardia*. More *Giardia* in the water puts the public at greater risk for waterborne illness.

Impact on Public Water Systems

Each system with a membrane facility demonstrated they could meet the proposed limit; therefore, it should not be a design issue. Three systems that exceed are small facilities serving less than 500 people. Two of the three are transient systems. Small systems have a harder time operationally due to staff overturn, gaps in knowledge, and a lack of funds, to name a few.

In the future, systems would be issued violations if the proposed limit were exceeded; however, it would be for the purpose of protecting public health. Violations do not stack, so if they have consecutive months of not meeting the new limit, they would not receive more points. To remove a violation, a water system needs to demonstrate two consecutive months of operation within limits. The Division will continue to provide technical assistance to those that struggle to meet surface water treatment requirements.

Conclusion

Surface water treatment is based on risk of waterborne illness. In Utah, membranes are allowed to be a single barrier for *Giardia*, unlike a conventional plant which has multiple barriers. Turbidity is an indirect measure of something that can't be looked at in real time, but if the turbidity is high, we should be concerned about the performance of the membrane. Membranes operating outside of approved conditions may contain a “hole” allowing for a greater number of *Giardia* organisms to pass through, which puts the public at risk for a waterborne illness.

Blake asked what are the accuracy limitations of the turbidimeters? Also, if a water treatment plant isn't meeting the standard is there a chance that the meter isn't accurate enough? Dani replied that most water systems with more modern technology should be using laser turbidimeters. EPA has shown that laser turbidimeters can easily read between 0 and 1 NTU.

Scott asked if any other states besides California and Colorado adopted the lower turbidity standard for membrane treatment facilities or maybe a different standard that's still below the .3 NTU that is required of conventional plants? Dani replied that so far California and Colorado are the only states that have said they have the .1 NTU, 95% of the time. Most states have adopted the language that is in the EPA CFR which allows each state to set the turbidity limit for alternative treatment technologies as they see fit. That is currently how the Division has it in their rule, considering it on a case-by-case basis.

Scott asked if the Division is aware of any discussion from EPA considering the rulemaking process for this turbidity standard. Dani nor Tim are aware of any such discussion.

Scott's understanding of the multi-barrier approach is that the filter is the last barrier for turbidity reduction in a conventional plant. How would the constituents (pathogens or otherwise) in a

membrane treatment plant's effluent measuring .3 NTU be different than those for a conventional treatment plant measuring the same .3 NTU? Even though a membrane treatment plant is a single-barrier, its membranes are the final barrier. The standard as proposed would reduce the turbidity requirement to .1 NTU 95% of the time, coming off that final barrier. For a conventional plant, the final barrier would have a different turbidity requirement of .3 NTU 95% of the time.

Replying to Scott's question of, 'How would the constituents (pathogens or otherwise) in a membrane treatment plant's effluent measuring .3 NTU be different than those for a conventional treatment plant measuring the same .3 NTU?', Dani said that she doesn't think they would be much different. The aforementioned research by the Water Research Foundation has shown that the conventional plants that can meet the .3 NTU still may not be meeting the LRV for *Cryptosporidium*, unless perhaps they have an optimized process.

Scott asked if the Division is considering looking at conventional treatment plants with respect to the lowering of their turbidity standards as well. Dani replied that the Division isn't considering that at this time, but the .1 NTU is a Water Quality Alliance goal for the State of Utah.

Scott asked if there have been any published studies which prove the lowering of turbidity for membrane facilities with the lowering of the public health risk. Dani replied that so far, the only one is the ongoing research of the Water Research Foundation which has yet to be completely published.

- ii. Adopt, Change, or Delay Adoption of Proposed Amendment to R309-200-5(5)(a), Turbidity – Michael Newberry
- iii. Adopt, Change, or Delay Adoption of Proposed Amendment to R309-530, Alternative Surface Water Treatment Methods – Michael Newberry

Tim covered these two items for Michael Newberry.

Tim recommends that the Board not act today on these items because the Division is still working on responding to the comments received. Tim would like to share the written comments with the Board and give them a recommendation prior to them acting on these items at the March 3 meeting. We are also still within the statutory timeline. Let Tim know if you have any questions.

The Board agreed to hold off on acting on these two items.

10. Rural Water Association Report – Dale Pierson

Terry Smith of RWAU presented the report on Dale's behalf.

Terry said that RWAU, especially Curt Ludvigson and Janelle Braithwaite, are able to help water systems identify projects and help with funding request proposals.

Terry pointed out that the next Drinking Water Board Meeting will be held at the Annual RWAU Conference in St George on Thursday March 3, 2022 at 9:00 AM.

Reach out to anyone at RWAU if you have any suggestions for pertinent and timely training that they may provide.

The RWAU Report is included in the packet for the three contracted employees, Terry, Curt and Janelle.

11. Directors Report – Tim Davis

A. Enforcement Report

Tim noted that the format of the Enforcement Report has changed since the last meeting. The first new part of the report is a graph of significant deficiencies identified and significant deficiencies resolved by month. The second new part is a list of enforcement actions categorized by enforcement action type. Tim's goal is to get out-of-compliance water systems back into compliance and be approved by the Division.

Board members, please let Tim know if you'd like to see anything else in the Enforcement Report.

B. Other

12. Public Comment Period

No public comments were made.

13. Open Board Discussion

Eric asked SRF staff about current funding applications for the next Board Meeting. Michael is aware of three applications with the possibility of one more coming in this week.

David asked why the Division sent letters regarding PFAS sampling results that were above the detection limit but below the reporting limit. Tim said the letters were sent in an effort to be transparent with the sampling results, not for enforcement purposes. Tim said the sampling hasn't resulted in any actionable PFAS levels, which is the information that will be shared with the public.

14. Other

Allyson Spevak clarified that the 2022 Drinking Water Board Meeting schedule which the Board approved during the November 2, 2021 had the incorrect date for the August meeting at the RWAU Conference in Layton. The incorrect date was August 30 and the correct date for the meeting is August 31.

15. Next Board Meeting

Date: Thursday March 3, 2022
Time: 9:00 AM
Place: Dixie Convention / Zoom Webinar
1835 S Convention Center Dr

St George, UT 84790

16. Adjourn

- David Pitcher moved to adjourn the meeting. Scott Morrison seconded. The motion was carried unanimously by the Board.

The meeting adjourned at 3:55 PM.

Agenda Item

5(A)

DIVISION OF DRINKING WATER
STATE LOAN FUNDS
AS OF January 31, 2022

SUMMARY		
	Total State Fund:	\$21,232,056
	Total State Hardship Fund:	\$2,734,589
	Subtotal:	\$23,966,645
LESS AUTHORIZED	Less:	
	Authorized Loans & Closed loans in construction:	\$10,985,000
	Authorized Hardship:	\$1,056,026
	Subtotal:	\$12,041,026
	Total available after Authorized deducted	\$11,925,619
PROPOSED	Proposed Loan Project(s):	\$890,000
	Proposed Hardship Project(s):	\$60,000
	Subtotal:	\$950,000
AS OF:		
January 31, 2022	TOTAL REMAINING STATE LOAN FUNDS:	\$9,357,056
	TOTAL REMAINING STATE HARDSHIP FUNDS:	\$1,618,563

Total Balance of ALL Funds: \$10,975,619

Projected Receipts Next Twelve Months: and Sales Tax Revenue	
Annual Maximum Sales Tax Projection	\$3,587,500
Less State Match for 2022 Federal Grant	(\$2,202,200)
Less State Match for 2019 Federal Grant Ar	\$0
Less Appropriation to DDW/Board	(\$1,018,500)
SUBTOTAL Sales Tax Revenue including adjustments:	\$366,800
Payment:	
Interest on Investments (Both Loan and Hardship Accounts)	\$72,000
Principal payments	\$2,625,000
Interest payments	\$604,268
Total Projections:	\$3,668,068
Total Estimated State SRF Funds Available through 02-01-2023	\$14,643,688

**DIVISION OF DRINKING WATER
STATE LOAN FUNDS
PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF January 31, 2022**

Community	Loan #	Cost Estimate	Date Authorized	Date Closed/Anticipated	Authorized Funding		
					Loan	Grant	Total
Caineville SSD 0% int 40 yrs	3S1766	1,000,000	Sep-20	Feb-22	495,000	500,000	995,000
Pleasant Grove City 1.6% 20yrs	3S1796	5,400,000	Jun-21		5,000,000		5,000,000
La Verkin 1.57% 35 yrs	3S1806	1,211,000	Aug-21		1,151,000		1,151,000
Scofield Town (#04008) 1.9% 20yrs	3S1813	2,472,000	Sep-21		2,472,000		2,472,000
Powder Mountain WSID 2.54% 30yrs	3S1830	1,397,000	Jan-22		1,397,000		1,397,000
Circleville Town \$3.5M ARPA grant; \$470k loan, 0.5% 30yrs	3S1825	3,500,000	Jan-22		470,000		470,000
Subtotal Loans and Grants Authorized					10,985,000	500,000	11,485,000
PLANNING LOANS / GRANTS IN PROCESS							
Fairview	3S1736P	40,000	Aug-19	Sep-19		40,000	40,000
Thompson SSD	3S1747P	29,500	Jan-20	Feb-20		29,500	29,500
Dutch John Town	3S1776P	40,000	Nov-20	Feb-21		40,000	40,000
Angell Springs SSD	3S1789P	37,600	Mar-21	Apr-21		36,100	36,100
Glen Canyon SSD of Big Water	3S1801P	39,000	May-21	Jun-21		39,300	39,300
East Carbon City	3S1802P	40,000	May-21			40,000	40,000
Green River City(#08005)	3S1790P	56,626	Jun-21	Jun-21		56,626	56,626
Uintah Town (#29020)	3S1810P	39,500	Aug-21			39,500	39,500
Kane Co WCD-Johnson Canyon #13038	3S1808P	135,000	Aug-21			135,000	135,000
Wayne County (#28000)	3S1814P	40,000	Sep-21			40,000	40,000
Big Plains Water and Sewer SSD #27069	3S1811P	60,000	Nov-21			60,000	60,000
Subtotal Planning in Process					0	556,026	556,026
CLOSED LOANS (partially disbursed)							
Subtotal Closed Loans Partially Disbursed					0	0	0
TOTAL AUTHORIZED/PLANNING/OR CLOSED BUT NOT YET FUNDED					\$10,985,000	\$1,056,026	\$12,041,026
PROPOSED PROJECTS FOR March 2022							
Big Plains SSD	3S1811P	60,000				60,000	60,000
Tridell Lapoint SSD	3S1836	4,390,000			890,000		890,000
Total Proposed Projects					890,000	60,000	950,000

**DIVISION OF DRINKING WATER
STATE LOAN FUNDS
AS OF January 31, 2022**

	5235 Loan Funds	5240 Interest (use for Grants)	Total
Cash:	\$21,232,056	\$2,734,589	\$23,966,645
Less:			
Loans & Grants authorized but not yet closed (schedule attached)	(10,985,000)	(1,056,026)	(12,041,026)
Loans & Grants closed but not fully disbursed (schedule attached)	0	0	0
Proposed loans & grants	(890,000)	(60,000)	(950,000)
Administrative quarterly charge for entire year	(1,018,500)		(1,018,500)
Appropriation to DDW	0		0
FY 2022 Federal SRF 20% match	(2,202,200)		(2,202,200)
FY 2019 Federal SRF 20% match			0
	6,136,356	1,618,563	7,754,919
Projected repayments during the next twelve months Thru 02-01-2023			
Principal	2,625,000		2,625,000
Interest		604,268	604,268
Projected annual investment earnings on invested cash balance		72,000	72,000
Sales Tax allocation thru Feb-01-2023	3,587,500		3,587,500
Total	\$12,348,856	\$2,294,832	\$14,643,688
* All interest is added to the Hardship Fee account.			

DIVISION OF DRINKING WATER

FEDERAL SRF

AS OF January 31, 2022

FIRST ROUND FUND		FEDERAL SECOND ROUND FUND		Hardship Fund
1997 thru 2021 SRF Grants		Principal Repayments	Earnings on Invested Cash Balance	Total:
Net Federal SRF Grants:	\$196,032,661	Principal (P):	\$63,618,247	\$994,907
Total State Matches:	\$45,673,300	Interest (I):	\$21,869,863	
Closed Loans:	-\$241,009,861	Total P & I:	\$85,488,110	
Total Grant Dollars:	\$696,100			Total: \$1,268,541

SUMMARY	
Total Federal State Revolving Fund:	\$87,179,117
Total Federal Hardship Fund:	\$1,268,541
Subtotal:	\$88,447,658

LESS AUTHORIZED & PARTIALLY DISBURSED	Less:	
	Authorized & Partially Disbursed Closed Loans:	\$74,044,806
	Authorized Federal Hardship:	\$394,073
	Subtotal:	\$74,438,879

PROPOSED	Proposed Federal Project(s):	\$12,709,400
	Proposed Federal Hardship Project(s):	\$0
	Subtotal:	\$12,709,400

AS OF:	January 31, 2022	TOTAL REMAINING LOAN FUNDS:	\$424,911
		TOTAL REMAINING HARDSHIP FUNDS:	\$874,468

Total Balance of ALL Funds after deducting proposed actions: \$1,299,379

Projected Receipts thru February 1, 2023	
2022 Fed SRF Grant & State Match	\$29,310,700
Interest on Investments	\$367,200
Principal Payments	\$8,329,603
Interest	\$802,806
Hardship & Technical Assistance fees	\$808,018
Fund 5215 principal payments	\$111,200
Total:	\$39,729,526

Receive 60% in January

Total Estimated Federal SRF Funds Available through: 02/01/2023 **\$41,028,906**

Subsidization Requirements					
Grant Year	Minimum	Maximum	Closed Subsidy	Authorized/Not Closed Subsidy	Status
2021	\$2,200,200	\$5,390,490	\$41,000	\$4,085,390	INCOMPLETE
Total:	\$2,200,200	\$5,390,490	\$41,000	\$4,085,390	

**DIVISION OF DRINKING WATER
FEDERAL STATE REVOLVING FUND**

**PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF January 31, 2022**

PUBLIC WATER SYSTEM	Project			Authorized Date	Closing Date Scheduled or Estimated	Authorized From Loan Funds (1st or 2nd Round)			Hardship Fund
	Total Project	Terms	Loan #			Loan	Forgiveness	Total	
Genola City	2,849,400	0% int, 30yrs	3F1732	Aug-19		2,273,000	326,400	2,599,400	
Daniel Town	5,692,000	0% int, 30yrs	3F1777	Jan-21		3,992,000	1,700,000	5,692,000	
East Grouse Creek	343,220	\$170,000 loan @ 0% 20 yrs, \$170,000 PF	3F1783	Mar-21		170,000	170,000	340,000	
Bicknell	2,178,000	50/50 1% 30 yrs	3F1786	Jun-21		1,308,000	870,000	2,178,000	
East Carbon	1,989,000	50/50 1% 20 yrs	3F1792	Jun-21		994,000	595,000	1,589,000	
Irontown	909,000	50/50 0% 40 yrs	3F1794	Jun-21		454,000	455,000	909,000	
Little Meadows Estates HOA	314,000	70/30 0% 25 yrs	3F1795	Jan-22		220,000	94,000	314,000	
Spring Creek Water Users	323,800	50/50 0% 30 yrs	3F1787	Jun-21		162,000	161,000	323,000	
Wellington	1,717,000	60/40 1% 30 yrs	3F1797	Jun-21		1,000,000	241,000	1,241,000	
Cornish Town	1,704,922	0%, 30 YRS	3F1812	Nov-21		754,000	750,922	1,504,922	
Weber Meadowview	2,158,400	0%, 40 YRS	3F1815	Nov-21		2,100,000		2,100,000	
Bristlecone	93,500	100% PF	3F1822	Jan-22			93,500	93,500	
Elk Meadows SSD	1,660,000	1.97% 15yrs	3F1827	Jan-22		1,660,000		1,660,000	
Ephraim City	500,000	1.0% 20yrs	3F1828	Jan-22		500,000		500,000	
Heber City	12,340,000	2.2% HGA Fee 30yrs	3F1829	Jan-22		12,340,000		12,340,000	
Skyline Mountain SSD	3,123,000	2.09% HGA Fee 30yrs	3F1831	Jan-22		3,123,000		3,123,000	
Junction Town	40,000	100% PF	3F1807P	Jul-21					40,000
Hanna Water and Sewer ID	35,000	100% PF	3F1805P	Jul-21					35,000
Blanding City	40,000	100% PF	3F1816P	Sep-21					40,000
Wallsburg Town	35,000	100% PF	3F1818P	Nov-21					25,000
Cornish Town	40,000	100% PF	3F1826P	Nov-21					40,000
Blanding City	38,900	100% PF	3F1819P	Nov-21					38,900
Brooklyn Tapline Co.	36,000	100% PF	3F1823P	Nov-21					36,000
Blanding City - Westwater #2	5,683,073	100% PF	3F1820P	Jan-22			340,984	340,984	
San Juan County - NTUA Westwater #2	4,355,105	100% PF	3F1821P	Jan-22			457,000	457,000	
TOTAL CONSTRUCTION AUTHORIZED:						\$ 31,050,000	\$ 6,254,806	\$ 37,304,806	\$ 254,900
COMMITTED ADVANCES / AGREEMENTS or PARTIALLY DISBURSED CLOSED 2ND ROUND AGREEMENTS:									
					Date Closed				
Rural Water Assn of Utah	676,000	5 yr contract for Development Specialist	Ongoing	Jan-18	Jun-18				0
Granger Hunter Improvement District	20,000,000	1.25% HGA 20 yrs (portfolio)	3F1708	Feb-19	Jul-19	10,700,000		10,700,000	78,520
Kearns Improvement District	21,000,000	1.25% hgf, 20 yrs (portfolio)	3F1725	Jun-19	Dec-19	12,000,000		12,000,000	
Central Utah WCD-Duchesne Valley WTP	18,000,000	1.25% HGF, 30 yrs	3F1731	Aug-19	Jun-20	8,020,000		8,020,000	
Hyde Park City	5,994,000	2.91% HGF 20 yrs	3F1744	Jan-20	Apr-21	2,500,000		2,500,000	
Sigurd Town	2,400,000	0%, 30 YRS	3F1745	Jun-20	Jul-21	520,000	280,000	800,000	
Axtell Community Service Distribution	40,000	5 yr 0% master plan & gw well siting	3F1719P	Mar-19	May-19				500
Hildale City	40,000	100% pf master plan	3F1704P	Nov-18	Oct-19				40,000
Clark Bench Water Company	40,000	100% principal forgiveness	3F1778P	Dec-20	Jan-21				20,153
Moroni	3,535,000	1% HGF 30 yrs (disadvantaged No LOF)	3F1772	Nov-20	Feb-22	2,135,000	585,000	2,720,000	
TOTAL PLANNING AUTHORIZED:						\$35,875,000	\$865,000	\$36,740,000	\$139,173
TOTAL CONSTRUCTION & PLANNING:								\$74,044,806	\$394,073
AVAILABLE PROJECT FUNDS:									\$13,134,311
AVAILABLE HARDSHIP FUNDS:									\$874,468
PROPOSED PROJECTS FOR March 2022:									
below will be proposed in March 3 DWB meeting:									
Bridgerland Village Water Co	1,350,000	1.7% 30yrs	3F1837			\$1,350,000		\$1,350,000	
Covered Bridge Canyon	694,000	0.5% 30yrs	3F1833			\$592,000	\$102,000	\$694,000	
Enoch City	645,000	1% 20yrs	3F1834			\$645,000		\$645,000	
High Valley Water Company	3,309,000	0% 30 yrs	3F1835			\$1,659,000	\$1,650,000	\$3,309,000	
Spring Creek Water Users	192,000	0% 30 yrs	3F1787			131,000	61,000	192,000	
Genola	4,884,400	0% 30 yrs	3F1732			\$4,308,000	576,400	4,884,400	
Irontown	726,000	0% 40yrs	3F1794			\$511,000	1,124,000	1,635,000	
TOTAL PROPOSED PROJECTS FOR THIS MEETING:						\$9,196,000	\$3,513,400	\$12,709,400	\$0
*RWAU hardship grant is being disbursed monthly									
TOTAL FUNDS AFTER PROPOSED PROJECTS ARE FUNDED:									\$424,911
TOTAL FUNDS AFTER PROPOSED HS PROJECTS ARE FUNDED:									\$874,468

**DIVISION OF DRINKING WATER
FEDERAL SRF LOAN FUNDS
AS OF January 31, 2022**

	Loan Funds 1st Round	Loan Payments		Hardship Fund	TOTAL
		2nd Round			
		Principal	Interest		
Federal Capitalization Grants and State 20% match	\$241,705,961				
Earnings on Invested 1st Round Funds			994,907		
Repayments (including interest earnings on 2nd round receipts)		63,618,247	21,869,863	1,268,541	329,457,519
Less:					
Closed loans and grants	-241,009,861				-241,009,861
SUBTOTAL of Funds Available	\$696,100	\$63,618,247	\$22,864,770	\$1,268,541	\$88,447,658
Loans & Grants authorized but not yet closed or fully disbursed	-34,524,806	-38,655,000	-865,000	-394,073	-74,438,879
SUBTOTAL of Funds Available less Authorized	-\$33,828,706	\$24,963,247	\$21,999,770	\$874,468	\$14,008,779
Future Estimates:					
Proposed Loans/Grants for current board package	-12,709,400			0	-12,709,400
SUBTOTAL of Funds Available less Proposed Loans & Grants	-\$46,538,106	\$24,963,247	\$21,999,770	\$874,468	\$1,299,379
PROJECTIONS THRU February-2023					
2022 IJA Supplemental & Match	16,098,700				
2022 FED SRF Grant & State Match	13,212,000				
Projected repayments & revenue during the next twelve months		8,440,803	802,806	808,018	10,051,626
Projected annual investment earnings on invested cash balance		276,000	84,000	7,200	367,200
TOTAL	-\$17,227,406	\$33,680,050	\$22,886,576	\$1,689,686	\$41,028,906

Agenda Item 5(B)

DRINKING WATER BOARD
BOARD PACKET FOR PROJECT PRIORITY LIST

There are five new projects being added to the project priority list:

High Valley Water Company scored 62.6 priority rating points. Their project includes 2 PRV Stations, new mainline, service connections, meters and hydrants

Covered Bridge HOA scored 24.5 priority rating points. Their project is construction of new water main and service connection replacement, meters, and hydrants.

Enoch City scored 7.5 priority rating points. Their project is constructing a new 2MG steel tank.

Genola City scored 7 priority rating points. Genola was authorized funding by the Drinking Water Board on August 27, 2019 through the State SRF program. They are requesting additional funding for their 1MG concrete storage tank and a new culinary well. This additional funding request will now go through the Federal SRF program.

Bridgerland Water Company scored 6.5 priority rating points. Their project consists of connecting to the Garden City system and includes 2 booster pump stations, SCADA system, and repairing Air-Vac.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board approve the updated Project Priority List.

Utah Federal SRF Program

Project Priority List

February 23, 2022

Authorized

Total Unmet Needs:

\$740,612,796

Total Needs, incl. Recent funding

\$661,784,882

\$506,753,965

	date	type	%Green	Priority Points	System Name	County	Pop.	ProjectTitle	Project Total	SRF Assistance	Funds Authorized
P				62.6	High Valley Water Co.	Summit	850	2 PRV, new mainline, service connections, meters, hydrants	\$3,609,000	\$3,309,000	
P				24.5	Covered Bridge HOA	Utah	280	Watermain & service connection replacement, meters, hydrants	\$714,000	\$694,000	
P				7.5	Enoch City	Iron	6,500	New 2M Gallon steel tank	\$1,639,440	\$645,000	
A				7	Genola City (incl. BIL funding)	Utah	1,500	1M Gallon concrete tank and well	\$4,884,400	\$4,884,400	\$2,849,400
P				6.5	Bridgerland Water Co.	Rich	240	Connect to Garden City system, 2 booster stations, SCADA, etc.	\$1,128,170	\$1,350,000	
A					Blanding City - Westwater #2	San Juan	3,760	Planning and design for wastewater community	\$5,683,073	\$340,984	\$340,984
A					San Juan Co. - NTUA Westwater #2	San Juan	24	Planning and design advance for wastewater project	\$4,355,105	\$457,000	\$457,000
A				110.6	Wellington	Carbon	1,676	replace asbestos pipe, PRV station, meter replacement	\$7,580,170	\$1,717,000	\$1,717,000
A				105.6	East Carbon City	Carbon	1,600	1.5 MGD conventional treatment plant	\$3,650,000	\$1,989,000	\$1,989,000
A				53.3	Daniel Town / Storm Haven	Wasatch	499	New tank, pump house, upgrade distribution lines	\$5,792,000	\$5,692,000	\$5,692,000
A				47.1	Irontown	Iron	65	upgrade/replace distribution, hydrants, & meters	\$1,736,000	\$1,635,000	\$909,000
A				42.4	Church Wells (ARPA Grant)	Kane	200	300K tank, pipes, meters, SCADA, pump, repair well	\$2,262,000	\$2,252,000	\$2,252,000
A				38.3	Circleville Town (Incl. ARPA Grant)	Piute	488	300K tank, well, spring redevelopment	\$4,270,000	\$3,970,000	\$3,970,000
A				36.3	Cornish Town	Cache	270	well house, RO/Chlorine Treatment, Booster, 250K tank	\$1,704,922	\$1,504,922	\$1,504,922
A				36.1	East Grouse Creek	Box Elder	70	Chlorination syst, meters, backflow preventers, air/vac	\$343,220	\$340,000	\$340,000
A				31.7	Weber Meadow View Ranches	Summit	65	150K tank, waterlines, hydrants, PRV station, well pump upgrade	\$2,158,400	\$2,100,000	\$2,100,000
A				26.6	Elk Meadows SSD	Beaver	303	New: Line, hydrants, isolation valves, PRV stations	\$1,660,000	\$1,660,000	\$1,660,000
A				24.7	Spring Creek Water Users	Iron	204	New Well	\$542,000	\$516,000	\$323,800
A				23	Bicknell Town	Wayne	380	300-k gal concrete storage tank, New Well	\$2,278,000	\$2,178,000	\$2,178,000
A				22.9	Powder Mountain WSID	Wasatch	1,100	engineer study, pump house, lines, PRV station, hydrants	\$1,397,000	\$1,397,000	\$1,397,000
A				21	Skyline Mountain SSD	Sanpete	225	41K tank and well house, impact fee study, loan refi.	\$3,123,000	\$3,123,000	\$3,123,000
A				20	Ephraim City	Sanpete	6,135	well, wellhouse, chlorinator, new line	\$2,560,000	\$500,000	\$500,000
A				14.9	Heber City	Wasatch	14,969	waterline replacement, hydrants, service connections	\$12,945,000	\$12,340,000	\$123,400,000
A				11.5	Bristlecone	Garfield	180	SCADA, drainage and overflow relocation	\$93,500	\$93,500	\$93,500
A				7.9	Little Meadow Estates	Piute	45	booster, chlorination, pressure reducing station, storage	\$246,000	\$246,000	\$246,000
A				7	Genola	Utah	1,500	Tank and well	\$2,849,400	\$2,849,400	\$2,849,400

N = New Application
A = Authorized
P = Potential Project- no application

E= Energy Efficiency
W= Water Efficiency
G= Green Infrastructure

Agenda Item

5(C)(i)(a)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

APPLICANT’S REQUEST

Cannonville is requesting financial assistance to construct a replacement 300,000-gallon concrete storage tank.

The total project cost is estimated at \$2,022,000. The town will contribute \$12,000 in-kind (land purchase) for this project and is **requesting \$2,010,000 from the Drinking Water Board.**

STAFF COMMENTS

The Median Adjusted Gross Income for Cannonville is \$26,900, which is 58% of the State MAGI and the current average monthly water bill is \$41.45/connection, which is 1.85% of the local MAGI. The after-project water bill at a full loan for 30 years at 0% interest would be \$117.74/connection, which is 5.25% of the local MAGI.

Based on the local MAGI and monthly water bill, the district qualifies to be considered for American Rescue Plan Act of 2021 (ARPA) grant funding.

Option	Loan / Grant	Loan	Grant	Term	Interest	Water Bill	% Local MAGI
1	50 / 50	\$1,005,000	\$1,005,000	30 yrs	0%	\$87.82	3.92%
2	50 / 50	\$1,005,000	\$1,005,000	40 yrs	0%	\$80.84	3.61%
3	0 / 100	\$0	\$2,010,000	n/a	n/a	\$59.90	2.67%

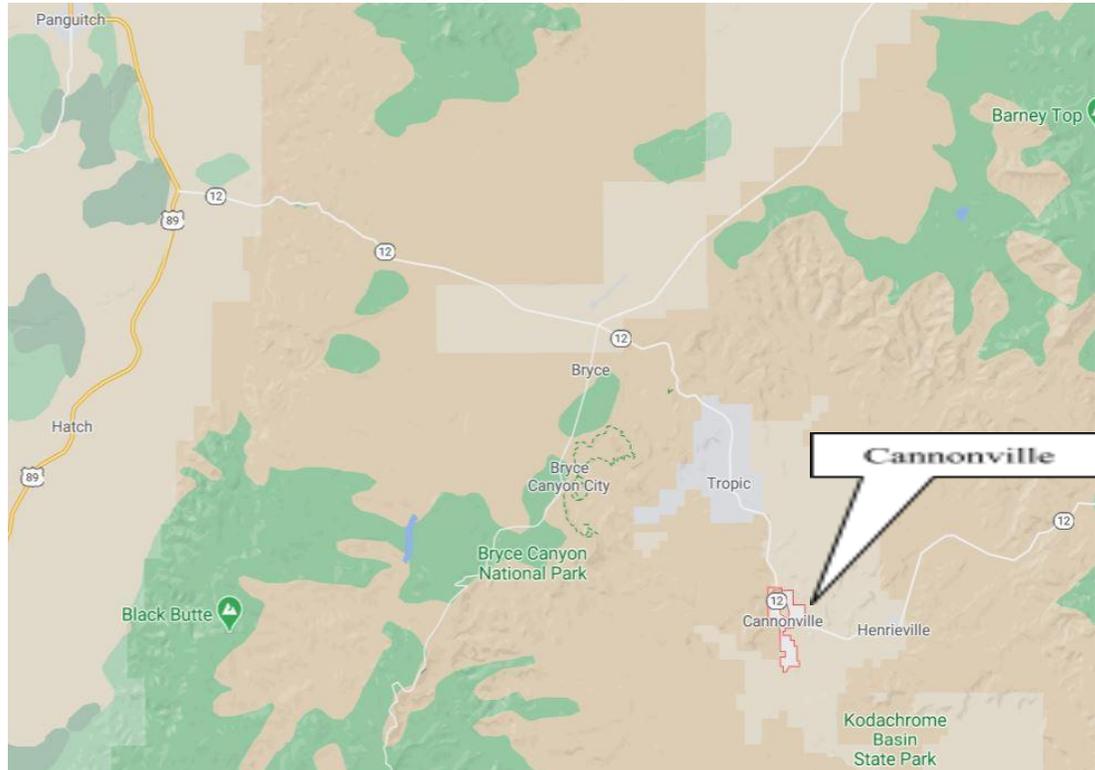
FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION

The Drinking Water Board authorize an ARPA grant of \$2,010,000 to Cannonville Town to construct a replacement tank.

Conditions include that they resolve all issues on their compliance report and that a rate review is performed, ensuring water rates are sufficient to cover all O&M for the system prior to coming back to the board for future financial assistance.

APPLICANT'S LOCATION

Cannonville is in Garfield County, approximately 17 miles from Bryce Canyon City.



PROJECT DESCRIPTION

Cannonville currently has two concrete water storage tanks: a 300,000-gallon tank that is 40 years old and a 200,000-gallon tank constructed in 2009 to replace a failed concrete tank at the same location.

The 300,000-gallon tank is located on a small ridge adjacent to Highway 12, approximately one mile north of town. In early 2021, the water operator noticed severe settlement adjacent to the tank and water manifesting at the toe of the ridge. The tank was leak tested and found that it was losing as much as 10 gpm. The Town drained the tank and hired a tank protection consultant to seal visible hairline cracks in the floor of the tank. The effort initially appeared to slow the leaking, but it soon accelerated back to the rate initially estimated. In the meantime, fissures appeared in the ground adjacent to the tank where settlement had first appeared, and the far side of the slope facing Highway 12 also began to show signs of sloughing and water surfacing. The Town immediately drained the tank again and has since had it offline, leaving Cannonville with only the 200,000-gallon tank for storage capacity.

Due to suspected slope failure of the entire ridge on which the failed tank is located, this project proposes to construct a new tank adjacent to the town's existing 200,000-gallon tank, approximately two miles north of Cannonville.

The town has initiated negotiations to purchase property adjacent to the current 200,000-gallon tank to construct a replacement tank. The existing 8-inch line will be used as a dedicated fill line to the tanks, and approximately 6,000 feet of 12-inch supply line would be installed from this area to the site of the failed 300,000-gallon tank where it will tie into the existing supply line to the distribution system. The new supply line is within a UDOT right-of-way. The project design is at the 90% design stage and currently under final review at UDOT.

POPULATION GROWTH

Projected population and new connections for Cannonville over the next 20 years is based on a 1.0% growth rate estimated by the town:

Year	Population	Connections
2022	175	115
2042	216	142

IMPLEMENTATION SCHEDULE

DWB Authorization	March 2022
Design	<i>90% complete</i>
DDW Plan Approval/Advertise for Bids	March 2022
Loan Closing	April 2022
Begin Construction	May 2022
Complete Construction	September 2022
DDW Operating Permit	October 2022

COST ESTIMATE

Legal	\$ 15,000
Engineering – Bid services/staking	\$ 19,000
Engineering – CMS	\$ 120,000
Land Purchase	\$ 12,000
Construction – Mobilization	\$ 160,800
Construction – New Tank	\$ 521,500
Construction – New Supply Line	\$ 778,900
Construction – Demo old tank, other	\$ 84,500
<u>Contingency (20%)</u>	<u>\$ 310,300</u>
Total Project Cost	\$ 2,022,000

COST ALLOCATION

Funding Source	Cost Sharing	Percent of Project
Local Contribution	\$ 12,000	1%
DWB Grant (ARPA)	\$ 2,010,000	99%
Total Amount	\$ 2,022,000	100%

IPS SUMMARY

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiencies
TD10	Chlorine Room Air Inlet Not Located Near Ceiling Through Wall Louvers	15		
3A	Monitoring, Routine, Major RTCR (October 2021)		25	
	Total = 40	15	25	

CONTACT INFORMATION

APPLICANT: Cannonville Town Water System
15 S Red Rock Drive
Cannonville, UT 84718
435-679-8784

PRESIDING OFFICIAL or
CONTACT PERSON: William Stock
Mayor
435-616-8553
wjstock@scinternet.net

TREASURER/RECORDER: Machele Nelson
435-679-8784
canvtown@scinternet.net

CONSULTING ENGINEER: Jesse Ralphs
Sunrise Engineering
25 East 500 North
Fillmore, UT 84631
435-743-1145
jralphs@sunrise-eng.com

BOND ATTORNEY: Richard Chamberlain
Chamberlain Associates, LLC
225 North 100 East
Richfield, UT 84701
435-896-4461
rchamberlain13@gmail.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Cannonville Town

FUNDING SOURCE: State SRF

COUNTY: Garfield

PROJECT DESCRIPTION: Replacement tank-design only

0 % Loan & 100 % Grant

ESTIMATED POPULATION:	175	NO. OF CONNECTIONS:	115 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$41.45			PROJECT TOTAL:	\$2,022,000
CURRENT % OF AGI:	1.85%	FINANCIAL PTS:	41	LOAN AMOUNT:	\$0
ESTIMATED MEDIAN AGI:	\$26,900			GRANT AMOUNT:	\$2,010,000
STATE AGI:	\$46,500			TOTAL REQUEST:	\$2,010,000
SYSTEM % OF STATE AGI:	58%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
	0%	2.03%		0.00%
SYSTEM				
ASSUMED LENGTH OF DEBT, YRS:	40	40		40
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.03%		0.00%
REQUIRED DEBT SERVICE:	\$0.00	\$0.00		\$0.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$0.00	\$0.00		\$0.00
ANNUAL NEW DEBT PER CONNECTION:	\$0.00	\$0.00		\$0.00
O & M + FUNDED DEPRECIATION:	\$78,725.00	\$78,725.00		\$78,725.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$3,936.25	\$3,936.25		\$3,936.25
ANNUAL EXPENSES PER CONNECTION:	\$718.79	\$718.79		\$718.79
TOTAL SYSTEM EXPENSES	\$82,661.25	\$82,661.25		\$82,661.25
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$59.90	\$59.90		\$59.90
% OF ADJUSTED GROSS INCOME:	2.67%	2.67%		2.67%

\$0.00

Agenda Item

5(C)(i)(b)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

APPLICANT’S REQUEST

Tridell Lapoint Water Improvement District is requesting financial assistance to replace approximately 5.5 miles of aging and undersized water lines. The total project cost is estimated at \$4,420,000. The district will be contributing \$30,000 and is **requesting \$4,390,000 from the Drinking Water Board.**

STAFF COMMENTS

The Tridell Lapoint water system is a community system with 508 connections. The weighted MAGI for the district’s service area (Tridell, Lapoint, Fort Duchesne) is \$29,469, which is 63% of the State MAGI and the current average monthly water bill is \$63.63/ERC, which is 2.59% of the local MAGI. The after-project water bill at a full loan for 20 years would be \$101.01/ERC, which is 4.07% of the local MAGI.

Based on the local MAGI and monthly water bill, the district qualifies to be considered for American Rescue Plan Act of 2021 (ARPA) grant funding.

Option	Loan / Grant	Loan	Grant	Term	Interest	Water Bill	% Local MAGI
1	100 / 0	\$ 4,390,000	\$0	40 yrs	0%	\$80.54	3.28%
1	50 / 50	\$ 2,195,000	\$ 2,195,000	40 yrs	0%	\$73.35	2.99%
2	20 / 80	\$ 890,000	\$ 3,500,000	40 yrs	0%	\$69.07	2.81%

Revenue Bond Index as of 01/06/2022 is 2.03%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION

The Drinking Water Board authorize an ARPA grant of \$3,500,000 and a loan of \$890,000 for 40 years at a 0% interest to Tridell Lapoint Water Improvement District to replace waterlines, service connections, meters, and hydrants.

APPLICANT'S LOCATION

Tridell Lapoint WID is in Uintah County, approximately 22 miles west of Vernal.



PROJECT DESCRIPTION

The Tridell Lapoint water system serves users in Tridell, Lapoint and Fort Duchesne areas of the Uintah Basin. Over the past 10 years the district has improved the upper sections of the water system in preparation to complete the south/lower sections of the system. The lower system improvements will include 8" and 10" water lines that will replace 4" and smaller lines. This south section of the water system has low pressure issues and fire flow is impossible in this area as the system is built currently. The existing lines are 40-60 years old.

Due to the issues on this south section of the system, no new connections can be added without negatively impacting existing connections. This limit on new connections creates problems for private property owners wishing to develop in this area as well as tribal members from the Ute Indian Tribe who have also requested several connections in this area. Currently this portion of the system is 51% tribal connections, and all the existing and new tribal connections would benefit from the increased pressures, fire flow and ability to add new connections in this area.

POPULATION GROWTH

The district estimates 1.0% growth in population and connections over the next 20 years:

Year	Population	Connections
2022	1,585	508
2042	1,900	600

IMPLEMENTATION SCHEDULE

DWB Authorization	March 2022		
Complete Design/Plan Approval	June 2022		
Advertise for Bids	July 2022		
Loan Closing	July 2022		
Begin Construction	August 2022		
Complete Construction/Operating Permit	March 2023		

COST ESTIMATE

Bonding	\$ 15,000	
Design Engineering and CMS	\$ 643,000	} 14.5%
Construction	\$ 3,342,150	
Contingency	\$ 419,850	
Total Project Cost	\$ 4,420,000	

COST ALLOCATION

Funding Source	Cost Sharing	Percent of Project
Local Contribution	\$ 30,000	1%
DWB Loan (40 yrs, 0%)	\$ 890,000	20%
ARPA Grant	\$ 3,500,000	79%
Total Amount	\$ 4,420,000	100%

IPS SUMMARY

The Tridell Lapoint Water Improvement System has 0 IPS points.

Tridell Lapoint Water Improvement District

March 3, 2022

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CONTACT INFORMATION

APPLICANT: Tridell Lapoint Water Improvement District
PO Box 760061
Tridell, UT 84076
435-247-2475

PRESIDING OFFICIAL or
CONTACT PERSON: Isaac Hatch
District Manager
702-245-3854
tlwid@ubtanet.com

TREASURER/RECORDER:

CONSULTING ENGINEER: Aaron Averett
Sunrise Engineering
363 East Main Street, Suite 201
Vernal, UT 84078
435-789-7364
aaverett@sunrise-eng.com

BOND ATTORNEY: Eric Johnson
Johnson, Patterson & Yellowhorse
PO Box 831
Pleasant Grove, Utah 84062
801-895-4364
eric@publicprivatelaw.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Tridell Lapoint WID
 COUNTY: Uintah
 PROJECT DESCRIPTION: Replace 5.5 miles of waterline

FUNDING SOURCE: Federal SRF

20 % Loan & 80 % P.F.

ESTIMATED POPULATION:	1,585	ERC:	731 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$63.63 *			PROJECT TOTAL:	\$4,420,000
CURRENT % OF AGI:	2.59%	FINANCIAL PTS:	36	LOAN AMOUNT:	\$890,000
ESTIMATED MEDIAN AGI:	\$29,469			PRINC. FORGIVE.:	\$3,500,000
STATE AGI:	\$46,500			TOTAL REQUEST:	\$4,390,000
SYSTEM % OF STATE AGI:	63%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 2.03%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	40	40		40
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.03%		0.00%
REQUIRED DEBT SERVICE:	\$22,250.00	\$32,706.03		\$22,250.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$2,225.00	\$3,270.60		\$2,225.00
ANNUAL NEW DEBT PER CONNECTION:	\$33.48	\$49.22		\$33.48
O & M + FUNDED DEPRECIATION:	\$448,000.00	\$448,000.00		\$448,000.00
OTHER DEBT + COVERAGE:	\$98,737.50	\$98,737.50		\$98,737.50
REPLACEMENT RESERVE ACCOUNT:	\$27,462.00	\$27,984.80		\$27,462.00
ANNUAL EXPENSES PER CONNECTION:	\$785.50	\$786.21		\$785.50
TOTAL SYSTEM EXPENSES	\$598,674.50	\$610,698.94		\$598,674.50
TAX REVENUE:	\$49,000.00	\$49,000.00		\$49,000.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$69.07	\$70.44		\$69.07
% OF ADJUSTED GROSS INCOME:	2.81%	2.87%		2.81%

\$0.00

Agenda Item

5(C)(ii)(a)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

APPLICANT’S REQUEST:

Bridgerland Water Company is requesting financial assistance for infrastructure improvements to meet Division of Drinking Water requirements for a backup drinking water source for the system. Total estimated project cost, including construction and engineering services, is \$1,350,000 and Bridgerland is requesting the entire amount from the Drinking Water Board.

PROJECT DESCRIPTION:

Bridgerland Water Company, with 184 service connections, is required to comply with Division of Drinking Water rules that mandate a second drinking water source for water systems serving more than 100 connections. To meet this requirement, Bridgerland Water Company proposes to lay approximately 350 feet of pipeline, build a new pump house with two booster pumps, and install a SCADA system to connect to the Garden City water system.

STAFF COMMENTS:

Bridgerland Water Company is located just west of Garden City in an unincorporated part of Rich County. No MAGI data is available for the Bridgerland Water Company service area and staff determined that the MAGI for Garden City would be a suitable substitute. Garden City’s MAGI is \$49,100, which is 104% of the State MAGI. The current average water bill is \$42.43 per connection, which is 1.04% of the local MAGI. The estimated after-project average water bill per connection is \$69.36, which is 1.70% of local MAGI.

Option	Loan / Grant	Principal Forgiveness	Loan	Term	Interest Rate	Water Bill	% Local MAGI
Base Analysis	100% / 0%	\$0	\$1,350,000	30 yrs	1.70%	\$69.36	1.70%

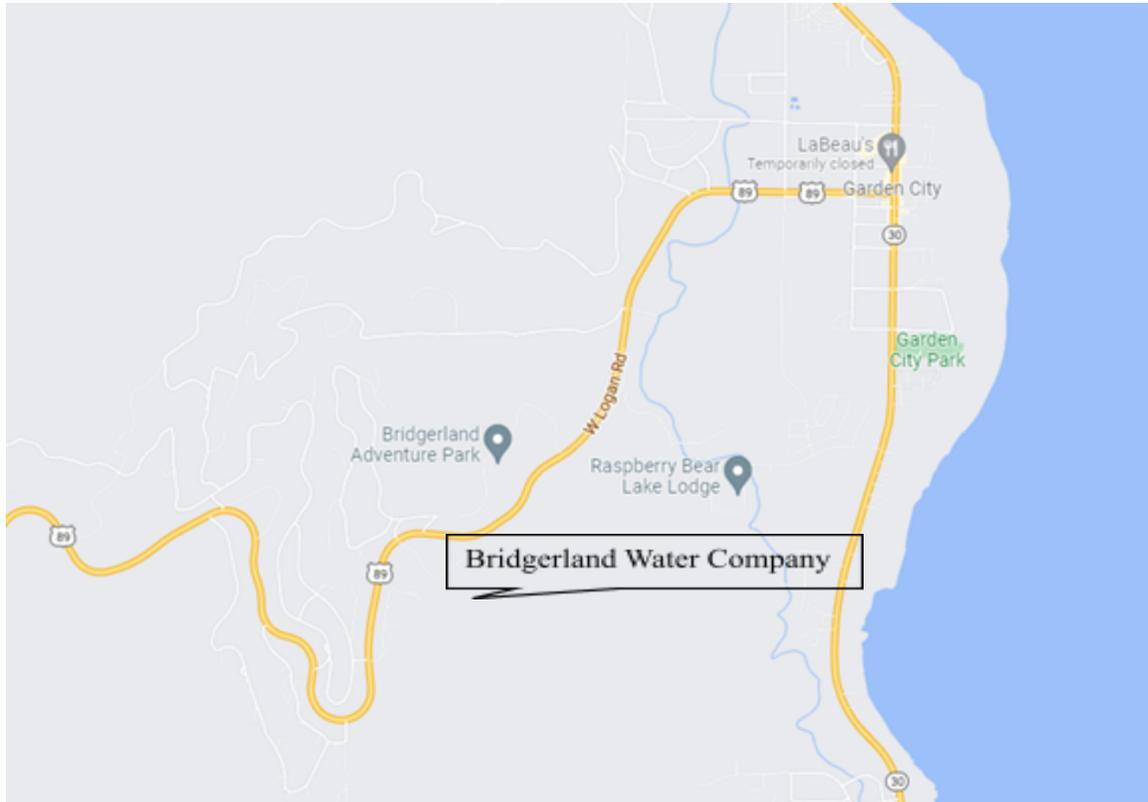
FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a \$1,350,000 construction loan at 1.70% interest for 30 years to Bridgerland Water Company.

APPLICANT'S LOCATION:

Bridgerland Water Company is located in Rich County approximately 1 mile southwest of Garden City.

LOCATION MAP:



POPULATION GROWTH:

The estimated population growth for the Bridgerland Water Company service area :

Year	Population	Connections
Current	240	187
2030	248	234
2040	256	240

COST ESTIMATE:

Legal/Bonding/Admin	\$ 20,000
Environmental Clearances	8,000
Engineering - Design	47,000
Engineering - CMS	25,000
Engineering – Planning, GIS, Bidding	14,500
Construction	1,058,500
Contingency	114,000
Land Acquisition	50,000
DDW Loan Origination Fee	13,000
Total	\$ 1,350,000

COST ALLOCATION:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan (1.70%, 30-yr)	\$ 1,350,000	100%
DWB Grant		
Total	\$ 1,350,000	100%

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	March 2022
Public Hearings	April 2022
Publish Environmental Results	April 2022
Complete Design	June 2022
DDW Plan Approval	July 2022
Bid Opening	September 2022
Begin Construction	November 2022
Complete Construction	April 2023
Receive DDW Operating Permit	May 2023

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
TGR7	System lacks redundant source	50		
S026	No flow meter on well discharge piping	5		
	Total =	55		

Points are pending and will be resolved by this project.

CONTACT INFORMATION:

APPLICANT: Bridgerland Water Company
158 W Lomond View Drive
North Ogden, Utah 84414
Telephone: 801-675-6651

PRESIDING OFFICIAL &
CONTACT PERSON: Tana Heninger, Manager
PO Box 314
Logan, Utah 84323
Telephone: 801-675-6651
Email: taheninger@wsd.net

TREASURER/RECORDER:

CONSULTING ENGINEER: Scott Archibald
Sunrise Engineering
2100 North Main
North Logan, Utah 84341
Telephone: 435-213-4448
Email: sarchibald@sunrise-eng.com

BOND ATTORNEY:

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Bridgerland Water Company
 COUNTY: Rich
 PROJECT DESCRIPTION: SCADA system, 2 booster pumps & pump house

FUNDING SOURCE: Federal SRF

100 % Loan & 0 % P.F.

ESTIMATED POPULATION:	240	NO. OF CONNECTIONS:	184 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$42.43 *			PROJECT TOTAL:	\$1,337,000
CURRENT % OF AGI:	1.04%	FINANCIAL PTS:	29	LOAN AMOUNT:	\$1,350,000
ESTIMATED MEDIAN AGI:	\$49,100			PRINC. FORGIVE.:	\$0
STATE AGI:	\$47,200			TOTAL REQUEST:	\$1,350,000
SYSTEM % OF STATE AGI:	104%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 2.03%		AFTER REPAYMENT PENALTY & POINTS 1.70%
SYSTEM				
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.03%		1.70%
REQUIRED DEBT SERVICE:	\$45,000.00	\$60,526.33		\$57,819.50
*PARTIAL COVERAGE (15%):	\$6,750.00	\$9,078.95		\$8,672.93
*ADD. COVERAGE AND RESERVE (10%):	\$4,500.00	\$6,052.63		\$5,781.95
ANNUAL NEW DEBT PER CONNECTION:	\$305.71	\$411.18		\$392.80
O & M + FUNDED DEPRECIATION:	\$80,883.00	\$80,883.00		\$80,883.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00		\$0.00
ANNUAL EXPENSES PER CONNECTION:	\$439.58	\$439.58		\$439.58
TOTAL SYSTEM EXPENSES	\$137,133.00	\$156,540.91		\$153,157.38
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$62.11	\$70.90		\$69.36
% OF ADJUSTED GROSS INCOME:	1.52%	1.73%		1.70%

Agenda Item

5(C)(ii)(b)

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE

APPLICANT'S REQUEST

Covered Bridge Canyon HOA is requesting financial assistance to replace an existing waterline, service connections, meters, and add new hydrants. This project scored 24.5 points on the Project Priority List.

Total project cost is estimated at \$714,000. The HOA will be contributing \$20,000 and is **requesting \$694,000 from the Drinking Water Board.**

STAFF COMMENTS

The Covered Bridge Canyon water system is a community system with 77 connections. The Median Adjusted Gross Income is \$53,200, which is 114% of the State MAGI and the current average monthly water bill is \$44.01/ERC, which is 0.99% of the local MAGI. The after-project water bill at a full loan for 20 years would be \$105.92/ERC, which is 2.39% of the local MAGI.

Option	Loan / PF	Loan	Principal Forgiveness	Term	HGA/ Interest	Water Bill	% Local MAGI
Base	100 / 0	\$ 694,000	\$0	20 yrs	1.94%	\$105.92	2.39%
1	100 / 0	\$ 694,000	\$0	30 yrs	0.50%	\$82.62	1.86%
2	85 / 15	\$ 592,000	\$ 102,000	30 yrs	0.50%	\$77.79	1.75%

Revenue Bond Index as of 01/06/2022 is 2.03%

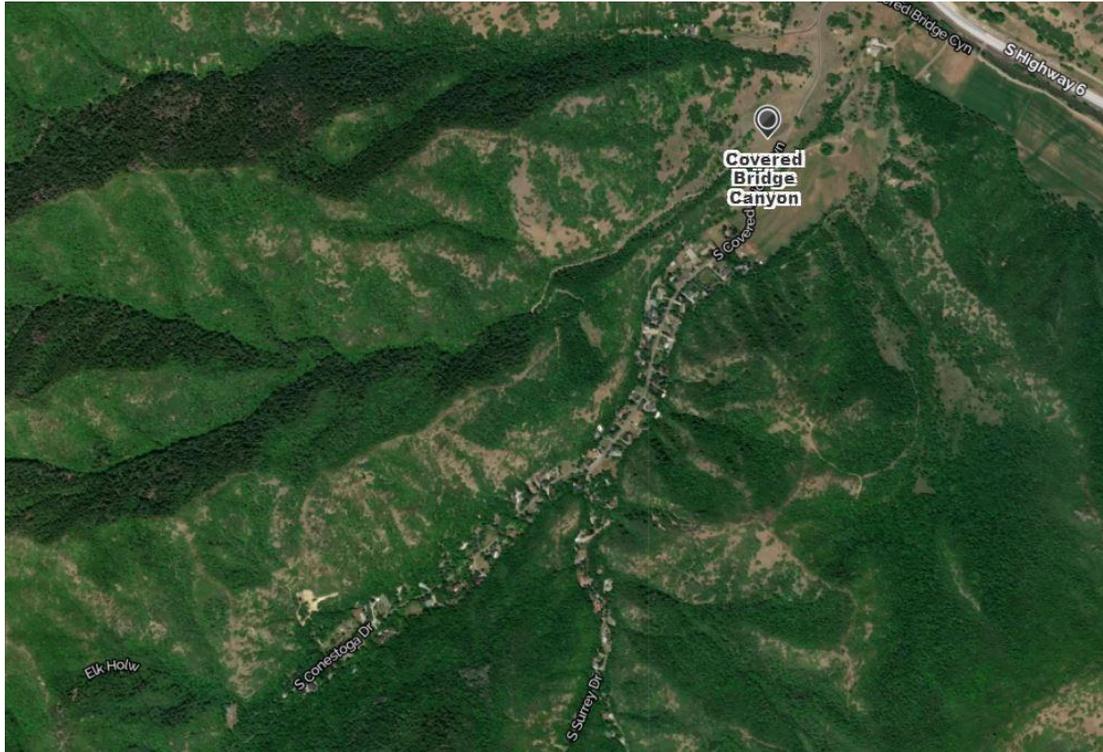
FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION

The Drinking Water Board authorize a loan of \$ 694,000 for 30 years at a 0.50% interest rate/fee with \$102,000 in Principal Forgiveness for a total repayable amount of \$592,000 to Covered Bridge Canyon HOA to replace waterlines, service connections, meters, and hydrants.

Conditions include that they resolve all issues on their compliance report.

APPLICANT’S LOCATION

Covered Bridge Canyon is in Utah County, approximately 8 miles southeast of Spanish Fork.



PROJECT DESCRIPTION

The project includes the replacement of the water main line and water service connections in the East Fork section of Covered Bridge Canyon HOA's water system. Specifically, 2,300 linear feet of existing water main line will be replaced with 8-inch PVC pipe. Twenty-five existing water service connections will be replaced. All seventy-seven existing meters will be replaced and upgraded with an AMR system along with new meter setters fitted with dual-check valves. Five new fire hydrants will also be installed as part of the project.

POPULATION GROWTH

Full buildout for Covered Bridge Canyon is 77 connections. Over the next 20 years, the HOA estimates less than 0.10% growth in population:

Year	Population	Connections
2021	288	77
2041	293	77

IMPLEMENTATION SCHEDULE

DWB Authorization	March 2022
<i>Completed</i> Design/Plan Approval	<i>October 2021</i>
Advertise for Bids	April 2022
Loan Closing	June 2022
Begin Construction	July 2022
Complete Construction	November 2022
DDW Operating Permit	December 2022

COST ESTIMATE

Bonding	\$ 20,000	
Administrative	\$ 9,000	
Engineering	\$ 27,000	} 3.8%
Construction	\$ 598,400	
Contingency	\$ 59,600	
Total Project Cost	\$ 714,000	

COST ALLOCATION

Funding Source	Cost Sharing	Percent of Project
Local Contribution	\$ 20,000	3%
DWB Loan (30 yrs, 0.50%)	\$ 592,000	82%
DWB Principal Forgiveness	\$ 102,000	15%
Total Amount	\$ 714,000	100%

IPS SUMMARY

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiencies
M003	CCC-Lacks local authority	15		
M004	CCC-No annual public education or awareness	15		
M006	CCC-Lacks written records of CCC activities	15		
M007	CCC-Lacks on-going enforcement implementation	15		
S015	Well No. 1 lacks a means to measure water levels periodically	5		
R001	Inadequate bacteriological sampling site plan			
COM T	Air vac below the first service connection has a small, steady flow of water. Vault was damp and could harbor bacteria (Observed 10/26/2016)			
3A	Monitoring, Routine, Major RTRC (May 1-31, 2021)		25	
	Total = 90	65	25	

CONTACT INFORMATION

APPLICANT: Covered Bridge Canyon Homeowners Association
10792 Covered Bridge Canyon
Spanish Fork, UT 84660
801-560-3213
nickhancey@gmail.com

PRESIDING OFFICIAL or
CONTACT PERSON: Clayton Weaver
President
11043 S Conestoga Dr-Covered Bridge Canyon
Spanish Fork, UT 84660
385-233-7077
cweaver90@hotmail.com

TREASURER/RECORDER: Leslie Haderlie
801-669-2611
plhaderlie@aol.com

CONSULTING ENGINEER: Derek Anderson
Sunrise Engineering
1180 North Mountains Pkwy
Springville, UT 84663
801-704-5214
danderson@sunrise-eng.com

BOND ATTORNEY: TBD

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Covered Bridge Canyon HOA
 COUNTY: Utah
 PROJECT DESCRIPTION: Replace main waterline, hydrants, meters

FUNDING SOURCE: Federal SRF

85 % Loan & 15 % P.F.

ESTIMATED POPULATION:	288	NO. OF CONNECTIONS:	77 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$44.01 *			PROJECT TOTAL:	\$714,000
CURRENT % OF AGI:	0.99%	FINANCIAL PTS:	19	LOAN AMOUNT:	\$592,000
ESTIMATED MEDIAN AGI:	\$53,200			PRINC. FORGIVE.:	\$102,000
STATE AGI:	\$46,500			TOTAL REQUEST:	\$694,000
SYSTEM % OF STATE AGI:	114%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 2.03%		AFTER REPAYMENT PENALTY & POINTS 0.50%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.03%		0.50%
REQUIRED DEBT SERVICE:	\$19,733.33	\$26,541.91		\$21,299.52
*PARTIAL COVERAGE (15%):	\$0.00	\$3,981.29		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$1,973.33	\$2,654.19		\$2,129.95
ANNUAL NEW DEBT PER CONNECTION:	\$281.90	\$430.88		\$304.28
O & M + FUNDED DEPRECIATION:	\$45,125.00	\$45,125.00		\$45,125.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$3,242.92	\$0.00		\$3,321.23
ANNUAL EXPENSES PER CONNECTION:	\$628.15	\$586.04		\$629.17
TOTAL SYSTEM EXPENSES	\$70,074.58	\$78,302.39		\$71,875.70
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$75.84	\$84.74		\$77.79
% OF ADJUSTED GROSS INCOME:	1.71%	1.91%		1.75%

\$0.00

Agenda Item

5(C)(ii)(c)

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE

APPLICANT’S REQUEST

Irontown Property Owners Association is requesting additional funding to replace and upgrade its distribution lines, hydrants, and install new water meters. The total estimated project cost has increased to \$1,736,000. The association is able to contribute \$101,000 as in-kind labor and is requesting **\$1,635,000 from the Drinking Water Board**.

STAFF COMMENTS

On June 8, 2021, the Board authorized a loan of \$454,000 for 40 years at 0% interest and \$455,000 in Principal Forgiveness to Irontown. The project was advertised for bids in January, and they received three bids all considerably higher than the engineering estimate from March 2021. The system needs an additional \$726,000 to cover the apparent low bid and maintain some contingency.

The local MAGI for Irontown (based on ZIP Code 84720) is \$36,000 which is 77% of the state MAGI, and the current average monthly water bill is \$57.70, which is 1.92% of the local MAGI. The after-project monthly water bill at a full loan for 20 years would be \$259.25/ERC, which is 8.64% of the local MAGI.

Option 1 below represents the same loan terms approved by the Board in June 2021. Option 2 is based on Irontown’s available collateral to secure a new, second loan.

Option	Loan / PF	Loan	Principal Forgiveness	Term	Interest/HGA fee	Water Bill	% Local MAGI
Base	100 / 0	\$1,635,000	\$0	20 yrs	1.29%	\$259.25	8.64%
1	50 / 50	\$817,000	\$818,000	40 yrs	0%	\$110.46	3.68%
2	31 / 69	\$511,000	\$1,124,000	40 yrs	0%	\$95.92	3.20%

Irontown has an existing Drinking Water Board loan from 2017 with a current balance of \$324,000. The association has real property and water rights currently valued at a total of \$835,000, enough to fully collateralize the unpaid balance of its existing loan as well as a new loan of up to \$511,000. The association is currently reaching out to individual members in the community to see if any would be willing to pledge personal property as additional collateral for a larger loan. In the event Irontown is unable to secure sufficient collateral, the association would agree to a reduced loan amount and then scale back construction into two phases.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION

The Drinking Water Board deauthorize a loan of \$909,000 for 40 years at a 0% interest with \$455,000 in Principal Forgiveness.

The Drinking Water Board authorize a loan of \$1,635,000 for 40 years at a 0% interest with \$1,124,000 in Principal Forgiveness for a total repayable amount of \$511,000 to Irontown Property Owners Association for distribution system improvements.

APPLICANT'S LOCATION

Irontown is in Iron County, approximately 25 miles west of Cedar City.



PROJECT DESCRIPTION

Replace 17,230 ft of 6-inch PVC distribution lines with 8-inch distribution line and replace 12 valves. Replace 1-inch lateral lines to the 50 existing water connections and install new water meters and meter enclosures. Replace 22 existing fire hydrants. These proposed improvements were identified in the Old Iron Town water master plan completed in 2016. If Irontown has to scale the project back due to insufficient loan collateral, they will break it into two phases: Phase 1, South Side and Phase 2, North Side.

Phase 1: South Side

There is less infrastructure on the south side, so it is the least expensive of the two alternatives. This phase includes 30 connections. The consulting engineer anticipates that there would be enough funding (from what was originally authorized by the Drinking Water Board in June 2021) to also update the meters located in the North phase, and potentially add some additional control valves for better isolation. In lieu of meters, and depending on funding available, hydrants could be updated.

Phase 2: North Side

This phase would benefit approximately 35 connections.

POPULATION GROWTH

Projected population and connections over the next 20 years is estimated by the system:

Year	Population	Connections
2020	95	51
2040	149	64

IMPLEMENTATION SCHEDULE

DWB Authorization	June 2021
Design	September 2021
DDW Plan Approval	December 2021
Advertise for Bids	January 2022
Loan Closing/Begin Construction	April 2022
Complete Construction	August 2022

COST ESTIMATE

	<u>Updated</u>	<i><u>Original</u></i>
Legal/Admin	\$ 8,000	\$ 8,000
Engineering – Design	\$ 55,000	\$ 55,000
Engineering – CMS	\$ 50,000	\$ 50,000
Construction	\$ 1,593,000	\$ 724,000
<u>Contingency</u>	<u>\$ 30,000</u>	<u>\$ 72,000</u>
Total Project Cost	\$ 1,736,000	\$ 909,000

COST ALLOCATION

Funding Source	Cost Sharing	Percent of Project
Local Contribution (in-kind)	\$ 101,000	5%
DWB Loan (40 yrs, 0%)	\$ 817,000	50%
DWB Principal Forgiveness	\$ 818,000	50%
Total Amount	\$ 1,736,000	100%

IPS SUMMARY

Irontown has 0 Improvement Priority System points.

CONTACT INFORMATION

APPLICANT:

Old Irontown Subdivision
755 S. Main Street Suite 4-128
Cedar City, Utah 84720
(908) 403-8922

PRESIDING OFFICIAL or
CONTACT PERSON:

Barbara Osborne
President
755 S. Main Street Suite 4-128
Cedar City, Utah 84720
(908) 403-8922
boko517@verizon.net

CONSULTING ENGINEER:

Curtis Nielson
Ensign Engineering
88 E Fiddlers Canyon Road, Suite 210
Cedar City, Utah 84721
(435) 864-1453
cnielson@ensignutah.com

TREASURER/RECORDER:

Alise Gardner
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eggyali5662@hotmail.com

BOND ATTORNEY

Richard Chamberlain
Chamberlain Associates, LLC
225 North 100 East
Richfield, UT 84701
(435) 896-4461
rchamberlain13@gmail.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Irontown
 COUNTY: Iron
 PROJECT DESCRIPTION: Replace distribution lines

FUNDING SOURCE: Federal SRF

31 % Loan & 69 % P.F.

ESTIMATED POPULATION:	95	NO. OF CONNECTIONS:	51 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$57.70			PROJECT TOTAL:	\$1,736,000
CURRENT % OF AGI:	1.92%	FINANCIAL PTS:	51	LOAN AMOUNT:	\$511,000
ESTIMATED MEDIAN AGI:	\$36,000			PRINC. FORGIVE.:	\$1,124,000
STATE AGI:	\$46,500			TOTAL REQUEST:	\$1,635,000
SYSTEM % OF STATE AGI:	77%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
	0%	2.03%		0.00%
SYSTEM				
ASSUMED LENGTH OF DEBT, YRS:	40	40		40
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.03%		0.00%
REQUIRED DEBT SERVICE:	\$12,775.00	\$18,778.41		\$12,775.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$1,277.50	\$1,877.84		\$1,277.50
ANNUAL NEW DEBT PER CONNECTION:	\$275.54	\$405.02		\$275.54
O & M + FUNDED DEPRECIATION:	\$25,822.00	\$25,822.00		\$25,822.00
OTHER DEBT + COVERAGE:	\$16,250.00	\$16,250.00		\$16,250.00
REPLACEMENT RESERVE ACCOUNT:	\$2,579.85	\$2,880.02		\$2,579.85
ANNUAL EXPENSES PER CONNECTION:	\$875.53	\$881.41		\$875.53
TOTAL SYSTEM EXPENSES	\$58,704.35	\$65,608.27		\$58,704.35
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$95.92	\$107.20		\$95.92
% OF ADJUSTED GROSS INCOME:	3.20%	3.57%		3.20%

\$0.00

Agenda Item

5(C)(ii)(d)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

APPLICANT’S REQUEST:

Enoch City is requesting financial assistance to build a 2 million gallon steel tank. This project scored 7.5 points on the Project Priority List.

The total project cost is \$1,639,440. Enoch City has received \$269,638 in ARPA funds and is contributing \$724,879 in applicant contribution. They are requesting the balance of \$644,923 from the Drinking Water Board. As bonding can only be done in \$1,000 increments, I have rounded the request to \$645,000.

STAFF COMMENTS:

The local MAGI for the Enoch City is \$44,400, which is 95% of the State MAGI. The current average water bill is \$31.68/ERC, which is 0.86% of the local MAGI. The estimated after project water bill at full loan would be \$45.52/ERC or 1.23% of the local MAGI.

Option	Loan / Grant	Principal Forgiveness	Loan	Term	Interest Rate/HGA	Water Bill	% Local MAGI
1	100% loan	\$	\$645,000	20 yrs	1.00%	\$45.73	1.24%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

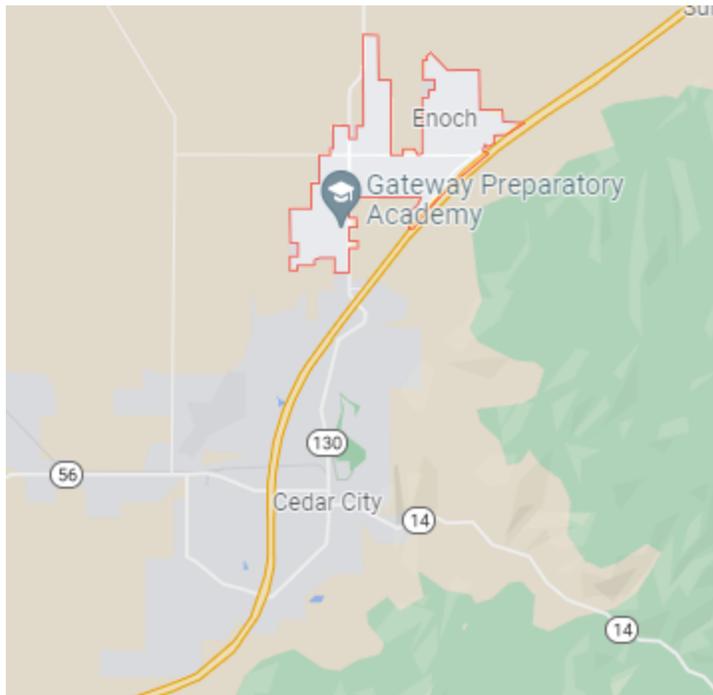
The Drinking Water Board authorize a loan of \$ 645,000 at 1.0% interest/Fee for 20 years to Enoch City.

Conditions include they resolve all points on their IPS report.

APPLICANT'S LOCATION:

Enoch City is located in Iron County approximately 8 miles North from Cedar City.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Enoch City is requesting financial assistance to construct a new 2.0 million gallon powder coated bolted steel tank. This project is included in the master plan that was completed in 2019. It was not the top priority, but Enoch City did fund and complete top priority projects.

POPULATION GROWTH:

Population growth is based on Enoch City’s estimated growth

Year	Population	Connections
Current	7,220	2,406
2030	8,801	2,934
2040	10,729	3.576

COST ESTIMATE:

Legal/Bonding/Admin	\$30,000
Engineering – Design	\$80,000
Engineering - CMS	\$121,150
Construction -	\$1,211,500
Environmental	\$7,500
Contingency (~10%)	\$182,850
1% Loan Origination Fee	\$6,440
Total	\$1,639,440

COST ALLOCATION:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan (1 %, 20-yr)	\$645,000	40%
Local ARPA Grant	\$269,638	16%
Local Contribution	\$724,879	44%
Total	\$1,639,440	100%

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	March 2022
Complete Design	June 2022
DDW Plan Approval:	June 2022
Advertise for Bids:	June 2022
Bid Opening:	July 2022
Loan Closing:	July 2022
Begin Construction:	July 2022
Complete Construction:	Jan 2023

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
SP04	WS001 lacks updates to DWSP Plan	5		
SP04	WS004 lacks updates to DWSP Plan	5		
SP04	WS006 lacks updates to DWSP Plan	5		
	Total =	15		

CONTACT INFORMATION:

APPLICANT: Enoch City
900 East Midvalley Road
Enoch Utah 84720
Telephone: 435-586-1119

PRESIDING OFFICIAL &
CONTACT PERSON: Rob Dotson, City Manager
900 East Midvalley Road
Enoch Utah 84720
Telephone: 435-586-1119
rob@enochcity.org

TREASURER/RECORDER: Julie Watson
435-233-8041
julie@enochcity.org

CONSULTING ENGINEER: Curtis Nielson
Ensign Engineering
88 East Fiddlers Canyon Road, ste 210
Cedar City, Utah 84721
Telephone: 435-865-1453
cnielson@ensignutah.com

BOND ATTORNEY: Richard Chamberlain
225 North 100 East
Richfield, Utah 84701
Telephone: 435-896-4461
Chamberlain13@gmail.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Enoch City
 COUNTY: Iron
 PROJECT DESCRIPTION: 2 MG tank

FUNDING SOURCE: Federal SRF

100 % Loan & 0 % P.F.

ESTIMATED POPULATION:	7,220	NO. OF CONNECTIONS:	2406 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$31.68 *			PROJECT TOTAL:	\$1,639,440
CURRENT % OF AGI:	0.86%	FINANCIAL PTS:	53	LOAN AMOUNT:	\$645,000
ESTIMATED MEDIAN AGI:	\$44,400			PRINC. FORGIVE.:	\$0
STATE AGI:	\$46,500			TOTAL REQUEST:	\$645,000
SYSTEM % OF STATE AGI:	95%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 1.97%	AFTER REPAYMENT PENALTY & POINTS 1.00%
<u>SYSTEM</u>			
ASSUMED LENGTH OF DEBT, YRS:	20	20	20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	1.97%	1.00%
REQUIRED DEBT SERVICE:	\$32,250.00	\$39,331.98	\$35,742.88
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00	\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$3,225.00	\$3,933.20	\$3,574.29
ANNUAL NEW DEBT PER CONNECTION:	\$14.74	\$17.98	\$16.34
O & M + FUNDED DEPRECIATION:	\$1,078,633.00	\$1,078,633.00	\$1,078,633.00
OTHER DEBT + COVERAGE:	\$140,877.50	\$140,877.50	\$140,877.50
REPLACEMENT RESERVE ACCOUNT:	\$61,179.25	\$61,533.35	\$61,353.89
ANNUAL EXPENSES PER CONNECTION:	\$532.29	\$532.44	\$532.36
TOTAL SYSTEM EXPENSES	\$1,316,164.75	\$1,324,309.02	\$1,320,181.56
TAX REVENUE:	\$0.00	\$0.00	\$0.00
<u>RESIDENCE</u>			
MONTHLY NEEDED WATER BILL:	\$45.59	\$45.87	\$45.73
% OF ADJUSTED GROSS INCOME:	1.23%	1.24%	1.24%

\$0.00

Agenda Item

5(C)(ii)(e)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION LOAN**

APPLICANT’S REQUEST:

Genola City has a project consisting of a 1MG concrete storage tank and a new culinary well. The cost of the project is estimated at \$2,849,400.

Genola was authorized funding by the Drinking Water Board on August 27, 2019, in the form of a loan of \$2,273,000 and a grant of \$576,400 with an advance of \$250,000 from the grant portion. Due to the current construction climate and the extended time frame to move towards closing, a new cost estimate has been provided and Genola would like to request additional funds of \$2,035,000.

Genola City scored 7.0 points on the Project Priority List.

STAFF COMMENTS:

The City has been working diligently towards loan closing but has encountered some issues with obtaining ROW and easements on BLM land. The right-of-way process has been completed, including environmental compliance and they are ready to begin the design process with the expectation of going out to bid soon.

Based on the extended time frame and additional funds, staff would like to de-authorize the original funding of \$2,849,000 from the State SRF program. The new funding package would be from the Federal SRF and include the additional request as 100% principal forgiveness from the Bipartisan Infrastructure Law Supplemental Appropriation’s 49% principal forgiveness requirement. This will not change the final repayment amount to Genola.

The local MAGI for Genola City is approximately \$53,288 (116% of the state MAGI), the after project water bill at a full loan would be \$131.19 which is 2.95% of the local MAGI. Therefore, they do qualify as a hardship community to receive additional subsidy.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	BIL Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	Full Loan	\$ 4,884,400	3.92%	30 yrs	0	\$131.19	2.95%
2	Mix	\$2,273,000	0.00%	30 yrs	\$2,611,400	\$87.46	1.97%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board de-authorize a loan of \$2,849,400 with \$576,400 in principal forgiveness at 0.00% interest for 30 years, for a repayable amount of \$2,273,000 to the City of Genola.

The Drinking Water Board authorize a loan of \$4,884,400 at 0% interest for 30 years with \$2,611,400 in principal forgiveness for a repayable amount of \$2,273,000 from the Bipartisan Infrastructure Law Supplemental Appropriation with a \$250,000 advance from the principal forgiveness portion.

***Note: Genola does not have any IPS points**

APPLICANT'S LOCATION:

Genola City is located in Utah County 18 miles South West of Spanish Fork.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Genola City has a project consisting of a 1MG concrete storage tank and a new culinary well.

COST ESTIMATE:

Legal/Bonding/Admin	\$ 39,000
Engineering – Design	\$ 260,000
Engineering – CMS	\$ 182,000
Construction - Source	\$ 1,564,617
Construction – Tank	\$ 1,682,500
Construction - lines	\$ 600,842
Contingency (~ 10%)	\$ 555,441
Total	\$ 4,884,400

COST ALLOCATION:

The cost allocation proposed for the project is shown below:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan	\$2,273,000	47%
DWB principal forgiveness	\$576,400	10%
BIL principal forgiveness	\$2,035,000	42%
Total	\$4,884,400	100%

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	Feb 2022
DWB Funding Authorization:	March 2022
Complete Design:	January 2022
Plan Approval:	February 2022
Advertise for Bids:	March 2022
Begin Construction:	May 2022
Complete Construction:	August 2023

CONTACT INFORMATION:

APPLICANT:

Genola City
74 West 800 South
Genola, UT 84655
801-754-5300
genolaclerk@gmail.com

PRESIDING OFFICIAL &
CONTACT PERSON:

Marty Larsen
Mayor
74 West 800 South
Genola, UT 84655
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genolamayor@gmail.com

CONSULTING ENGINEER:

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Franson Civil Engineering
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American Fork, UT 84003
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RECORDER:

Lucinda Thomas
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genolaclerk@gmail.com

BOND COUNSEL:

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Blaisdell, Church & Johnson
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Taylorsville, Utah 84123
801-261-3407
Eric@bcjlaw.net

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Genola
 COUNTY: Utah
 PROJECT DESCRIPTION: Tank & well

FUNDING SOURCE: Federal SRF

80 % Loan & 20 % P.F.

ESTIMATED POPULATION:	1,500	NO. OF CONNECTIONS:	484 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$78.62 *			PROJECT TOTAL:	\$4,884,400
CURRENT % OF AGI:	1.77%	FINANCIAL PTS:	20	LOAN AMOUNT:	\$2,273,000
ESTIMATED MEDIAN AGI:	\$53,288			PRINC. FORGIVE.:	\$576,400
STATE AGI:	\$45,895			TOTAL REQUEST:	\$2,849,400
SYSTEM % OF STATE AGI:	116%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
<u>SYSTEM</u>	0%	3.92%		0.00%
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		0.00%
REQUIRED DEBT SERVICE:	\$75,766.67	\$130,174.00		\$75,766.67
*PARTIAL COVERAGE (15%):	\$0.00	\$19,526.10		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$7,576.67	\$13,017.40		\$7,576.67
ANNUAL NEW DEBT PER CONNECTION:	\$172.20	\$336.19		\$172.20
O & M + FUNDED DEPRECIATION:	\$170,348.00	\$170,348.00		\$170,348.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$12,305.73	\$0.00		\$12,305.73
ANNUAL EXPENSES PER CONNECTION:	\$377.38	\$351.96		\$377.38
TOTAL SYSTEM EXPENSES	\$265,997.07	\$333,065.50		\$265,997.07
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$87.46	\$99.01		\$87.46
% OF ADJUSTED GROSS INCOME:	1.97%	2.23%		1.97%

* Equivalent Residential Connections

Agenda Item

5(C)(ii)(f)

**DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE**

APPLICANT’S REQUEST:

High Valley Water Company is requesting financial assistance to replace approximately 20,000 LF of distribution line, install 2 PRV stations, install new service connections with meter assemblies, add approximately 50 new valves and 24 new fire hydrants. This project scored 62.6 points on the Project Priority List.

The total project cost is \$3,609,000. High Valley Water will be contributing \$300,000 towards the project and are requesting the balance from the Drinking Water Board.

STAFF COMMENTS:

The local MAGI for the High Valley Water Company is \$63,300, which is 136% of the State MAGI. The current average water bill is \$100.22/ERC, which is 1.9% of the local MAGI. The estimated after-project water bill at full loan at market rate would be \$184.54/ERC or 3.50% of the local MAGI. Based on MAGI and average monthly water bill, High Valley Water Company qualifies to be considered for additional subsidy.

Option	Loan / Grant	Principal Forgiveness	Loan	Term	Interest Rate /HGA	Water Bill	% Local MAGI
1	100% Loan	\$0	\$3,309,000	40 yrs	1.97%	\$151.95	2.88%
2	50/50	\$1,650,000	\$1,659,000	20 yrs	0%	137.73	2.61%
3	50/50	\$1,650,000	\$1,659,000	30 yrs	0%	\$127.22	2.41%
4	50/50	\$1,650,000	\$1,659,000	40 yrs	0.5%	\$123.63	2.34%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

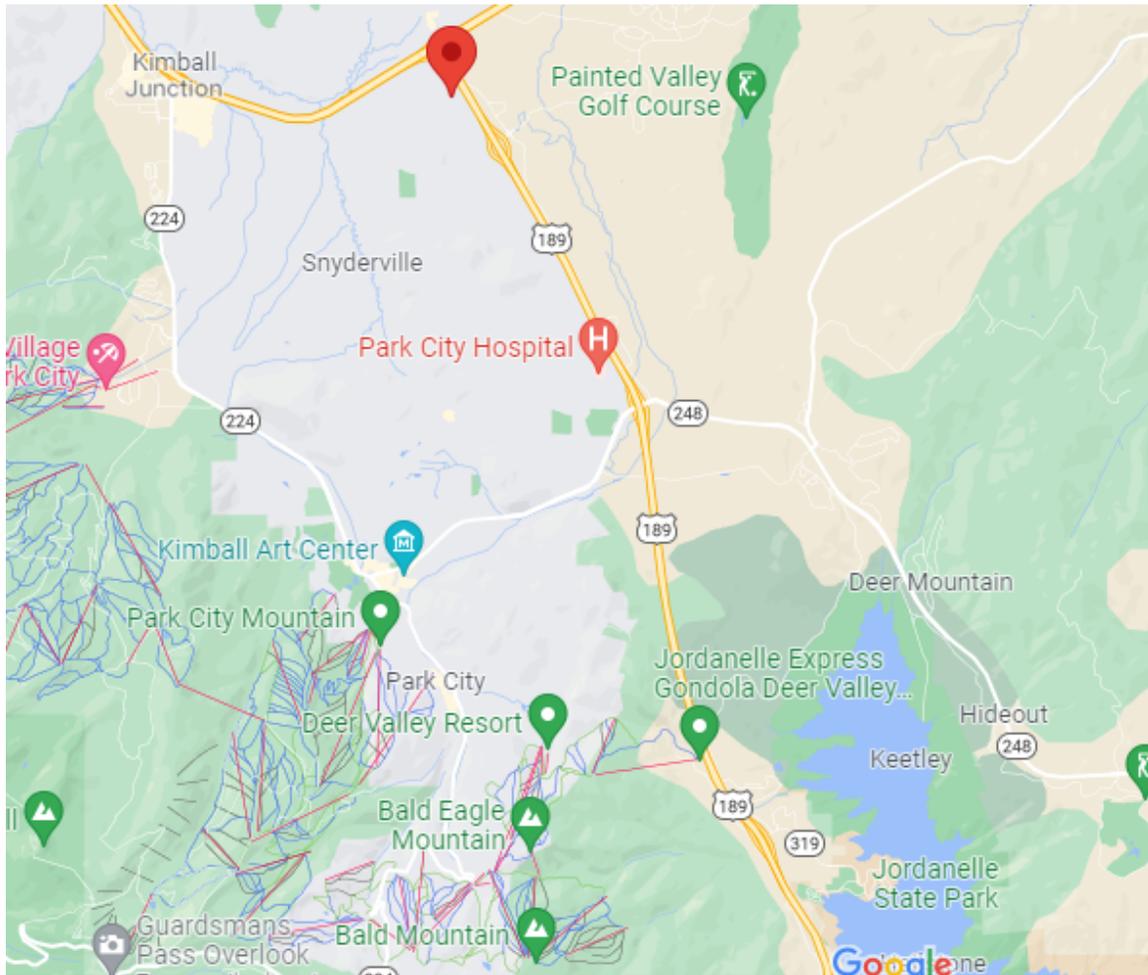
The Drinking Water Board authorize a loan of \$3,309,000 at 0% interest for 20 years, with \$1,650,000 in principal forgiveness, for a repayable amount of \$1,659,000 to High Valley Water Company.

***Note: They do not have any IPS points**

APPLICANT'S LOCATION:

High Valley Water Company is located in Summit County approximately 8 miles Northeast of Park City.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

High Valley Water Company is requesting financial assistance to replace approximately 20,000 LF of distribution line, install 2 PRV stations, install new service connections with meter assemblies, add approximately 50 new valves and 24 new fire hydrants.

POPULATION GROWTH:

Population growth is based on the water system’s estimates

Year	Population	Connections
Current	780	252
2030	790	260
2040	800	265

COST ESTIMATE:

Legal/Bonding/Admin	\$52,500
Engineering - Design	\$238,000
Engineering – CMS/Env	\$242,000
Construction – Dist	\$2,646,500
PRV’s, meters	\$150,000
Contingency (~10%)	\$280,000
Total	\$3,609,000

COST ALLOCATION:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan (0 %, 40-yr)	\$1,659,000	46%
DWB Grant	\$1,650,000	46%
Local Contribution	\$300,000	8%
Total	\$3,609,000	100%

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	March 2022
Complete Design	Nov 2022
DDW Plan Approval:	Dec 2022
Advertise for Bids:	Dec 2022
Bid Opening:	Jan 2023
Loan Closing:	Feb 2023
Begin Construction:	April 2023
Complete Construction:	Nov 2023

CONTACT INFORMATION:

APPLICANT: High Valley Water Company
PO Box 3435
Park City, Utah 84060
Telephone: 435-645-8415

PRESIDING OFFICIAL &
CONTACT PERSON: Karen Sawyer, Manager
PO Box 3435
Park City, Utah 84060
Telephone: 435-645-8415
contact@highvalleywater.com

TREASURER/RECORDER: Bryce Sacks
435-640-5698
brycesacks@outlook.com

CONSULTING ENGINEER: Cliff Linford
Sunrise Engineering
6875 S 900 E
SLC, UT 84047
Telephone: 801-838-8305
clinford@sunrise-eng.com

CITY ATTORNEY: Beatrice Peck
Beatrice peck Law
2699 E Kentucky
Holladay, UT 84117
801-910-9422
Bpeck@bpecklaw.net

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: High Valley Water Co
 COUNTY: Summit
 PROJECT DESCRIPTION: 2 PRV stations, Dist line, service connections, valves & fire hydrants

FUNDING SOURCE: Federal SRF

50 % Loan & 50 % P.F.

ESTIMATED POPULATION:	780	NO. OF CONNECTIONS:	252 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$100.22 *			PROJECT TOTAL:	\$3,609,000
CURRENT % OF AGI:	1.90%	FINANCIAL PTS:	43	LOAN AMOUNT:	\$1,659,000
ESTIMATED MEDIAN AGI:	\$63,300			PRINC. FORGIVE.:	\$1,650,000
STATE AGI:	\$46,500			TOTAL REQUEST:	\$3,309,000
SYSTEM % OF STATE AGI:	136%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 1.97%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	1.97%		0.00%
REQUIRED DEBT SERVICE:	\$82,950.00	\$101,165.50		\$82,950.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$8,295.00	\$10,116.55		\$8,295.00
ANNUAL NEW DEBT PER CONNECTION:	\$362.08	\$441.60		\$362.08
O & M + FUNDED DEPRECIATION:	\$305,817.00	\$305,817.00		\$305,817.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$19,438.35	\$20,349.13		\$19,438.35
ANNUAL EXPENSES PER CONNECTION:	\$1,290.70	\$1,294.31		\$1,290.70
TOTAL SYSTEM EXPENSES	\$416,500.35	\$437,448.18		\$416,500.35
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$137.73	\$144.66		\$137.73
% OF ADJUSTED GROSS INCOME:	2.61%	2.74%		2.61%

\$0.00

Agenda Item

5(C)(ii)(g)

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE

APPLICANT’S REQUEST:

Spring Creek Water User’s is requesting financial assistance to drill a new well. They scored 24.7 points on the Project Priority List.

Spring Creek was authorized funding from the Drinking Water Board on May 12, 2021 consisting of a loan of \$323,800 with \$192,800 in principal forgiveness at 0% for 30 years, for a repayable loan amount of \$131,000.

The project has gone out to bid, and bids have come in higher than anticipated. Spring Creek has provided an updated cost estimate for the project and would like to request an additional \$192,000.

The updated total project cost is \$542,000. Spring Creek is contributing \$26,000 and they are requesting \$516,000 from the Board.

STAFF COMMENTS:

The local MAGI for Spring Creek Water Users is \$36,900, which is 78% of the State MAGI. The current average water bill is \$40.66/ERC, which is 1.32% of the local MAGI. The estimated after project water bill at full loan would be \$70.95/ERC or 2.31% of the local MAGI. Based on MAGI and average monthly water bill, Spring Creek Water Users qualifies to be considered for additional subsidy.

Option 3 listed below is the original loan amount with the additional funds requested as principal forgiveness from the Bipartisan Infrastructure Law Supplemental Appropriations 49% principal forgiveness requirement.

Spring Creek would like to request an advance of \$100,000 from the principal forgiveness amount to purchase materials for the driller who will hold the bid until they can close the loan.

Option	Loan / Grant	Principal Forgiveness	Loan	Term	Interest Rate (HGA)	Water Bill	% Local MAGI
Original	40/60	\$192,800	\$131,000	30 yrs	0%	\$56.97	1.85%
2	40/60	\$205,000	\$311,000	30 yrs	0%	\$63.51	2.07%
3	25/75	\$385,000	\$131,000	30 yrs	0%	\$56.97	1.85%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board deauthorize a loan of \$323,800 with \$192,800 in principal forgiveness at 0% for 30 years, for a repayable loan amount of \$131,000.

The Drinking Water Board authorize a loan of \$516,000 at 0% interest for 30 years with \$385,000 in principal forgiveness from the Bipartisan Infrastructure Law funding and an advance of \$100,000 from the principal forgiveness amount.

APPLICANT'S LOCATION:

Spring Creek Water Users is located in Iron County approximately 7 miles Southwest from Cedar City.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Spring Creek Water Users needs to drill a new well, next to the existing well and plumb it into the existing tank. The existing well is old and Spring Creek has had to pump gravel pack up the well column. After discussion with a hydrologist it was determined that due to the age of the column, the well needs to be replaced

POPULATION GROWTH:

There is no information available from the DEA website so a modest 1.5% growth rate was applied.

Year	Population	Connections
2020	208	86
2030	214	88
2040	220	88

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	March 2022
Complete Design:	April 2022
Plan Approval:	April 2022
Begin Construction:	May 2022
Complete Construction:	July 2022

COST ESTIMATE:

Legal – Bonding, Admin	\$10,000
Engineering- Plan, Design, CMS	\$49,000
Construction	\$439,000
Contingency	\$44,000
Total Project Cost	\$542,000

COST ALLOCATION:

The cost allocation proposed for the project is shown below:

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB Loan	\$131,000	24%
DWB Principal forgiveness	\$385,000	71%
System contribution	\$26,000	5%
Total	\$542,000	100%

CONTACT INFORMATION:

APPLICANT:

Spring Creek Water Users
PO Box 1765
Cedar City, Utah 84720
435-590-5500

PRESIDING OFFICIAL &
CONTACT PERSON:

Gerald Van Iwaarden
President
PO Box 1765
Cedar City, Utah 84720
435-590-5500
jerryvi@netutah.com

CONSULTING ENGINEER:

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Jones & Demille Engineering
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RECORDER:

Charlotte Sommers
760-953-4440

CITY ATTORNEY:

James Jensen
James Jensen Law Firm
250 South Main
PO Box 726
Cedar City, Utah 84720

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Spring Creek Water Users
 COUNTY: Iron
 PROJECT DESCRIPTION: New well

FUNDING SOURCE: Federal SRF

25 % Loan & 75 % P.F.

ESTIMATED POPULATION:	204	NO. OF CONNECTIONS:	88 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$40.66 *			PROJECT TOTAL:	\$542,000
CURRENT % OF AGI:	1.32%	FINANCIAL PTS:	35	LOAN AMOUNT:	\$131,000
ESTIMATED MEDIAN AGI:	\$36,900			PRINC. FORGIVE.:	\$385,000
STATE AGI:	\$47,200			TOTAL REQUEST:	\$516,000
SYSTEM % OF STATE AGI:	78%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 2.80%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	2.80%		0.00%
REQUIRED DEBT SERVICE:	\$4,366.67	\$6,511.90		\$4,366.67
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$436.67	\$651.19		\$436.67
ANNUAL NEW DEBT PER CONNECTION:	\$54.58	\$81.40		\$54.58
O & M + FUNDED DEPRECIATION:	\$52,514.00	\$52,514.00		\$52,514.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$2,844.03	\$2,951.29		\$2,844.03
ANNUAL EXPENSES PER CONNECTION:	\$629.07	\$630.29		\$629.07
TOTAL SYSTEM EXPENSES	\$60,161.37	\$62,628.38		\$60,161.37
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$56.97	\$59.31		\$56.97
% OF ADJUSTED GROSS INCOME:	1.85%	1.93%		1.85%

\$0.00

Agenda Item

6(A)(i)

DRINKING WATER BOARD PACKET
(Request to Adopt Proposed Rule)

R309-200-5(5)(a)

Monitoring and Water Quality: Drinking Water Standards

Primary Drinking Water Standards - Turbidity

Presented to the Drinking Water Board

March 3, 2022

PROPOSAL:

The Division of Drinking Water recommends that the board adopt the proposed amendment to R309-200-5(5)(a), *Turbidity*, shown in Attachment 1. The amendment is being adopted in conjunction with a proposed amendment to R309-530-8, *Membrane Technology*.

HISTORY/CONTEXT:

On November 2, 2021, the board approved filing the proposed amendment to R309-200-5(5)(a), *Turbidity*. The amendment was published in the Utah State Bulletin on December 1, 2021, and a 30-day public comment period ran until January 3, 2022.

PUBLIC COMMENT – DDW ANALYSIS, RESPONSE, AND DECISION:

The division received three sets of comments concerning the rule amendment. The comments and the division's responses are shown in Attachment 2. The division determined that no changes are needed to the proposed amendment in response to the comments for the following reasons.

1. The comment dated December 7, 2022, from Park City Municipal Corporation asked for information, which the division was able to provide and requires no change to the proposed amendment.
2. The comments dated January 3, 2022, from Park City, Public Utilities Department, questioned the procedural process followed to propose the rule amendment and suggested that the division implement the turbidity performance requirement as a voluntary goal instead of adopting it as a rule. The division not only followed the required statutory process for proposing the rule amendment, but additionally allowed two months for informal comments and questions and held a workshop in September of 2021 presenting the amendment and taking questions. The division cannot implement the turbidity performance requirement as goal because 40 CFR 141.173(b) and R309-200-5(5)(a) require the state to set turbidity performance requirements that a public water system **must** meet, which means the requirements cannot be voluntary. The comments require no change to the proposed amendment.
3. Mountain Regional Water SSD submitted comments dated January 3, 2022. In addition to asking for information and commenting on costs, Mountain Regional Water SSD suggested that the division not adopt the new performance standards, or if adopted, the standards be the same as the less stringent turbidity standards for conventional filtration treatment and that the standards be set in individual operating permits and not by rule. The Division's response to the suggestions includes the following explanation:

The division is required by federal regulation and state rule to set turbidity performance standards for membrane filtration treatment of surface water. To protect public health, the standards must be low enough to allow detection of deteriorating treatment performance due to a breach in the membrane unit. Therefore, the higher turbidity performance standards for conventional filtration proposed by Mountain Regional are unsuitable for membrane filtration, a fact acknowledged by U.S. EPA. Additionally, the proposed standards for membrane filtration are in line with the federally promulgated turbidity control limit of 0.15 NTU for membrane filtration and supported by turbidity performance standards in place in California and Colorado. These are states with established membrane approval programs, which Utah relies on for approval of challenge testing for membrane units.

The division sees a benefit to establishing turbidity performance standards for membrane filtration by rule instead of on a case-by-case basis because it provides regulatory clarity and promotes consistent treatment performance among membrane treatment facilities. Also, the turbidity standards for conventional, direct, slow sand, and diatomaceous earth filtration are established by rule.

The comments require no change to the proposed amendment.

DIVISION STAFF/DIRECTOR RECOMMENDATION:

The division recommends that the Drinking Water Board adopt the attached proposed amendment to R309-200-5(5)(a), *Turbidity*.

IMPLEMENTATION SCHEDULE:

Request that Drinking Water Board Adopt Proposed Rule Amendment:	03/03/2022
File Notice of Effective Date with Office of Administrative Rules:	03/04/2022
Anticipated Effective Date of Rule Amendment:	03/31/2022

Attachment 1: Amendment to R309-200-5(5)(a), *Turbidity*

R309. Environmental Quality, Drinking Water.

R309-200. Monitoring and Water Quality: Drinking Water Standards.

R309-200-5. Primary Drinking Water Standards.

(5) TURBIDITY

(a) All public water systems using surface water or ground water under the direct influence of surface water shall provide treatment consisting of both disinfection, as specified in R309-200-5(7)(a), and filtration treatment which complies with the requirements of paragraph (i), (ii) or (iii) of this section.

(i) Conventional filtration treatment or direct filtration.

(A) For systems using conventional filtration or direct filtration, the turbidity level of representative samples of a system's combined filtered effluent water shall be less than or equal to 0.3 NTU in at least 95 percent of the measurements taken each month, measured as specified in R309-200-4(3) and R309-215-9.

(B) The turbidity level of representative samples of a system's combined filtered effluent water shall at no time exceed 1.0 NTU, measured as specified in R309-200-4(3) and R309-215-9.

(C) A system that uses lime softening may acidify representative samples prior to analysis using a protocol approved by the Director.

(ii) Filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration. A public water system may use a filtration technology not listed in paragraph (i) or (iii) of this subsection if it demonstrates to the Director, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of R309-200-5(7), consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses, and 99 percent removal of *Cryptosporidium* oocysts, and the Director approves the use of the filtration technology. For each approval, the Director will set turbidity performance requirements that the system shall meet at least 95 percent of the time and that the system may not exceed at any time at a level that consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts, 99.99 percent removal and/or inactivation of viruses, and 99 percent removal of *Cryptosporidium* oocysts. For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9. For alternative filtration technology other than membrane filtration, [F]the turbidity level of representative samples shall at no time exceed 5.0 NTU for any treatment technique, measured as specified in R309-215-9(1)(c) and (d).

(iii) The turbidity limit for slow sand filtration and diatomaceous earth filtration shall be less than or equal to 1.0 NTU in at least 95 percent of the measurements taken each month, measured as specified in R309-215-9(1)(c) and (d). For slow sand filtration only, if the Director determines that the system is capable of achieving 99.9 percent removal and inactivation of *Giardia lamblia* cysts at some turbidity level higher than 1.0 NTU in at least 95 percent of the measurements, the Director may substitute this higher turbidity limit for that system. The turbidity level of representative samples shall at no time exceed 5.0 NTU for any treatment technique, measured as specified in R309-215-9(1)(c) and (d).

(c) Ground water sources not under the direct influence of surface water:

(i) The following turbidity limit applies to community water systems only.

(ii) The limit for turbidity in drinking water from ground water sources not under the direct

influence of surface sources is 5.0 NTU based on an average for two consecutive days pursuant to R309-205-8(3).

KEY: drinking water, quality standards, regulated contaminants

Date of Enactment or Last Substantive Amendment: [~~January 15, 2019~~]March 31, 2022

Notice of Continuation: March 13, 2015

Authorizing, and Implemented or Interpreted Law: 19-4-104

Attachment 2: Public Comments and DDW Responses for Amendment to R309-200-5(5)(a), *Turbidity*



Sarah Page <sepage@utah.gov>

Re: [External] Comment period for updates relevant to membrane treatment (R309-530 and R309-200-5)

1 message

Sarah Page <sepage@utah.gov>

Mon, Dec 13, 2021 at 3:50 PM

To: Michelle De Haan <michelle.dehaan@parkcity.org>

Cc: Julie Cobleigh <jjacobleigh@utah.gov>

Hi Michelle,

Attached please find the Division's response to your question. We would definitely consider adding cartridge filtration to the alternative filtration rule in the future.

Best,
Sarah



Sarah Page, PhD

Water Treatment Specialist | Division of Drinking Water

P: (385) 272-5778

drinkingwater.utah.gov



On Thu, Dec 9, 2021 at 4:01 PM Michelle De Haan <michelle.dehaan@parkcity.org> wrote:

Sarah,

Thanks for getting back to me. I'll be on vacation Dec 20-30 for the holidays and will have little to no time to provide public comment on Jan 3rd when due. Therefore, I'm hopeful the information regarding turbidity can be provided prior to that time.

I did pick up on the impact of the source water quality data requirement on cartridge filtration. Thought it may add value to add it to the list of alternative methods.

Michelle

From: Sarah Page <sepage@utah.gov>
Sent: Thursday, December 9, 2021 1:43 PM
To: Michelle De Haan <michelle.dehaan@parkcity.org>
Cc: Julie Cobleigh <jjcobleigh@utah.gov>
Subject: Re: [External] Comment period for updates relevant to membrane treatment (R309-530 and R309-200-5)

Hi Michelle,

I wanted to confirm that we received your questions. We are working on a comprehensive response to the turbidity question and will send that when it is completed.

Regarding the cartridge filtration question, per R309-110, *"Membrane filtration" is a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes that [sic] common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.* Since cartridge filters cannot undergo a direct integrity test, they are not covered under the proposed edits to R309-200-5 or R309-530-8. They are covered under the proposed edits to R309-530-3 Source Water Quality Data, since this section applies to all alternative treatment methods.

Best,

Sarah



Sarah Page, PhD

Water Treatment Specialist | Division of Drinking Water

P: (385) 272-5778

drinkingwater.utah.gov



On Tue, Dec 7, 2021 at 9:58 AM Michelle De Haan <michelle.dehaan@parkcity.org> wrote:

Also, could you clarify how direct cartridge filtration fits into the rule?

From: Michelle De Haan
Sent: Tuesday, December 7, 2021 9:56 AM
To: Sarah Page <sepage@utah.gov>; Julie Cobleigh <jjcobleigh@utah.gov>
Subject: RE: [External] Comment period for updates relevant to membrane treatment (R309-530 and R309-200-5)

Hi Sarah and Julie,

Sarah and I talked briefly about the new requirement below. Unfortunately, we could not prioritize the informal comment discussions due to numerous conflicts. Please provide rationale so that membrane systems can understand the why and can comment as warranted. This feels more stringent than federal rules.

“For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9. For alternative

filtration technology other than membrane filtration.”

Michelle De Haan

Water Quality and Treatment Manager

Park City Municipal Corporation

parkcity.org

o: 435.615.5340 | c: 435.659.6771

From: Sarah Page <sepage@utah.gov>
Sent: Monday, December 6, 2021 3:45 PM
To: Sarah Page <sepage@utah.gov>
Cc: Tim Davis <timdavis@utah.gov>; Nathan Lunstad <nlunstad@utah.gov>; Danielle Zebelean <dzebelean@utah.gov>; Julie Cobleigh <jjcobleigh@utah.gov>; Michael Newberry <mnewberry@utah.gov>; Bernie Clark <bernieclark@utah.gov>
Subject: [External] Comment period for updates relevant to membrane treatment (R309-530 and R309-200-5)

[CAUTION] This is an external email.

The proposed amendments to R309-530 and R309-200-5 were published in the Utah State Bulletin on December 1st. This begins the 30-day public comment period, which runs through January 3, 2022.

Here's a link to the Bulletin: <https://rules.utah.gov/wp-content/uploads/b20211201.pdf> The relevant sections start on page 38.

Best,

Sarah



Sarah Page, PhD

Water Treatment Specialist | Division of Drinking Water

P: (385) 272-5778

drinkingwater.utah.gov



121321-Membrane-Comment-Response-final.docx

205K

Comment:

Provide justification for the following requirement:

“For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9. For alternative filtration technology other than membrane filtration.”

Response:

All surface water treatment technologies have been approved for certain log removal value (LRV) credits based on performance meeting specific criteria, such as loading rate, pressure, media depth, and turbidity. For technologies like conventional filtration, this approval has more general conditions. For alternative treatment technologies, the LRV credit approval is based on specific challenge testing documentation provided by the manufacturer. For any technology, operating the treatment process outside of approved conditions results in loss of LRV credit and failure of disinfection.

Utah DDW relies on challenge testing review and LRV approval done by both California and Colorado. For California approvals, membranes receive LRV approval based on a turbidity standard of 0.1 95% of the time (see image below), as well as other operational constraints and daily direct integrity tests. Even with the high LRV credits of membranes, California still requires 0.5-log *giardia* inactivation through disinfection, following a multi-barrier approach to treatment.

California Surface Water Treatment Rule
Alternative Filtration Technology - Membrane Filtration
SWRCB-DDW Water Treatment Committee - June 2018

Manufacturer	Model	Type	Pathogen Removal Standards (log credit)			Turbidity Standards		Conditions During Demonstration	
			Virus	Giardia	Crypto	95% of time	Max	Max Flux Lph/m2 (gfd)	Max TMP (psi)
Aquasource	Advent	UF	4, *	4	4	0.1 NTU	0.5 NTU	136 (80)	29
BASF Inge	D5000	UF	3.5, *	4	4	0.1 NTU	0.5 NTU	156 (92)	29
Dow	UF SFX2860	UF	2.5, *	4	4	0.1 NTU	0.5 NTU	102 (60)	30
Evoqua (formerly Siemens, who acquired US Filter)	Memcor PVdF (S10V, L10V, L20V)	UF	1.5, *	4	4	0.1 NTU	0.5 NTU	88 (52)	22
	PVdF	MF	0.5, *	3.5	4	0.1 NTU	0.5 NTU	85 (50)	29
	L10N, L20N, S10N	UF	1, *	4	4	0.1 NTU	0.5 NTU	263 (155)	22 (L10N, L20N) 12.3 (S10N)
	Polypropylene (M10B, M10C, S10T)	MF	0.5, *	4	4	0.1 NTU	0.5 NTU	110 (66.9)	15
		MF	0, *	4	4	0.1 NTU	0.5 NTU	160 (93.6)	17

Note *: Although virus removal may have been successfully demonstrated and accepted by DDW in the past, each plant is required to provide a minimum of 0.5-log Giardia and 4-log virus inactivation through disinfection. Credit for virus removal cannot be demonstrated on a daily basis currently via pressure decay testing per the USEPA Membrane Filtration Guidance manual.

Colorado also approves membranes for LRV credit based on a turbidity standard of 0.1 95% of the time (see image below), as well as other operational constraints. Colorado does not require additional *giardia* inactivation through disinfection, an approach Utah DDW proposes to follow.

STATE OF COLORADO

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
Located in Glendale, Colorado (303) 692-3090
<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

July 25, 2012

To Public Water Systems

Subject: General requirements of membrane filtration technologies as Alternative Filtration Technologies for meeting the *Colorado Primary Drinking Water Regulations (CPDWR)* requirements for *Giardia lamblia* and *Cryptosporidium* Removal

Public Water Systems
July 23, 2012
Page 2

Turbidity Performance Standards

**< 0.1 NTU 95% of the time
Not to exceed 0.5 NTU**

Thus, to demonstrate that LRV credits are achieved and valid for a membrane unit, both direct and indirect monitoring is required to detect potential “holes” in the membrane that would decrease the LRV. These take the form of daily DITs and continuous turbidity monitoring, with a turbidity of 0.1 or less 95% of the time. Holding membranes to a turbidity standard of 0.3 or less 95% of the time does not demonstrate that a membrane is performing sufficiently on a continuous basis in between DITs when the membrane integrity is directly verified to grant the approved LRV credits.

Additionally, the existing Utah DDW rule (R309-215-15(18)(b)(iv)(D)) and EPA rule (CFR 141.7.19(b)(4)(iv)) require that a membrane unit be taken offline if the turbidity exceeds 0.15 NTU for longer than 15 minutes, with a successful DIT required before the unit is placed back in service. This essentially enforces the 0.1 NTU standard, since, due to significant figures, any turbidity reading up to 0.149 NTU is rounded down to 0.1 NTU.

Utah DDW analyzed turbidity data from SWTR reports for membrane systems over the past year and found that all systems are able to achieve the new standard, although 3 systems would've had exceedances in the past year for at least one month. Twelve of seventeen membrane systems are consistently below 0.05 NTU. Utah DDW intends to reach out and provide technical assistance to the three small membrane facilities that would've had exceedances under the new turbidity standard, which are likely related to operational issues.



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF DRINKING WATER
Tim Davis
Director

February 10, 2022

Michelle De Haan
Water Quality & Treatment Manager
Park City Municipal Corporation
445 Marsac Avenue
Park City, Utah 84060

Subject: **Review Comments**, Proposed Rule Changes to R309-530 and R309-200-5

Dear Michelle De Haan:

The Division of Drinking Water (Division) received your comments on January 3, 2022, regarding the proposed changes to the Proposed Rule R309-200. Monitoring and Water Quality: Drinking Water Standards and R309-530. Facility Design and Operation: Alternative Surface Water Treatment Methods.

The Division appreciates your attention to this matter. Our responses to your comments are attached. The Division has decided not to change the rule amendments based on these (and other) comments received.

If you have any questions regarding this letter, you can contact me either by phone at (385) 514-1464 or email, mnewberry@utah.gov.

Sincerely,

Michael Newberry, P.E.
Permitting Section Manager

cc: Michelle De Haan, Park City Municipal Corporation, michelle.dehaan@parkcity.org
Clint McAfee, P.E., Park City Water System, clint.mcafee@parkcity.org
Nathan Brooks, Summit County Health Department, nbrooks@summitcounty.org
Tim Davis, Director, Division of Drinking Water, timdavis@utah.gov
Nathan Lunstad, P.E., Division of Drinking Water, nlunstad@utah.gov
Sarah Page, Ph.D., Division of Drinking Water, sepage@utah.gov
Dani Zebelean, Division of Drinking Water, dzebelean@utah.gov
Julie Cobleigh, P.E., Division of Drinking Water, jjcobleigh@utah.gov
Bernie Clark, Division of Drinking Water, bclark@utah.gov

January 3, 2022

Michael Newberry, Permitting Section Manager
Utah Department of Environmental Quality
Division of Drinking Water
PO Box 144830
Salt Lake City, UT 84114-4830

Re: Comments regarding Proposed Rule Changes to R309-530 and R309-200-5

Dear Mr. Newberry,

Park City appreciates the opportunity to provide comment on changes to Utah Division of Drinking Water, Proposed Rule R309-200. Monitoring and Water Quality: Drinking Water Standards and R309-530. Facility Design and Operation: Alternative Surface Water Treatment Methods.

The later changes provide detailed design and construction standards for membrane filtration facilities treating surface water and groundwater under the direct influence of surface water. Utah Division of Drinking Water staff have been working on the membrane rule for a number of years, and are congratulated on advancing a proposed rule that will guide water systems and engineers in designing new membrane plants.

Our comments are focused to the former rule change, specifically, R309-200-5(5)(a)(ii):

For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9.

Park City appreciates DDW's efforts aimed to ensure drinking water rules are in place that protect public health. Park City's comments are primarily to address the procedural process followed to justify the above rule change.

The proposed rule requires DDW provide "Purpose of the new rule or reason for the change". This section should call out why the turbidity limit should change and the resulting public health benefit.

[RESPONSE #1: Utah's rulemaking statute and rules require an agency to provide a brief summary of why a rule is being amended, a summary of the changes, fiscal information, and a marked-up copy of the rule showing the changes. That is what the Division of Drinking Water (the Division) provided and what was published in the Utah Bulletin for the proposed amendment to R309-200-5(5)(a).]

- Section F Compliance costs for affected persons (How much will it cost an impacted entity to adhere to this rule or its changes?): states, “Most of the current membrane facilities are able to meet the new turbidity performance standards.” This does not justify a rule change.

[RESPONSE #2: The Division’s response in Section 5, F, of the Rule Administrative Analysis form for R309-200-5(5)(a) is not intended to justify the rule change. As the heading of Section 5, *Fiscal Analysis*, suggests, information in this section is only related to the fiscal impacts of the proposed rule amendment. It is intended to address compliance costs for current membrane facilities. Since most of the current membrane facilities treating surface water can meet the new turbidity performance standards, there would be no new compliance costs associated with the amendment for these facilities.]

- Upon requesting additional information to justify the rule, on December 13, 2021 Sarah Page of DDW replied informally, “For alternative treatment technologies, the LRV credit approval is based on specific challenge testing documentation provided by the manufacturer. For any technology, operating the treatment process outside of approved conditions results in loss of LRV credit and failure of disinfection.” and “Utah DDW relies on challenge testing review and LRV approval done by both California and Colorado.” The response referenced both states 0.1 NTU rule making, and added “Thus, to demonstrate that LRV credits are achieved and valid for a membrane unit, both direct and indirect monitoring is required to detect potential “holes” in the membrane that would decrease the LRV”. We appreciate Sarah’s response. If this is the basis for the change DDW should have included this justification in the proposed rule making, and should not finalize the rule without including justification in a proposed rule so that water systems can review and respond accordingly.

[RESPONSE#3: As stated in Response #1, Utah’s rulemaking statute and rules require an agency to provide a brief summary of why a rule is being amended, a summary of the changes, fiscal information, and a marked-up copy of the rule showing the changes. That is what the Division provided and what was published in the Utah Bulletin for the proposed amendment to R309-200-5(5)(a). The Division relies on the public comment process to provide additional information about the rule amendment, which could include a request for additional information related to the basis for rule changes. The basis for the change to R309-200-5(5)(a) is as follows.

The turbidity performance standard helps ensure that a membrane is intact and providing a physical barrier to pathogens, which protects public health. Because direct integrity testing is the only way of demonstrating that a membrane is intact, the turbidity performance standard serves to provide some level of assurance that a breach in the membrane barrier has not occurred during the interval between direct integrity tests, which are done once a day if a facility is operating.

For turbidity to provide useful information about membrane integrity, a low enough performance standard is needed to demonstrate a decline in treatment performance that could be caused by a breach in the membrane barrier. Because membrane filtration produces filtrate turbidity levels significantly lower than those produced by conventional filtration, a performance standard of 0.3 NTU, the standard for conventional filtration, would allow too great of a decline in membrane filtration performance to assure that the membrane is intact and protect water users from a breakthrough of pathogens. In the preamble to the Long Term 1 Enhanced Surface Water Treatment Rule, U.S EPA stated that “given the different

operational turbidities of conventional filtration and membrane filtration, different turbidity limits are appropriate.”

Membranes achieve low turbidity as a function of their design. If a membrane isn’t achieving the turbidity it is designed to achieve, this is an indication that the membrane is not functioning properly and may be jeopardizing public health.

Additionally, membranes serve as a single barrier for *Giardia* removal, with no additional removal or disinfection requirements for *Giardia* after membrane treatment. Membrane systems only have a requirement for 4-log virus inactivation by disinfection. In comparison, conventional treatment has multiple barriers to pathogens – coagulation, flocculation, sedimentation, and filtration – in addition to a requirement for 0.5-log removal for *Giardia* by disinfection. For comparison, under the same water quality, 4-log virus removal requires a chlorine contact time (CT) of 7 minutes, while 0.5-log *Giardia* removal requires a CT of 34 minutes. Membrane treatment does not have the same robust, multi-barrier approach as conventional treatment, underscoring the importance of protecting public health by confirming sufficient membrane performance through a 0.1 NTU performance standard.

In addition to the required formal comment period, in September the Division provided the proposed rule changes for informal public comment to all systems treating surface water in Utah, as well as consultants, membrane manufacturers, and respected experts in membrane technology. The Division also hosted a workshop presenting the proposed rule changes and requesting informal public comments in September 2021.]

If DDW’s justification is based on that of other states it would be unusual for DDW to implement a rule that is more stringent than federal rule and is only in place in two states, California and Colorado. Utah DDW in the past has followed historic Legislature guidance that Utah Division of Drinking Water rules not be more stringent than federal EPA rules.

[RESPONSE #4: The amendment to R309-200-5(5)(a) is not more stringent than the federal regulations. 40 CFR 141.173(b) requires the state to “set turbidity performance requirements that the system must meet at least 95 percent of the time and that the system may not exceed at any time...” The state has the responsibility to set the turbidity performance requirements for alternative filtration technologies, including membrane filtration. That is what the proposed amendment to R309-200-5(5)(a) does.]

- DDW may wish to, rather than immediately implementing a new turbidity regulation potentially without stakeholder buy-in, encourage a voluntary internal water quality goal program through the Utah Water Quality Alliance which has adopted a CFE goal of 0.1 ntu for all surface water treatment plants. This is in line with the upper control limit discussed in *EPA Membrane Filtration Guidance Manual (2005), Section 5.22 Control Limits*: “Note that a more stringent Upper Control Limit (UCL) may be either voluntarily implemented by a utility or mandated at the discretion of State. For turbidity monitoring, an example of a more stringent UCL might be 0.10 NTU. A more stringent UCL might be advantageous for systems that rely on membrane filtration to achieve a high log removal of *Cryptosporidium*, since the risk associated with an integrity breach is greater.” This would give utilities more time to prepare for and analyze the impact of a proposed turbidity rule change.

[RESPONSE #5: The amendment to R309-200-5(5)(a) is not establishing a “turbidity control limit.” It is setting a turbidity performance standard, which the state is required to set for membrane filtration of surface water. A turbidity control limit of 0.15 NTU for membrane filtration is established in R309-215-15(18)(b)(iv)(D), which the proposed amendment to R309-200-5(5)(a) is not changing.

The Division is committed to working in partnership with water systems across the state and will continue to do so as part of the implementation of R309-200-5(5)(a). Based on data from 2021, only three water systems that utilize membrane filtration were not able to meet the proposed standard for a short period of time. Those three systems and all other systems that utilize membrane filtration have shown that they are capable of meeting the proposed standards. The Division will work closely with those three systems and all other systems to make the transition to the new standards as smooth as possible.

Again, Park City appreciates the opportunity to support DDW’s rule making stakeholder involvement efforts, and applauds the agency in advancing the state’s first membrane rule.

Sincerely,

Michelle De Haan

Michelle De Haan
Public Utilities Department, Drinking Water Division
Water Quality and Treatment Manager
C: Julie Cobleigh, Utah DDW
Dani Zebelean, Utah DDW
Sarah Page, Utah DDW
Clint McAfee, PCMC Public Utilities Department Director



State of Utah

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Kimberly D. Shelley
Executive Director

DIVISION OF DRINKING WATER
Tim Davis
Director

February 10, 2022

Scott Morrison
General Manager
Mountain Regional Water Special Service District
6421 North Business Park Loop Road, Suite A
Park City, UT 84098

Subject: **Review Comments**, Proposed Rule Changes to R309-530 and R309-200-5

Dear Scott Morrison:

The Division of Drinking Water (Division) received your comments on January 3, 2022, regarding the proposed changes to the Proposed Rule R309-200. Monitoring and Water Quality: Drinking Water Standards and R309-530. Facility Design and Operation: Alternative Surface Water Treatment Methods.

The Division appreciates your attention to this matter. Our responses to your comments are attached. The Division has decided not to change the rule amendments based on these (and other) comments received.

If you have any questions regarding this letter, you can contact me either by phone at (385) 514-1464 or email, mnewberry@utah.gov.

Sincerely,

Michael Newberry, P.E.
Permitting Section Manager

cc: Scott Morrison, General Manager, Mountain Regional Water, smorrison@mtregional.org
Sam Grenlie, P.E. Mountain Regional Water, sgrenlie@mtregional.org
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Mountain Regional Water Special Service District
6421 North Business Park Loop Road
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Park City, UT 84098

January 3rd, 2022

Michael Newberry
Permitting Section Manager
Utah Division of Drinking Water
P.O Box 144830
Salt Lake City, Utah 84114-4830

Mr. Newberry:

Mountain Regional Water Special Service District (MRW, the District) would like to thank you for the opportunity to comment on the Utah Division of Drinking Water's (DDW, the Division) proposed Rule changes to R309-200-5(5) (Primary Drinking Water Standards, Turbidity) and R309-530 (Alternative Surface Water Treatment Methods).

R309-200-5(5) Primary Drinking Water Standards, Turbidity

“For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9. For alternative filtration technology other than membrane filtration...”

Our primary comment for the above rule change is we would like to review **documentation showing the correlation between a more stringent turbidity standard and efficacy of a membrane to meet log removal values (LRVs), and the resulting public health impact**. In challenge test data the District has reviewed for our *Pall Microza Hollow Fiber UNA Modules*, there is no correlation between effluent turbidity and resulting LRVs. Effluent turbidity was not a tested parameter in the challenge tests.

[RESPONSE #1: The Division of Drinking Water (the Division) interprets “more stringent turbidity standard” in this comment to mean a turbidity performance standard for membranes more stringent than the standard for conventional treatment. Currently, the turbidity performance standards in R309-200-5(5)(a) for conventional filtration are different than the performance standards for slow sand filtration. The same will be true for membrane filtration because it is a different treatment technology than filtration by conventional, direct, slow sand, or diatomaceous earth.

The turbidity performance standard helps ensure that a membrane is intact and providing a physical barrier to pathogens, which protects public health. Because direct integrity testing is the only way of demonstrating that a membrane is intact, the turbidity performance standard serves to provide some level of assurance that a breach in the membrane barrier has not occurred during the interval between direct integrity tests, which are done once a day if a facility is operating.

For turbidity to provide useful information about membrane integrity, a low enough performance standard is needed to demonstrate a decline in treatment performance that could be caused by a breach in the membrane barrier. Because membrane filtration produces filtrate turbidity levels significantly lower than those produced by conventional filtration, a performance standard of 0.3 NTU, the standard for conventional filtration, would allow too great of a decline in membrane

filtration performance to assure that the membrane is intact and protect water users from a breakthrough of pathogens. In the preamble to the Long Term 1 Enhanced Surface Water Treatment Rule, U.S EPA stated that “given the different operational turbidities of conventional filtration and membrane filtration, different turbidity limits are appropriate.”

Additionally, membranes serve as a single barrier for *Giardia* removal, with no additional removal or disinfection requirements for *Giardia* after membrane treatment. Membrane systems only have a requirement for 4-log virus inactivation by disinfection. In comparison, conventional treatment has multiple barriers to pathogens – coagulation, flocculation, sedimentation, and filtration – in addition to a requirement for 0.5-log removal for *Giardia* by disinfection. For comparison, under the same water quality, 4-log virus removal requires a chlorine contact time (CT) of 7 minutes, while 0.5-log *Giardia* removal requires a CT of 34 minutes. Membrane treatment does not have the same robust, multi-barrier approach as conventional treatment, underscoring the importance of protecting public health by confirming sufficient membrane performance through a 0.1 NTU performance standard.

Also, given the federally established control limit of 0.15 NTU for membrane filtration (CFR141.719(b)(4)(iv)), a turbidity performance standard of 0.3 NTU for membrane filtration does not provide an effective limit. A membrane unit operating at such high turbidity levels would likely be out of service frequently because of exceeding the more stringent control limit.]

Additional justification was provided by Ms. Sarah Page, of the Division, on December 16th 2021, after a phone discussion. This background is appreciated by the District and is attached to the letter for reference. Applicable portions of this response are shown below in italics, with District comments below:

“... Utah DDW relies on challenge testing review and LRV approval done by both California and Colorado. For California approvals, membranes receive LRV approval based on a turbidity Standard of 0.1 95% of the time (see image below), as well as other operational constraints and daily direct integrity tests. ...”

We understand that Colorado and California have more stringent turbidity limits than the federal standard. Again, could you provide data, documentation and interpretation on why a more stringent 95th percentile (and not to exceed) turbidity limit is necessary to demonstrate LRVs?

[RESPONSE #2: There is no corresponding federal turbidity performance standard for membrane filtration. 40 CFR 141.173 requires the State to “set turbidity performance requirements that the system must meet at least 95 percent of the time and that the system may not exceed at any time...” As a result, the proposed turbidity performance standard is not more stringent than the federal standard. The Division has the responsibility to set the turbidity performance requirements for alternative filtration technologies, including membrane filtration. The proposed amendment to R309-200-5(5)(a) implements the Division’s responsibility to set the turbidity performance requirements for membrane filtration.]

“... Thus, to demonstrate that LRV credits are achieved and valid for a membrane unit, both direct and indirect monitoring is required to detect potential “holes” in the membrane that would decrease the LRV. These take the form of daily DITs and continuous turbidity monitoring, with a turbidity of 0.1 or less 95% of the time. Holding membranes to a turbidity standard of 0.3 or less 95% of the time does not demonstrate that a membrane is performing sufficiently on a continuous basis in between DITs when the membrane integrity is directly verified to grant the approved LRV credits.

Additionally, the existing Utah DDW rule (R309-215-15(18)(b)(iv)(D)) and EPA rule (CFR 141.7.19(b)(4)(iv)) require that a membrane unit be taken offline if the turbidity exceeds 0.15 NTU for longer than 15 minutes, with a successful DIT required before the unit is placed back in service. This essentially enforces the 0.1 NTU standard, since, due to significant figures, any turbidity reading up to 0.149 NTU is rounded down to 0.1 NTU. ...”

The District agrees with the importance of integrity monitoring and testing for membrane processes. With an indirect integrity monitoring control limit (or upper control limit) already in place in Rule and based on turbidity, why is an additional and more stringent 95th percentile (and not to exceed) turbidity limit necessary to demonstrate LRVs?

[RESPONSE #3: The Division is required by 40 CFR 141.173 to set turbidity performance standards for alternative treatment technologies, including membrane filtration. The Division does not have a performance standard for membrane filtration in existing rules. The Division is proposing that performance standard by amending R309-200-5(5)(a). See Response #1 for additional justification.]

“... Utah DDW analyzed turbidity data from SWTR reports for membrane systems over the past year and found that all systems are able to achieve the new standard, although 3 systems would’ve had exceedances in the past year for at least one month. Twelve of seventeen membrane systems are consistently below 0.05 NTU. Utah DDW intends to reach out and provide technical assistance to the three small membrane facilities that would’ve had exceedances under the new turbidity standard, which are likely related to operational issues.”

The ability to meet a more stringent standard, in the District’s opinion, is not public health based rationale to change a Primary Drinking Water Standard.

[RESPONSE #4: The Division is not changing a Primary Drinking Water Standard. The Division is required to set turbidity performance standards for membrane filtration by 40 CFR 141.173 and is required to establish such standards by R309-200-5(5)(a). In the past, the Division has done this for each individual membrane project. With the amendment to R309-200-5(5)(a), the turbidity performance standard for membrane filtration of surface water will be established by rule. Membranes achieve low turbidity as a function of their design. If a membrane isn’t achieving the turbidity it is designed to achieve, this is an indication that the membrane is not functioning properly and may be jeopardizing public health. See Response #1 for additional rationale regarding public health.]

Outside of the above formal comment, we would also like to share two concerns for our specific facility at Signal Hill Water Treatment Plant (or Signal Hill WTP, identified as TP022 in the Division database) as they relate to R309-215-9. *Turbidity Monitoring and Reporting*, which is referenced in the proposed Rule change.

As we interpret the Rule change, the more stringent turbidity standards will be applied to any ‘filter.’ We utilize a side-stream granular activated carbon (GAC) contactor as a polishing step at Signal Hill WTP. We have not requested or been granted LRVs for these contactors. These were originally installed in 2009 to address taste and odor concerns at the time, and they are also a primary driver for organics removal. These contactors are not designed to reduce turbidity, as they are an adsorptive process downstream of the Pall membranes. However, we are currently required to report and monitor any ‘individual filter exceedance’ (IFE) resulting from either of our GAC contactor trains (a train consists of two contactors operating in series). We would propose the more stringent not-to-exceed 0.5 NTU standard is not an appropriate metric to be applied to individual GAC contactors or other adsorptive processes following membrane filtration.

[RESPONSE #5: The turbidity performance standards of R309-200-5(5)(a) apply only to filters that treat surface water and receive log removal credit for *Giardia*, *Cryptosporidium*, or viruses. The not-to-exceed 0.5 NTU standard only applies to the membrane process and not the GAC contactors.]

Secondly, the District does not currently report a 95th percentile turbidity as we interpret R309-215-9. In our monthly water treatment plant report, we submit a *maximum* membrane effluent turbidity value over individual 4-hour periods (six values per day) throughout a monthly reporting timeframe. If a 95th percentile is calculated based of this smaller data set of 4-hour maximums, we believe this is creating an even more stringent standard than the proposed Rule change.

[RESPONSE #6: R309-215-9(1)(c) requires all treatment plants using a treatment technique to treat surface water to “mark and interpret turbidity values from the recorded charts at the end of each four-hour interval of operation... to determine compliance with the turbidity performance criterion.” Additionally, systems are required to report the “number and percentage of interpreted filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in R309-200-5(5)(a)(ii) (or increased limit approved by the Director). The percentage of measurements which are less than or equal to the turbidity limit shall be 95 percent or greater for compliance.” Thus, per existing rule (R309-215-9(1)(c)), the 95th percentile turbidity value is based on “interpreted filter water turbidity measurements.”

The Division and U.S. EPA recommend that a water system reports the maximum turbidity value for each four-hour interval because it represents the most conservative approach. Per R309-215-9(1)(c), however, systems may choose to report a different turbidity value recorded in the 4-hour interval, with prior approval by the Division and if documented in the monthly report. The system must also report a daily maximum turbidity reading.]

Please see Attachment 2, a copy of R309-215-9 with comments for additional clarification on these matters.

R309-530 Alternative Surface Water Treatment Methods

Our informal comment relates to R309-530-8(8)(s) Turbidity Measurement. Similar to the Signal Hill WTP specific comment above, it's unclear how bullet (v) will be interpreted and impact reporting requirements in the future:

“A means to measure and record turbidity shall be provided for the: ... outlet from any other process downstream of membrane filtration that may increase turbidity...”

[RESPONSE #7: Monitoring of miscellaneous treatment processes used for other purposes than surface water treatment is regulated by R309-215-6, *Monitoring Requirements for Miscellaneous Treatment Plants*. The proposed revisions to R309-530-8(8)(s) incorporate already existing requirements for consistency in the design review process. The Division would provide any needed monitoring requirements and reporting forms for such processes, including granular activated carbon treatment.]

General Comments

Again, Mountain Regional Water appreciates the opportunity to comment on these Rule changes, and we hope the Division values input from their partners and stakeholders in the water industry. Closing general comments for your consideration are as follows:

Would the Division consider LRVs and specific turbidity limits to be addressed in individual Operating Permits? With so much nuance in surface water treatment plants with challenge tests, differing membrane models, and changes to national and/or state certifications; this level of detail may be better captured on an individual basis.

[RESPONSE #8: The Division currently sets log removal values for surface water treatment for each individual membrane project and expects to continue to do so. While the Division does set LRVs individually, it is important that all membrane treatment plants meet the proposed turbidity standards to ensure they are operating properly between direct integrity tests. The Division has decided to set turbidity performance standards for membranes used to treat surface water by rule, which is the purpose of the proposed amendment to R309-200-5(5)(a). The Division's intent is to increase the consistency and transparency of compliance across membrane systems for surface water treatment in order to ensure that public health is protected.]

Also, this Rule change provides more stringent turbidity performance requirements on membrane filtration facilities as compared to other surface water treatment plants. The District has not reviewed any data showing membrane filtration to be a greater public health concern than a conventional process. The turbidity rule change and implementation could result in violations that do not reflect an adverse impact to public health.

[RESPONSE #9: As stated in our response above, the turbidity performance requirements for conventional surface water treatment and membrane surface water treatment are necessarily different. See Response #1 for additional information.]

Lastly, both the more stringent turbidity limits and implementation of the current reporting rules have and will result in:

- Increased monitoring and control equipment costs.
- Increased cost to acquire, store and output necessary data.
- Increased operational burden and additional staff time/resources.

Fiscal information presented in the '*Notice of Proposed Rule*' generally presents 'no aggregate costs' – that has not been our experience at the District over the past two years.

[RESPONSE #10: The Division's assessment of "no aggregate costs" is based on the following: systems are already collecting the required turbidity data, so no additional costs should be incurred for data storage; systems are already monitoring turbidity and should have the necessary equipment per existing rules; and systems are already interpreting the collected data in monthly reports being submitted to the Division.]

Agenda Item

6(A)(ii)

**DRINKING WATER BOARD PACKET
(Request to Adopt Proposed Rule)**

R309-530

Facility Design and Operation: Alternative Surface Water Treatment Methods

Presented to the Drinking Water Board

March 3, 2022

PROPOSAL:

The Division of Drinking Water recommends that the board adopt the proposed amendment to three sections of R309-530, *Alternative Surface Water Treatment Methods*, shown in Attachment 1. The amended sections are R309-530-4, *General*; R309-530-8, *Membrane Technology*; and R309-530-9, *New Treatment Processes or Equipment*.

HISTORY/CONTEXT:

On November 2, 2021, the board approved filing the proposed amendment to three sections of R309-530, *Alternative Surface Water Treatment Methods*. The amendment was published in the Utah State Bulletin on December 1, 2021, and a 30-day public comment period ran until January 3, 2022.

PUBLIC COMMENT – DDW ANALYSIS, RESPONSE, AND DECISION:

The division received one comment about the rule amendment from Mountain Regional Water SSD dated January 3, 2022, concerning turbidity reporting requirements for other treatment processes downstream of membrane filtration. The comment was included among other comments pertaining to a related proposed amendment to R309-200-5(5)(a), *Turbidity*. The comment and the division's response are shown in Attachment 2. The division was able to address the comment without the need to change the proposed rule amendment to R309-530.

DIVISION STAFF/DIRECTOR RECOMMENDATION:

The division recommends that the Drinking Water Board adopt the attached proposed amendment to three sections of R309-530, *Alternative Surface Water Treatment Methods*.

IMPLEMENTATION SCHEDULE:

Request that Drinking Water Board Adopt Proposed Rule Amendment:	03/03/2022
File Notice of Effective Date with Office of Administrative Rules:	03/04/2022
Anticipated Effective Date of Rule Amendment:	03/31/2022

Attachment 1: Amendment to R309-530, *Alternative Surface Water Treatment Methods*

R309-530-4. General.

(1) Alternative Methods.

In addition to conventional surface water treatment, ~~method (i.e.)~~ coagulation, sedimentation, and filtration as outlined in Rule R309-525, several alternative filtration methods may ~~also~~ be suitable for treating surface water. They are ~~direct~~ filtration, ~~slow~~ sand filtration, ~~membrane~~ filtration, and ~~diatomaceous earth~~ filtration.

(2) Incorporation of Other Rules.

~~For each process described in this section pertinent rules are given. The designer shall also incorporate the relevant rules given in other sections into the plans and specifications for any of these specialized treatment methods. Where applicable, the following topics shall be addressed:~~ The following requirements are incorporated into Sections R309-530-5 through R309-530-9 for alternative surface water treatment methods.

(a) Plant Siting, ~~(see) Section R309-525-6~~.

(b) Pre-design Submittal, ~~(see) Subsection R309-515-5(2)~~.

(c) Plant Reliability, ~~(see) Section R309-525-7~~.

(d) Color Coding and Pipe Marking, ~~(see) Section R309-525-8~~.

(e) Chemical Addition, ~~(see) Section R309-525-11~~.

(f) Miscellaneous Plant Facilities, ~~(see) Section R309-525-17~~, ~~particularly~~ including ~~Sub-section~~ R309-525-17(1), Laboratory.

(g) Operation and Maintenance Manuals, ~~(see) Section R309-525-19~~.

(h) Safety, ~~(see) Section R309-525-21~~.

(i) Disposal of Treatment Plant Waste, ~~(see) Section R309-525-23~~.

(j) Disinfection, ~~(see) Rule R309-520~~.

(3) Source Water Quality Data.

(a) A water supplier proposing to use alternative filtration to treat surface water or groundwater under the direct influence of surface water shall obtain sufficient source water quality data to:

(i) determine the feasibility of alternative filtration treatment;

(ii) identify substances that may affect the alternative filtration process and finished water quality;

(iii) estimate productivity of the alternative filtration process; and

(iv) determine if seasonal variation is substantial enough to affect design.

(b) Source water quality data required by Subsection R309-530-4(3) shall be collected no more than two years prior to the date that plans and specifications for a treatment facility are submitted to the division.

(c) The source water quality data for alternative filtration shall include at least:

(i) one round of sampling for the contaminants required for initial analysis by Subsection R309-515-4(5); and

(ii) four quarters of sampling collected over a period of 12 months for:

(A) alkalinity;

(B) pH;

(C) temperature;

(D) total organic carbon;

(E) total suspended solids;

(F) turbidity; and

(G) any additional parameter needed to design the treatment facility as determined by consultation with the division.

(d) No later than the date that plans and specifications for an alternative filtration facility are submitted to the division, a water supplier shall also submit:

(i) a summary of source water quality data used to design the facility; and

(ii) a description of how the source water quality data address items (i) through (iv) of Subsection R309-530-4(3)(a).

~~R309-530-8. Membrane Technology.~~

~~(1) Acceptability.~~

~~Surface waters, or groundwater under the direct influence of surface water (UDI), may be treated using membrane technology (microfiltration, ultrafiltration, nanofiltration) coupled with "primary and secondary disinfection."~~

~~(2) Pilot Plant Study.~~

~~Because this is a relatively new technology, appropriate investigation shall be conducted by the public water system to assure that the process will produce the required quality of water at a cost which can be borne by the public water system consumers. A pilot plant study shall be conducted prior to the commencement of design. The study must~~

be conducted in accordance with EPA's Environmental Technology Verification Program (ETV) or the protocol and treated water parameters must be approved prior to conducting any testing by the Director.

— (3) Design Requirements.

— The following items shall be addressed in the design of any membrane technology plant intended to provide microbiological treatment of surface waters or groundwater "UDI:"

— (a) The facility shall be equipped with an on-line particle counter on the final effluent.

— (b) The facility shall be equipped with an automatic membrane integrity test system.

— (4) The Director shall establish the turbidity limit for 95% of turbidity measurements and the maximum turbidity limit which shall not be exceeded. The plant effluent shall meet the requirements of R309-200-5(5)(a)(ii).]

R309-530-8. Membrane Filtration.

(1) Definitions.

(a) "Backwash" means the cleaning operation that typically involves periodic reverse flow to remove foulants accumulated at the membrane surface or the intermittent waste stream from a microfiltration or ultrafiltration membrane system.

(b) "Baseline Response" means the amount of airflow or pressure decay due to diffusion of air through water in wetted pores or membrane material in an integral membrane unit.

(c) "Challenge Test" means a study conducted to determine the removal efficiency, known as the log removal value, of a membrane material for a particular organism, particulate, or surrogate.

(d) "Chemically Enhanced Backwash" means a backwash process that includes the addition of chemicals to reduce or remove membrane foulants.

(e) "Clean-in-Place (CIP)" means the periodic application of a chemical solution, or series of chemical solutions, to a membrane unit for the intended purpose of removing accumulated foulants and thus restoring permeability and resistance to baseline levels; commonly used term for in-situ chemical cleaning.

(f) "Concentrate" means the continuous waste stream, typically consisting of concentrated dissolved solids, from a membrane process, usually in association with nanofiltration and reverse osmosis processes; in some cases, also used to describe a continuous bleed stream of concentrated suspended solids wasted from microfiltration and ultrafiltration systems operated in a crossflow, or feed-and-bleed, hydraulic configuration.

(g) "Control Limit" means a response from an integrity test, which, if exceeded, indicates a potential problem with the membrane filtration system and triggers a response; synonymous with "upper control limit" as used in the United States Environmental Protection Agency's Membrane Filtration Guidance Manual, EPA 815-R-06-009, to distinguish from additional voluntary or State-mandated "lower control limits."

(h) "Differential Pressure" means pressure drop across a membrane module or unit from the feed inlet to concentrate outlet, as distinguished from transmembrane pressure, which represents the pressure drop across the membrane barrier.

(i) "Direct Integrity Test (DIT)" means a physical test applied to a membrane unit to identify and isolate integrity breaches.

(j) "Feedwater" means the influent stream to a water treatment process.

(k) "Filtrate" means the water produced from a membrane filtration unit.

(l) "Foulant" means a substance that causes fouling.

(m) "Fouling" means the gradual accumulation of contaminants on a membrane surface or within a porous membrane structure that inhibits the passage of water, thus decreasing productivity.

(n) "Flux" means the filtration rate of a membrane filtration system expressed as flow per unit of membrane area, such as gallons per square foot per day.

(o) "Indirect Integrity Monitoring" means monitoring some aspect of filtrate water quality that is indicative of the removal of particulate matter.

(p) "Log Removal Value (LRV)" means the filtration removal efficiency for a target organism, particulate, or surrogate expressed as \log_{10} ; $LRV = \log_{10}(\text{feed concentration}) - \log_{10}(\text{filtrate concentration})$.

(q) "Maintenance Clean" means a routine, short-duration chemical cleaning to minimize the accumulation of foulants.

(r) "Membrane Unit" means a group of membrane modules that share common valving that allows the unit to be isolated from the rest of the system for integrity testing or other maintenance.

(s) "Membrane Module" means the smallest component of a membrane unit in which a specific membrane surface area is housed in a device with a filtrate outlet structure.

(t) "Normalized Flux" means the filtration rate of a membrane filtration system expressed as flow per unit

of membrane area, such as gallons per square foot per day, at a given reference temperature for monitoring system productivity independent of changes in water temperature. For microfiltration, ultrafiltration, and membrane cartridge filtration, 20 degrees Celsius is used for normalization. For nanofiltration and reverse osmosis, 25 degrees Celsius is used for normalization.

(u) "Productivity" means the amount of filtered water that can be produced from a membrane module, filtration unit, or system over a period of time, accounting for the use of filtrate in backwash and chemical cleaning operations, as well as otherwise productive time that a unit or system is offline for routine maintenance processes such as backwashing, chemical cleaning, integrity testing, or repair.

(v) "Recovery" means the volumetric percent of feedwater that is converted to filtrate in the treatment process over the course of an operating cycle uninterrupted by chemical cleaning or a solids-removal process such as backwashing and excluding losses that occur due to the use of filtrate in backwashing or cleaning operations.

(w) "Resolution" means the size of the smallest integrity breach that contributes to a response from a DIT; also applicable to some indirect integrity monitoring methods.

(x) "Sensitivity" means the maximum LRV that can be reliably verified by a DIT; also applicable to some continuous indirect integrity monitoring methods.

(y) "Transmembrane Pressure (TMP)" means the difference in pressure from the feed, or feed-concentrate average, if applicable, to the filtrate across a membrane barrier.

(2) Applicability. The requirements of Section R309-530-8 apply to membrane filtration used to treat surface water or groundwater under the direct influence of surface water to:

(a) obtain LRV credit for Giardia, Cryptosporidium, and viruses;

(b) meet the turbidity treatment technique requirements of Rule R309-200; or

(c) meet the filtration treatment technique requirements for enhanced treatment for Cryptosporidium of Section R309-215-15.

(3) Turbidity Treatment Technique and Performance Requirements.

(a) The turbidity treatment technique and turbidity performance requirements for a water system using membrane filtration to treat surface water or groundwater under the direct influence of surface water are specified in Subsection R309-200-5(5)(a)(ii).

(b) To receive log removal credit for Giardia, Cryptosporidium, or viruses under Subsection R309-200-5(5)(a)(ii), a membrane shall:

(i) meet the definition of membrane filtration in Rule R309-110;

(ii) be capable of establishing removal efficiency through product-specific challenge testing and direct integrity testing; and

(iii) undergo direct integrity testing and continuous indirect integrity monitoring during operation.

(4) Challenge Testing of Membrane Modules and LRV Credit.

(a) A membrane module proposed for treatment of surface water or groundwater under the direct influence of surface water shall:

(i) undergo product-specific challenge testing meeting the requirements of Subsection R309-215-15(18)(b)(ii) to evaluate the membrane's removal efficiency; and

(ii) either have NSF/ANSI 419 certification or be accepted by a state with a public drinking water program approved by U.S. EPA.

(b) A water supplier shall submit challenge test results for a proposed membrane module to the division for review prior to pilot testing and facility design.

(c) The division shall award a maximum LRV credit for Giardia, Cryptosporidium, and viruses to a membrane module proposed by a water supplier to be used for design of a membrane filtration facility.

(d) A water supplier shall verify an LRV credit awarded to a membrane module by direct integrity testing meeting the requirements of Subsection R309-215-15(18)(b)(iii) during normal operation of a constructed membrane filtration facility.

(5) Pilot Test or Comparable Full-Scale Membrane Filtration Operational Data. Prior to design of a membrane filtration facility, a water supplier shall:

(a) complete a pilot test of a proposed membrane module; or

(b) request and receive approval from the division to use comparable operational data from a full-scale membrane facility treating water of the same or similar quality for a proposed membrane module.

(6) Pilot Test Protocol.

(a) Prior to initiating a pilot test, a water supplier shall:

- (i) submit a test protocol to the division for review; and
- (ii) receive written concurrence with the protocol from the division.
- (b) The pilot test protocol shall specify the:
 - (i) source of water for the test;
 - (ii) membrane module selected for the test;
 - (iii) number of membrane modules to be tested for the full duration of the pilot test;
 - (iv) test duration, including number of clean-in-place cycles;
 - (v) time of year to perform the test;
 - (vi) objectives of the test, including operating procedures to analyze the optimal balance among:
 - (A) flux;
 - (B) productivity;
 - (C) backwash frequency;
 - (D) maintenance-clean frequency; and
 - (E) clean-in-place frequency;
 - (vii) hydraulic configuration to match the full-scale system;
 - (viii) continuous operational parameter monitoring for each filter run, including:
 - (A) elapsed run time;
 - (B) feedwater, filtrate, and concentrate pressure;
 - (C) feedwater, filtrate, and concentrate flow; and
 - (D) feedwater or filtrate temperature;
 - (ix) water quality monitoring of the feedwater, filtrate, and concentrate, including:
 - (A) parameters to be sampled; and
 - (B) frequency of sample collection;
 - (x) backwash process, including chemical enhancement, and data collection;
 - (xi) maintenance-clean process;
 - (xii) clean-in-place process, including:
 - (A) data collection; and
 - (B) direct integrity testing prior to returning the pilot unit to service;
 - (xiii) direct integrity testing process and data collection;
 - (xiv) indirect integrity monitoring process and data collection;
 - (xv) prescreening to protect membrane plugging or damage;
 - (xvi) pretreatment required for membrane treatment efficiency and removal of substances not removed by membrane treatment;
 - (xvii) post-treatment required; and
 - (xviii) waste disposal.
- (7) Preliminary Design Report.
 - (a) Prior to submitting plans and specifications to the division, a water supplier proposing a new or modified membrane filtration facility shall:
 - (i) submit a preliminary design report to the division that establishes design parameters for a full-scale membrane filtration facility that meets the requirements of Section R309-530-8; and
 - (ii) receive written concurrence with the report from the division.
 - (b) The preliminary design report shall include:
 - (i) a summary of pilot test results or comparable full-scale membrane operational data addressing each of the items listed in Subsection R309-530-8(6), Pilot Test Protocol;
 - (ii) preliminary design specifications for membrane filtration, including:
 - (A) flux operating range;
 - (B) differential pressure operating range;
 - (C) recovery;
 - (D) productivity;
 - (E) membrane fouling potential based on pilot test results;
 - (F) membrane removal efficiency, LRV, verified during the pilot test;
 - (G) total membrane area per module; and
 - (H) number of membrane modules for the full-scale facility.
 - (iii) treatment objectives based on source water quality, including:

(A) potential of the treated water to produce disinfection byproducts when chlorine is added for disinfection prior to distribution; and

(B) potential of the filtration process to produce corrosive water and the need for chemical conditioning of the filtrate prior to distribution;

(iv) design capacity and its basis;

(v) mode of filtration operation – constant flux or constant pressure;

(vi) expected useful life of selected membranes;

(vii) identification of critical components to be provided in duplicate to assure continued operation of membrane filtration in the case of a component failure;

(viii) details of direct integrity testing representative of an integral membrane filtration unit, including:

(A) description of the testing procedure;

(B) method of direct integrity testing meeting the requirements of Subsection R309-215-15(18)(b)(iii);

(C) frequency of testing meeting the requirements of Subsection R309-215-15(18)(b)(iii)(F);

(D) estimated test resolution meeting the requirements of Subsection R309-215-15(18)(b)(iii)(B);

(E) estimated test sensitivity meeting the requirements of Subsection R309-215-15(18)(b)(iii)(C);

(F) for pressure-based testing, calculations that demonstrate how the measured pressure or flow is converted to an equivalent LRV;

(G) for marker-based testing, identification of:

(I) the particulate or molecular marker; and

(II) how the marker will be discretely quantified or measured;

(H) estimated control limit meeting the requirements of Subsections R309-215-15(18)(b)(iii)(D) and (E);

and

(I) for pressure-based testing, a baseline response if applicable, and how it was determined.

(ix) details of continuous indirect integrity monitoring of filtrate quality from each membrane filtration unit, including:

(A) description of the monitoring procedure;

(B) method of continuous indirect integrity monitoring meeting the requirements of Subsection R309-215-15(18)(b)(iv);

(C) frequency of monitoring meeting the requirements of Subsection R309-215-15(18)(b)(iv)(B);

(D) estimated performance-based control limit meeting the requirements of Subsection R309-215-15(18)(b)(iv)(D) or (E); and

(E) triggers for initiating a DIT meeting the requirements of Subsection R309-215-15(18)(b)(iv)(D) or (E);

(x) details of the backwashing process and chemically enhanced backwashing process for membranes requiring backwashing, including:

(A) triggers for initiating the processes;

(B) backwashing and chemically enhanced backwashing frequencies;

(C) duration of processes;

(D) water supply for backwashing;

(E) chemical supply for enhanced backwashing;

(F) list of chemicals used for chemically enhanced backwashing;

(G) treatment and disposal of backwash water and chemicals at completion of the processes;

(H) backwash-water recycling; and

(I) description of cross-connection control for the chemically enhanced backwashing process;

(xi) details of the maintenance-clean process and the clean-in-place process for membranes requiring chemical cleaning, including:

(A) triggers for initiating the process;

(B) process frequency;

(C) chemical supply for the process;

(D) list of chemicals used in the cleaning process;

(E) heating requirements for the cleaning solution;

(F) cleaning-solution recirculation;

(G) soak cycle;

(H) chemical recycling;

(I) post-CIP process for verification that the chemical concentration was adequate for the cleaning cycle;

- (J) post-cleaning requirements for returning a membrane unit to filtration, including:
- (I) backwashing or flushing;
- (II) direct integrity testing; and
- (III) disposal of chemical waste stream and rinse water; and
- (K) description of cross-connection control for the process.
- (8) Design Criteria.
 - (a) See Subsection R309-530-4(3) for source water quality data collection and submission requirements that a water supplier shall meet no later than the date that plans and specifications are submitted to the division.
 - (b) Treatment Capacity of a Membrane Filtration Facility.
 - (i) A membrane filtration facility that provides the sole source of water to a water system shall be capable of meeting peak day demand at the lowest feedwater temperature when the largest membrane unit is out of service by providing either:
 - (A) one redundant membrane unit; or
 - (B) multiple membrane units with excess treatment capacity for each unit at maximum design flux.
 - (ii) A membrane filtration facility that provides the sole source of water to a noncommunity water system that can discontinue water service and shut down does not have to be capable of meeting peak day demand when the largest membrane unit is out of service.
 - (iii) The treatment capacity of a membrane filtration facility shall account for the:
 - (A) use of filtrate for backwashing and chemical cleaning;
 - (B) loss of concentrate; and
 - (C) loss of filtrate from flushing membranes after chemical cleaning.
 - (c) Redundancy of Critical Components.
 - (i) A membrane filtration facility that provides the sole source of water to a water system shall provide critical components needed to maintain continuous operation of the filtration process, as identified in the preliminary design report, in duplicate.
 - (ii) A membrane filtration facility that provides the sole source of water to a noncommunity water system that can discontinue water service and shut down does not have to provide critical components in duplicate.
 - (d) Certification of Chemicals and Components.
 - (i) Chemicals added during water treatment, including chemicals used to clean membrane modules and associated piping, shall be certified to meet NSF/ANSI 60.
 - (ii) Materials in contact with water during or following the treatment process, including membrane filtration modules and membrane repair materials, shall be certified to meet NSF/ANSI 61.
 - (e) Membrane Facility Housing. A membrane filtration facility shall be housed in a structure that is:
 - (i) weatherproof;
 - (ii) accessible at times that the facility is active;
 - (iii) protected from flooding;
 - (iv) drained to prevent the accumulation of water on the floor;
 - (v) locked and secured to prevent vandalism and unauthorized entry;
 - (vi) heated, cooled, and vented to protect the equipment;
 - (vii) dehumidified, if necessary, to protect the equipment;
 - (viii) lighted to allow routine operation and maintenance; and
 - (ix) sized and configured to allow operation and maintenance, including the removal and replacement of membrane equipment.
 - (f) Prefiltration Screening and Pretreatment. Prefiltration screening and pretreatment shall be provided based on source water quality, pilot testing, and preliminary design report recommendations.
 - (i) Prefiltration screening shall remove particles and debris that may damage or plug a membrane.
 - (ii) Chemicals used in pretreatment shall be compatible with the membrane material.
 - (iii) A pretreatment process that uses a polymer upstream of a membrane shall minimize or eliminate polymer carryover to the membrane.
 - (iv) Equipment shall be provided for routine testing of the effectiveness of the pretreatment process.
 - (g) Post-treatment. Post-treatment for membrane filtration shall be provided based on pilot testing or preliminary design report recommendations.
 - (i) Equipment shall be provided for:
 - (A) routine testing of the effectiveness of the post-treatment process; and

- (B) compliance monitoring required by drinking water rules.
- (ii) Requirements for disinfection following membrane filtration are specified in Rules R309-200, R309-210, R309-215, and R309-520.
- (h) Bypass Water Handling.
- (i) Untreated surface water or groundwater under the direct influence of surface water may not bypass the membrane filtration process.
- (ii) Water blended with filtrate from membrane filtration treatment prior to distribution shall meet drinking water standards.
- (i) Filter-to-Waste. Each membrane unit shall be equipped to allow filtrate to be sent to waste instead of distribution.
- (j) Waste Disposal. Waste generated by membrane filtration, including concentrate, filter-to-waste water, backwash water, and spent membrane-cleaning solution, shall be disposed of according to applicable regulations.
- (k) Backwashing Equipment.
- (i) For membranes that require backwashing, backwashing equipment shall be provided to remove accumulated foulants from the membrane surface.
- (ii) Piping and pumps shall be compatible with chemicals used for chemically enhanced backwashing.
- (iii) Air provided during backwashing shall be:
 - (A) filtered;
 - (B) dry; and
 - (C) oil free.
- (iv) If water from backwashing is recycled, it shall be:
 - (A) treated to remove solids; and
 - (B) returned to the head of the treatment facility.
- (v) To prevent damage to a membrane or its housing, for automatic backwashing, a backwash pump shall be equipped with:
 - (A) a variable frequency drive;
 - (B) soft start and stop capabilities; or
 - (C) slow opening and closing automatic valves.
- (vi) A means shall be provided to measure the total flow and the rate of flow of the backwash water during the backwashing process.
- (vii) Filtrate shall be:
 - (A) used to backwash membrane modules or membrane units; and
 - (B) supplied in sufficient volume to maintain rated plant capacity.
- (l) Clean-in-Place and Maintenance-Clean Equipment.
- (i) For membranes that require chemical cleaning, equipment shall be provided to remove accumulated foulants on the membrane surface not removed by backwashing.
- (ii) Piping and pumps shall be compatible with the chemicals used for cleaning.
- (iii) Equipment for chemical cleaning shall be provided with cross-connection control to isolate chemicals from the feedwater and filtrate during the cleaning process.
- (iv) Secondary containment for leaks and spills from a chemical storage tank shall be provided to:
 - (A) protect the operator and equipment; and
 - (B) prevent release of chemicals to the environment.
- (m) Direct Integrity Testing Equipment.
- (i) Equipment shall be provided for automatic direct integrity testing of each membrane unit to:
 - (A) detect potential breaches; and
 - (B) record test results.
- (ii) Equipment shall be capable of applying direct integrity testing to physical elements of the membrane unit, including:
 - (A) membranes;
 - (B) seals;
 - (C) potting material;
 - (D) valves;
 - (E) piping; and
 - (F) any other component that could result in contamination of the filtrate if the component's integrity were

compromised.

(iii) Air provided for pressure-based testing shall be:

(A) filtered;

(B) dry; and

(C) oil free.

(iv) A particle used for marker-based testing shall:

(A) be certified to meet NSF/ANSI 60;

(B) be inert;

(C) be compatible with the membrane material;

(D) have an effective size of 3 µm or less;

(E) have a neutral surface charge;

(F) be capable of being discretely measured; and

(G) be removed less efficiently than the organism targeted for treatment by membrane filtration.

(v) A molecule used for marker-based testing shall:

(A) be capable of being discretely quantified; and

(B) have an effective size equivalent to 3 µm or less.

(n) Indirect Integrity Monitoring Equipment. Equipment shall be provided for the continuous monitoring and recording of turbidity levels of the filtrate at each membrane unit as specified in Subsection R309-530-8(8)(s).

(o) Sample Collection. A means to collect samples shall be provided for the:

(i) raw-water inlet to a membrane filtration facility;

(ii) feedwater inlet to a membrane unit;

(iii) filtrate outlet from a membrane unit;

(iv) concentrate outlet;

(v) combined-filter outlet;

(vi) finished-water outlet from a membrane filtration facility;

(vii) water supply for membrane backwashing; and

(viii) clean-in-place chemical solution.

(p) Flow Measurement. A means to measure and record the total flow and the rate of flow shall be provided for the:

(i) raw-water inlet to a membrane filtration facility;

(ii) feedwater inlet to a membrane unit;

(iii) filtrate outlet from a membrane unit;

(iv) concentrate outlet;

(v) finished-water outlet from a membrane filtration facility;

(vi) water supply for membrane backwashing; and

(vii) recycled water.

(q) pH and Temperature Measurement. A means to measure and record pH and temperature shall be provided for the:

(i) raw-water inlet to a membrane filtration facility; and

(ii) finished-water outlet from a membrane filtration facility.

(r) Pressure Measurement. A means to measure and record pressure for a membrane filtration unit shall be provided for the:

(i) feedwater inlet;

(ii) concentrate outlet; and

(iii) filtrate outlet.

(s) Turbidity Measurement. A means to measure and record turbidity shall be provided for the:

(i) raw-water inlet to a membrane filtration facility;

(ii) outlet from a pretreatment process;

(iii) filtrate outlet from a membrane unit;

(iv) combined-filter outlet;

(v) outlet from any other process downstream of membrane filtration that may increase turbidity; and

(vi) clearwell outlet as required by Subsection R309-215-9(1)(a).

(t) Cross-Connection Control. Cross-connection control shall be provided to prevent contamination of feedwater and filtrate from cleaning chemicals and waste disposal.

- (u) System Controls.
- (i) System controls for a membrane filtration facility shall be:
 - (A) located above ground;
 - (B) protected from flooding; and
 - (C) capable of automatically shutting down the membrane filtration process to prevent damage to the membranes or distribution of inadequately treated drinking water.
- (ii) Automated system controls shall be provided with:
 - (A) spare input/output cards of each type;
 - (B) a backup power supply; and
 - (C) surge protection.
- (v) Alarms. A membrane filtration facility shall include an alarm system that immediately notifies a water system operator when:
 - (i) feedwater turbidity exceeds the maximum design level;
 - (ii) filtrate turbidity exceeds the level not to be exceeded at any time as specified in Subsection R309-200-5(5)(a)(ii);
 - (iii) a direct or indirect integrity test exceeds a control limit;
 - (iv) the maximum flow rate setting corresponding to the maximum design flux level is exceeded;
 - (v) TMP exceeds the maximum design level; and
 - (vi) a pump driving the filtration, backwashing, or chemical cleaning process fails.
 - (w) Control of Remote or Unoccupied Membrane Filtration Facility.
 - (i) A remote or unoccupied membrane filtration facility shall be provided with alarms, communication systems, and the ability to automatically shut down processes to prevent the distribution of inadequately treated drinking water.
 - (ii) In addition to the items listed in Subsection R309-530-8(8)(v), a remote or unoccupied membrane filtration facility shall include an alarm system that immediately notifies a water system operator of:
 - (A) failure of a critical component identified in the preliminary design report;
 - (B) failure of a programable logic controller;
 - (C) membrane unit shutdown;
 - (D) clearwell water level above the maximum or below the minimum;
 - (E) chlorine residual level above the maximum or below the minimum;
 - (F) low level in a chemical storage tank;
 - (G) loss of electrical power;
 - (H) unauthorized entry; and
 - (I) low interior temperature of a treatment building.
- (9) Facility Startup.
 - (a) A membrane filtration facility shall be equipped to allow for disposal of feedwater and filtrate during the startup process.
 - (b) Prior to installing membrane modules:
 - (i) piping shall be flushed to remove dirt and construction debris;
 - (ii) chemical-feed equipment shall be tested to assure:
 - (A) proper operation; and
 - (B) delivery of chemicals at proper dosages;
 - (iii) mechanical equipment shall be tested for leaks and proper operation;
 - (iv) instrumentation shall be calibrated and tested for proper operation;
 - (v) the control system shall be verified for:
 - (A) digital and analog control inputs and outputs;
 - (B) instrumentation alarm limits;
 - (C) programming logic;
 - (D) instrumentation loops; and
 - (E) operational sequences.
 - (c) After installation, a membrane module shall be:
 - (i) flushed to waste to remove the storage solution; and
 - (ii) tested to assure smooth startup and shutdown.
 - (d) A water supplier shall comply with applicable disposal requirements for waste flushed from newly

installed piping, tanks, equipment, and membranes at a membrane filtration facility.

(e) Prior to use of a membrane filtration facility to provide drinking water:

(i) pipes, tanks, and associated equipment shall be disinfected and flushed according to AWWA procedures;

(ii) membrane modules shall be disinfected and flushed according to instructions from the membrane manufacturer taking into consideration the chlorine tolerance of the membranes;

(iii) a facility shall be operated continuously for a trial period to verify design parameters;

(iv) treated water quality shall be sampled and demonstrate compliance with drinking water standards;

(v) final, operational control limits for direct integrity testing shall be established;

(vi) a DIT shall be done per Subsection R309-215-15(18)(b)(iii), and the result may not exceed the established upper control limit; and

(vii) a water supplier shall obtain an operating permit as required by Section R309-500-9.

(f) A water supplier shall assure that adequate operator training and instruction are provided by the supplier of the membrane units on each aspect of startup and operation of a membrane filtration facility.

(10) Operating Permit – Additional Information. In addition to meeting the requirements for an operating permit in Section R309-500-9, a water supplier requesting an operating permit for a membrane filtration facility treating surface water or groundwater under the direct influence of surface water shall provide to the division:

(a) a statement acknowledging that the facility startup requirements of Subsection R309-530-8(9) have been completed;

(b) normalized operating flux range;

(c) normalized operating flux per membrane unit;

(d) maximum operating differential pressure for a membrane unit;

(e) membrane unit backwashing frequency;

(f) membrane unit clean-in-place frequency;

(g) minimum, verified, operational, direct integrity testing resolution;

(h) maximum, verified, operational, direct integrity testing sensitivity;

(i) verified, operational, direct integrity testing control limit; and

(j) verified, indirect integrity monitoring performance-based upper control limit.

(11) Operational Membrane Integrity Testing and Monitoring and Reporting.

(a) Membrane Integrity Testing and Monitoring.

(i) Direct Integrity Testing.

(A) A water system using membrane filtration to treat surface water or groundwater under the direct influence of surface water to meet the requirements of Section R309-530-8 shall comply with the direct integrity testing requirements of Subsection R309-215-15(18)(b)(iii).

(B) A DIT shall be done on a membrane unit following:

(I) a clean-in-place process for a membrane unit; and

(II) repair of a membrane unit.

(C) A membrane unit that has been chemically cleaned in place or repaired may not be returned to service unless the result of a DIT of the membrane unit is at or below the established control limit.

(ii) Indirect Integrity Monitoring. A water system using membrane filtration to treat surface water or groundwater under the direct influence of surface water to meet the requirements of Section R309-530-8 shall comply with the indirect integrity monitoring requirements of Subsection R309-215-15(18)(b)(iv).

(b) Reporting Requirements for Membrane Integrity Testing. A water system using membrane filtration to treat surface water or groundwater under the direct influence of surface water to meet the requirements of Section R309-530-8 shall comply with the reporting requirements for direct integrity testing and indirect integrity monitoring of Subsection R309-215-15(20)(d)(x)(B).

(12) Membrane Replacement.

(a) A water supplier shall obtain plan approval and an operating permit for replacement of:

(i) an approved membrane module with a different module; and

(ii) an approved number of modules with a greater number of the same modules.

(b) Replacement of a membrane module with exactly the same product is considered ongoing operation and maintenance and is not a public drinking water project that requires plan approval or an operating permit.

(13) Calibration of Instrumentation. Instrumentation used to verify operation of a treatment process or determine compliance with monitoring and reporting requirements for a drinking water rule, shall be:

(a) calibrated monthly;

- (b) tested for accuracy monthly; and
- (c) maintained according to manufacturer's recommendations.

R309-530-9. New Treatment Processes or Equipment.

The policy of the Board is to encourage, rather than to obstruct, the development of new methods and equipment for the treatment of water. Nevertheless, any new processes or equipment must have been thoroughly tested in full-scale, comparable installations, before approval of plans can be issued. [~~Refer to EPA's Environmental Technology Verification Program (ETV).~~]

No new treatment process will be approved for use in Utah unless the designer or supplier can present evidence satisfactory to the Director that the process will [~~insure~~ensure] the delivery of water of safe, sanitary quality, without imposing undue problems of supervision, operation, [~~and~~] or control.

The Director shall establish the turbidity limit for 95% of turbidity measurements and the maximum turbidity limit which shall not be exceeded. The plant effluent shall meet the requirements of Subsection R309-200-5(5)(a)(ii).

KEY: drinking water, direct filtration, slow sand filtration, membrane technology

Date of Last Change: [~~August 28, 2013~~March 31, 2022

Notice of Continuation: March 12, 2020

Authorizing, and Implemented or Interpreted Law: 19-4-104

Attachment 2: Public Comments and DDW Responses for Amendment to R309-530, *Alternative Surface Water Treatment Methods*



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF DRINKING WATER
Tim Davis
Director

February 10, 2022

Scott Morrison
General Manager
Mountain Regional Water Special Service District
6421 North Business Park Loop Road, Suite A
Park City, UT 84098

Subject: **Review Comments**, Proposed Rule Changes to R309-530 and R309-200-5

Dear Scott Morrison:

The Division of Drinking Water (Division) received your comments on January 3, 2022, regarding the proposed changes to the Proposed Rule R309-200. Monitoring and Water Quality: Drinking Water Standards and R309-530. Facility Design and Operation: Alternative Surface Water Treatment Methods.

The Division appreciates your attention to this matter. Our responses to your comments are attached. The Division has decided not to change the rule amendments based on these (and other) comments received.

If you have any questions regarding this letter, you can contact me either by phone at (385) 514-1464 or email, mnewberry@utah.gov.

Sincerely,

Michael Newberry, P.E.
Permitting Section Manager

cc: Scott Morrison, General Manager, Mountain Regional Water, smorrison@mtregional.org
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January 3rd, 2022

Michael Newberry
Permitting Section Manager
Utah Division of Drinking Water
P.O Box 144830
Salt Lake City, Utah 84114-4830

Mr. Newberry:

Mountain Regional Water Special Service District (MRW, the District) would like to thank you for the opportunity to comment on the Utah Division of Drinking Water's (DDW, the Division) proposed Rule changes to R309-200-5(5) (Primary Drinking Water Standards, Turbidity) and R309-530 (Alternative Surface Water Treatment Methods).

R309-200-5(5) Primary Drinking Water Standards, Turbidity

“For alternative filtration technology using membrane filtration, the turbidity performance requirements shall be a turbidity level of less than or equal to 0.1 NTU in at least 95 percent of the measurements taken each month and that at no time exceeds 0.5 NTU, measured as specified in Subsection R309-200-4(3) and Section R309-215-9. For alternative filtration technology other than membrane filtration...”

Our primary comment for the above rule change is we would like to review **documentation showing the correlation between a more stringent turbidity standard and efficacy of a membrane to meet log removal values (LRVs), and the resulting public health impact**. In challenge test data the District has reviewed for our *Pall Microza Hollow Fiber UNA Modules*, there is no correlation between effluent turbidity and resulting LRVs. Effluent turbidity was not a tested parameter in the challenge tests.

[RESPONSE #1: The Division of Drinking Water (the Division) interprets “more stringent turbidity standard” in this comment to mean a turbidity performance standard for membranes more stringent than the standard for conventional treatment. Currently, the turbidity performance standards in R309-200-5(5)(a) for conventional filtration are different than the performance standards for slow sand filtration. The same will be true for membrane filtration because it is a different treatment technology than filtration by conventional, direct, slow sand, or diatomaceous earth.

The turbidity performance standard helps ensure that a membrane is intact and providing a physical barrier to pathogens, which protects public health. Because direct integrity testing is the only way of demonstrating that a membrane is intact, the turbidity performance standard serves to provide some level of assurance that a breach in the membrane barrier has not occurred during the interval between direct integrity tests, which are done once a day if a facility is operating.

For turbidity to provide useful information about membrane integrity, a low enough performance standard is needed to demonstrate a decline in treatment performance that could be caused by a breach in the membrane barrier. Because membrane filtration produces filtrate turbidity levels significantly lower than those produced by conventional filtration, a performance standard of 0.3 NTU, the standard for conventional filtration, would allow too great of a decline in membrane

filtration performance to assure that the membrane is intact and protect water users from a breakthrough of pathogens. In the preamble to the Long Term 1 Enhanced Surface Water Treatment Rule, U.S EPA stated that “given the different operational turbidities of conventional filtration and membrane filtration, different turbidity limits are appropriate.”

Additionally, membranes serve as a single barrier for *Giardia* removal, with no additional removal or disinfection requirements for *Giardia* after membrane treatment. Membrane systems only have a requirement for 4-log virus inactivation by disinfection. In comparison, conventional treatment has multiple barriers to pathogens – coagulation, flocculation, sedimentation, and filtration – in addition to a requirement for 0.5-log removal for *Giardia* by disinfection. For comparison, under the same water quality, 4-log virus removal requires a chlorine contact time (CT) of 7 minutes, while 0.5-log *Giardia* removal requires a CT of 34 minutes. Membrane treatment does not have the same robust, multi-barrier approach as conventional treatment, underscoring the importance of protecting public health by confirming sufficient membrane performance through a 0.1 NTU performance standard.

Also, given the federally established control limit of 0.15 NTU for membrane filtration (CFR141.719(b)(4)(iv)), a turbidity performance standard of 0.3 NTU for membrane filtration does not provide an effective limit. A membrane unit operating at such high turbidity levels would likely be out of service frequently because of exceeding the more stringent control limit.]

Additional justification was provided by Ms. Sarah Page, of the Division, on December 16th 2021, after a phone discussion. This background is appreciated by the District and is attached to the letter for reference. Applicable portions of this response are shown below in italics, with District comments below:

“... Utah DDW relies on challenge testing review and LRV approval done by both California and Colorado. For California approvals, membranes receive LRV approval based on a turbidity Standard of 0.1 95% of the time (see image below), as well as other operational constraints and daily direct integrity tests. ...”

We understand that Colorado and California have more stringent turbidity limits than the federal standard. Again, could you provide data, documentation and interpretation on why a more stringent 95th percentile (and not to exceed) turbidity limit is necessary to demonstrate LRVs?

[RESPONSE #2: There is no corresponding federal turbidity performance standard for membrane filtration. 40 CFR 141.173 requires the State to “set turbidity performance requirements that the system must meet at least 95 percent of the time and that the system may not exceed at any time...” As a result, the proposed turbidity performance standard is not more stringent than the federal standard. The Division has the responsibility to set the turbidity performance requirements for alternative filtration technologies, including membrane filtration. The proposed amendment to R309-200-5(5)(a) implements the Division’s responsibility to set the turbidity performance requirements for membrane filtration.]

“... Thus, to demonstrate that LRV credits are achieved and valid for a membrane unit, both direct and indirect monitoring is required to detect potential “holes” in the membrane that would decrease the LRV. These take the form of daily DITs and continuous turbidity monitoring, with a turbidity of 0.1 or less 95% of the time. Holding membranes to a turbidity standard of 0.3 or less 95% of the time does not demonstrate that a membrane is performing sufficiently on a continuous basis in between DITs when the membrane integrity is directly verified to grant the approved LRV credits.

Additionally, the existing Utah DDW rule (R309-215-15(18)(b)(iv)(D)) and EPA rule (CFR 141.7.19(b)(4)(iv)) require that a membrane unit be taken offline if the turbidity exceeds 0.15 NTU for longer than 15 minutes, with a successful DIT required before the unit is placed back in service. This essentially enforces the 0.1 NTU standard, since, due to significant figures, any turbidity reading up to 0.149 NTU is rounded down to 0.1 NTU. ...”

The District agrees with the importance of integrity monitoring and testing for membrane processes. With an indirect integrity monitoring control limit (or upper control limit) already in place in Rule and based on turbidity, why is an additional and more stringent 95th percentile (and not to exceed) turbidity limit necessary to demonstrate LRVs?

[RESPONSE #3: The Division is required by 40 CFR 141.173 to set turbidity performance standards for alternative treatment technologies, including membrane filtration. The Division does not have a performance standard for membrane filtration in existing rules. The Division is proposing that performance standard by amending R309-200-5(5)(a). See Response #1 for additional justification.]

“... Utah DDW analyzed turbidity data from SWTR reports for membrane systems over the past year and found that all systems are able to achieve the new standard, although 3 systems would’ve had exceedances in the past year for at least one month. Twelve of seventeen membrane systems are consistently below 0.05 NTU. Utah DDW intends to reach out and provide technical assistance to the three small membrane facilities that would’ve had exceedances under the new turbidity standard, which are likely related to operational issues.”

The ability to meet a more stringent standard, in the District’s opinion, is not public health based rationale to change a Primary Drinking Water Standard.

[RESPONSE #4: The Division is not changing a Primary Drinking Water Standard. The Division is required to set turbidity performance standards for membrane filtration by 40 CFR 141.173 and is required to establish such standards by R309-200-5(5)(a). In the past, the Division has done this for each individual membrane project. With the amendment to R309-200-5(5)(a), the turbidity performance standard for membrane filtration of surface water will be established by rule. Membranes achieve low turbidity as a function of their design. If a membrane isn’t achieving the turbidity it is designed to achieve, this is an indication that the membrane is not functioning properly and may be jeopardizing public health. See Response #1 for additional rationale regarding public health.]

Outside of the above formal comment, we would also like to share two concerns for our specific facility at Signal Hill Water Treatment Plant (or Signal Hill WTP, identified as TP022 in the Division database) as they relate to R309-215-9. *Turbidity Monitoring and Reporting*, which is referenced in the proposed Rule change.

As we interpret the Rule change, the more stringent turbidity standards will be applied to any ‘filter.’ We utilize a side-stream granular activated carbon (GAC) contactor as a polishing step at Signal Hill WTP. We have not requested or been granted LRVs for these contactors. These were originally installed in 2009 to address taste and odor concerns at the time, and they are also a primary driver for organics removal. These contactors are not designed to reduce turbidity, as they are an adsorptive process downstream of the Pall membranes. However, we are currently required to report and monitor any ‘individual filter exceedance’ (IFE) resulting from either of our GAC contactor trains (a train consists of two contactors operating in series). We would propose the more stringent not-to-exceed 0.5 NTU standard is not an appropriate metric to be applied to individual GAC contactors or other adsorptive processes following membrane filtration.

[RESPONSE #5: The turbidity performance standards of R309-200-5(5)(a) apply only to filters that treat surface water and receive log removal credit for *Giardia*, *Cryptosporidium*, or viruses. The not-to-exceed 0.5 NTU standard only applies to the membrane process and not the GAC contactors.]

Secondly, the District does not currently report a 95th percentile turbidity as we interpret R309-215-9. In our monthly water treatment plant report, we submit a *maximum* membrane effluent turbidity value over individual 4-hour periods (six values per day) throughout a monthly reporting timeframe. If a 95th percentile is calculated based of this smaller data set of 4-hour maximums, we believe this is creating an even more stringent standard than the proposed Rule change.

[RESPONSE #6: R309-215-9(1)(c) requires all treatment plants using a treatment technique to treat surface water to “mark and interpret turbidity values from the recorded charts at the end of each four-hour interval of operation... to determine compliance with the turbidity performance criterion.” Additionally, systems are required to report the “number and percentage of interpreted filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in R309-200-5(5)(a)(ii) (or increased limit approved by the Director). The percentage of measurements which are less than or equal to the turbidity limit shall be 95 percent or greater for compliance.” Thus, per existing rule (R309-215-9(1)(c)), the 95th percentile turbidity value is based on “interpreted filter water turbidity measurements.”

The Division and U.S. EPA recommend that a water system reports the maximum turbidity value for each four-hour interval because it represents the most conservative approach. Per R309-215-9(1)(c), however, systems may choose to report a different turbidity value recorded in the 4-hour interval, with prior approval by the Division and if documented in the monthly report. The system must also report a daily maximum turbidity reading.]

Please see Attachment 2, a copy of R309-215-9 with comments for additional clarification on these matters.

R309-530 Alternative Surface Water Treatment Methods

Our informal comment relates to R309-530-8(8)(s) Turbidity Measurement. Similar to the Signal Hill WTP specific comment above, it's unclear how bullet (v) will be interpreted and impact reporting requirements in the future:

“A means to measure and record turbidity shall be provided for the: ... outlet from any other process downstream of membrane filtration that may increase turbidity...”

[RESPONSE #7: Monitoring of miscellaneous treatment processes used for other purposes than surface water treatment is regulated by R309-215-6, *Monitoring Requirements for Miscellaneous Treatment Plants*. The proposed revisions to R309-530-8(8)(s) incorporate already existing requirements for consistency in the design review process. The Division would provide any needed monitoring requirements and reporting forms for such processes, including granular activated carbon treatment.]

General Comments

Again, Mountain Regional Water appreciates the opportunity to comment on these Rule changes, and we hope the Division values input from their partners and stakeholders in the water industry. Closing general comments for your consideration are as follows:

Would the Division consider LRVs and specific turbidity limits to be addressed in individual Operating Permits? With so much nuance in surface water treatment plants with challenge tests, differing membrane models, and changes to national and/or state certifications; this level of detail may be better captured on an individual basis.

[RESPONSE #8: The Division currently sets log removal values for surface water treatment for each individual membrane project and expects to continue to do so. While the Division does set LRVs individually, it is important that all membrane treatment plants meet the proposed turbidity standards to ensure they are operating properly between direct integrity tests. The Division has decided to set turbidity performance standards for membranes used to treat surface water by rule, which is the purpose of the proposed amendment to R309-200-5(5)(a). The Division's intent is to increase the consistency and transparency of compliance across membrane systems for surface water treatment in order to ensure that public health is protected.]

Also, this Rule change provides more stringent turbidity performance requirements on membrane filtration facilities as compared to other surface water treatment plants. The District has not reviewed any data showing membrane filtration to be a greater public health concern than a conventional process. The turbidity rule change and implementation could result in violations that do not reflect an adverse impact to public health.

[RESPONSE #9: As stated in our response above, the turbidity performance requirements for conventional surface water treatment and membrane surface water treatment are necessarily different. See Response #1 for additional information.]

Lastly, both the more stringent turbidity limits and implementation of the current reporting rules have and will result in:

- Increased monitoring and control equipment costs.
- Increased cost to acquire, store and output necessary data.
- Increased operational burden and additional staff time/resources.

Fiscal information presented in the '*Notice of Proposed Rule*' generally presents 'no aggregate costs' – that has not been our experience at the District over the past two years.

[RESPONSE #10: The Division's assessment of "no aggregate costs" is based on the following: systems are already collecting the required turbidity data, so no additional costs should be incurred for data storage; systems are already monitoring turbidity and should have the necessary equipment per existing rules; and systems are already interpreting the collected data in monthly reports being submitted to the Division.]

Agenda Item

7

LEAD & COPPER RULE REVISIONS (LCRR)

Informational Item for the Utah Drinking Water Board

March 3, 2022

Regulatory Background

EPA finalized the Lead & Copper Rule Revisions (LCRR) on December 16, 2021. The rule was initially released in the final days of the Trump Administration, but the Biden Administration delayed the rule to conduct a review and consider making changes. The Biden Administration and EPA stated that they intend to make changes later, but chose to let the rule take effect so as not to delay the elements of the rule that protect public health (namely the requirements relating to lead service line inventories and replacement). EPA announced that they will be preparing *another* rule to make their desired changes to the LCRR. This new rule is called the Lead & Copper Rule Improvements (LCRI) and EPA aims to have it finalized prior to the LCRR compliance date of October 16, 2024.

Key Requirements

- Community (COM) and Non-Transient Non-Community (NTNC) water systems must prepare a Lead Service Line Inventory and a Lead Service Line Replacement Plan by the compliance date of October 16, 2024
- Water systems must identify the material for all service lines in their distribution systems
 - Both the system-owned portion *and* the customer-owned portion of a service line must be included in the inventories
- Service lines must be placed into one of the following categories:
 - Lead
 - Lead Status Unknown
 - Galvanized Requiring Replacement
 - Confirmed Non-Lead
- Nearly all systems will have unknown lines that will need to be identified over time
- Service line inventories must be available to the public
- The LCRR requires systems review records that may identify service line materials
- Water systems need to document service line materials that are observed during the course of other projects such as meter or main replacement
 - It is recommended that water systems develop a standard operating procedure describing how and where staff will maintain service line material information

Funding

The Bipartisan Infrastructure Law (BIL) allocated \$15B for LSL identification and replacement efforts. Utah is allocated about \$28M per year over five years. This money is a combination of grants and loans and will be administered by the Division's SRF Group. The Division is using a short online form to collect cost estimates from water systems in order to prepare an Intended Use Plan for the BIL funding. The form can be found on the LCRR webpage and was included in the February 9th email to water systems.

DDW Actions

- The Division has created a website with information and resources for water systems: LCRR.utah.gov
- An email from DDW Director Tim Davis was sent to the administrative contacts of all COM and NTNC water systems on Wednesday, February 9, 2022. A copy of this email has been added to the LCRR webpage (LCRR.utah.gov)
 - This email was also shared with partners including Local Health Departments, the Rural Water Association of Utah, and the Intermountain Section of the American Water Works Association
- The Division will publish and share service line inventory templates once EPA issues guidance documents that answer key questions regarding minimum verification requirements and acceptable methods for identifying service line materials
- DDW Staff will continue to provide training on this rule change at conferences and training events throughout the State
- The Division will initiate the formal rulemaking process at a later date

Contact Information

Luke Treutel, LEHS

Lead & Copper Rule Manager

Utah DEQ - Division of Drinking Water

LTreutel@utah.gov

Agenda Item

8

DRINKING WATER BOARD PACKET
Rural Water Association Report

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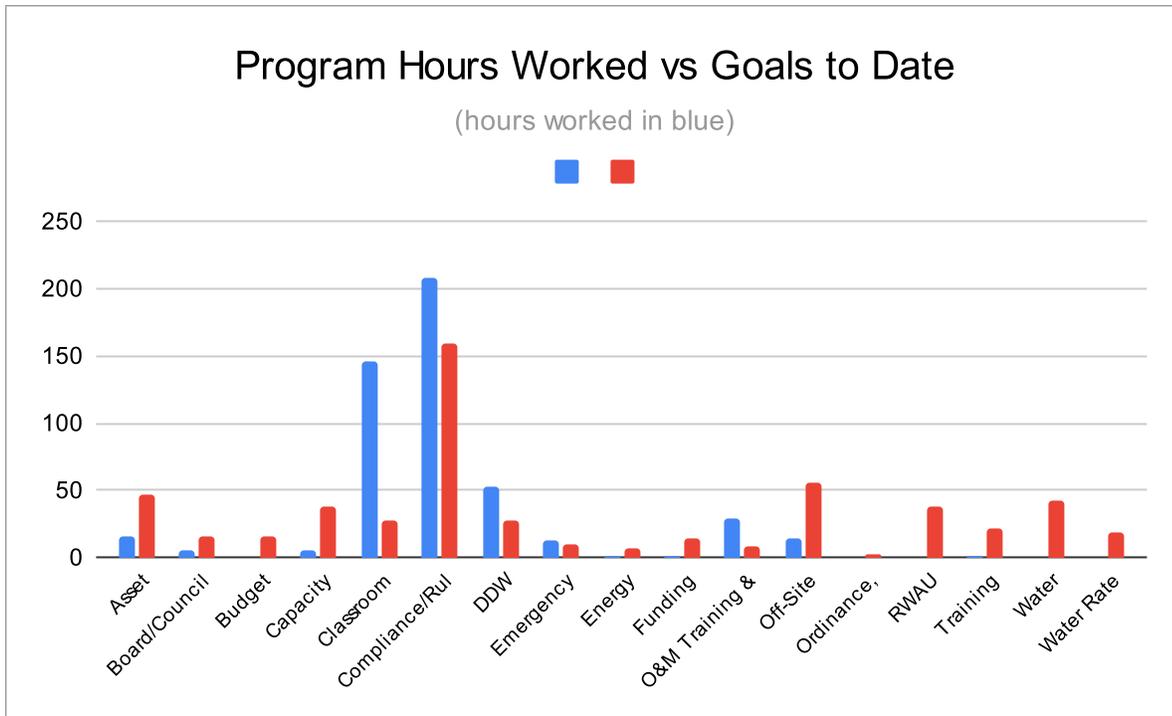
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Curt Ludvigson – Management Technician.....11

Rural Water Association - DWB Report

Report Period: January, 2022

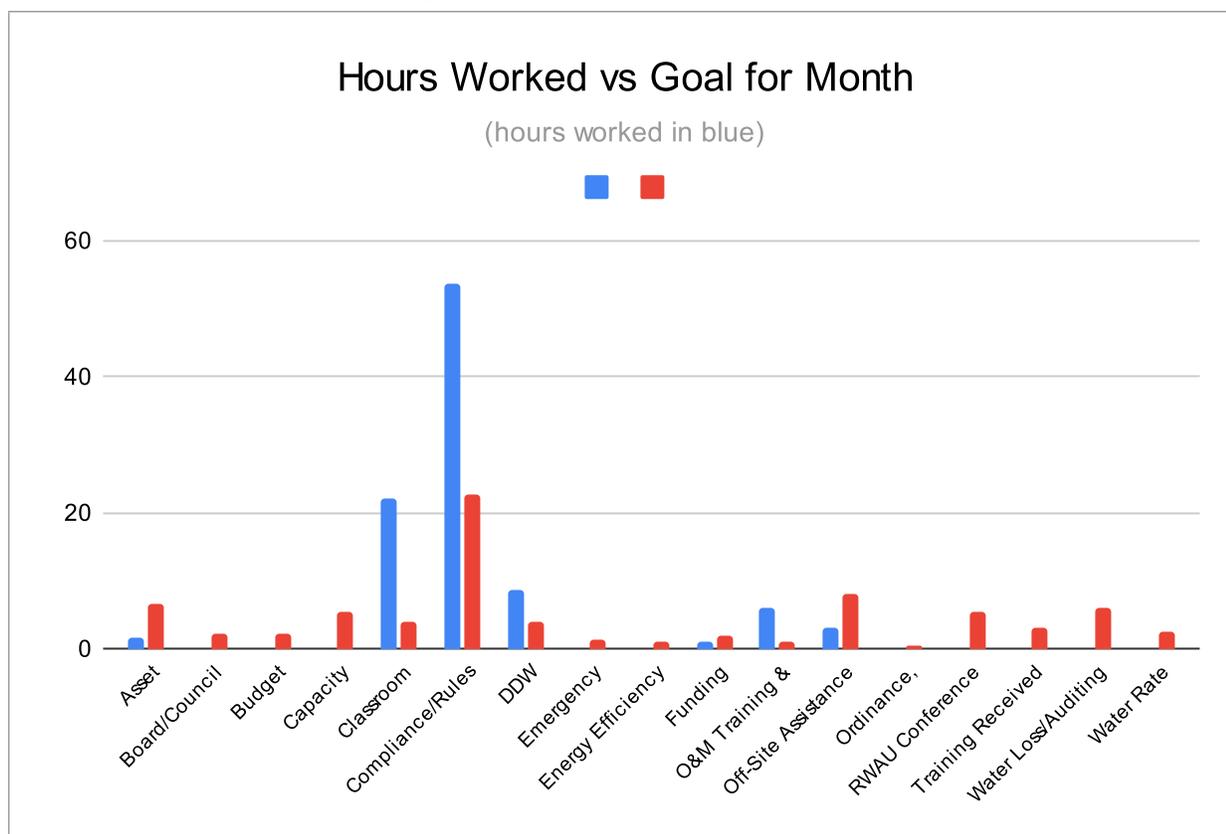
Terry Smith - Compliance Specialist

Contract Goal Titles	YTD Goal Hours Achieved	YTD Goal Hours	Annual Program Goals
Asset Management/Evaluation	15.2	46.7	80.0
Board/Council Training	5.0	15.2	26.0
Budget Planning/Evaluation	0.0	15.2	26.0
Capacity Development/Master Planning	4.8	37.3	64.0
Classroom Instruction/Training	146.0	28.0	48.0
Compliance/Rules Assistance	208.5	158.7	272.0
DDW Interaction/Meetings/Reports	52.0	28.0	48.0
Emergency Response	13.3	10.5	18.0
Energy Efficiency Study	1.0	7.0	12.0
Funding Procurement	1.0	14.0	24.0
O&M Training & Assistance	29.8	8.2	14.0
Off-Site Assistance	13.7	56.0	96.0
Ordinance, Resolutions, By-Laws Development	0.0	2.3	4.0
RWAU Conference	0.0	37.3	64.0
Training Received	1.0	21.0	36.0
Water Loss/Auditing	0.0	42.0	72.0
Water Rate Development/Analysis	0.0	18.7	32.0
Totals:	491	546	936



Report Period: January, 2022
Notable Assistance & Work Performed

System	Description:
ESCALANTE VLY HOUSING	Assisting Pat in reporting nitrate sampling for 2021
CLARK BENCH (13060)	Working with Buck Brown - WTTC assistance
MEADOW TOWN	Discussion with John pertaining to certified operator - O&M/Compliance
DESERET FEED LOT	Discussion with Bill Ford - operator for Deseret Feed Lot
MARBLE HILL WATER CO	Working via email with Katrina to resolve backup power deficiency
BEAVER DAM WTR CO	Working with Jim Moore: TC sampling, certification, treatment.
SPRING CITY	Assisting Jim in creating SP updates for spring sources
PINON FOREST SSD (07073)	Helping Linda in her efforts to find a backflow assembly testers
ELKRIDGE ESTATES	Helping John - annual water report training
ORDERVILLE TOWN	Training Verl - well control valve repair
WHISPERING PINES WC (20048)	Advised Sean on new tank construction/planning
COALVILLE CITY	Teaching Best Practices - O&M
PINON FOREST SSD (07073)	Instruction and guidance to Linda on SP Implementation
KANE COUNTY WCD	Proctor two operators
VIRGIN TOWN	Training on chlorine residual, bac-t, cross-connection methods



Rural Water Association of Utah

Water System Assistance Report

Report Month: January

Contract _____

Employee: Terry Smith

Total Work Hours: 149

Hours Assisting Specific Systems: 65.00

System assistance percentage of total working hours: **43.62%**

Date:	Description:	Water System:	Task Hours:
1/3/2022	Assisting Pat in reporting nitrate sampling for 2021	ESCALANTE VLY HOUSING	0.25
1/3/2022	Discussion with Janell about Hinckley Town deficiencies	HINCKLEY TOWN	1.00
1/4/2022	Working with Buck Brown - WTTTC assistance	CLARK BENCH (13060)	1.00
1/4/2022	Reaching out to Henefer to offer assistance	HENEFER TOWN	0.50
1/4/2022	Reaching out to Ryon to offer assistance	PINE VALLEY IRRIG CO	0.50
1/4/2022	Reaching out to Katrina to offer assistance	MARBLE HILL WATER CO	0.50
1/4/2022	Discussion with John pertaining to certified operator - O&M/Compliance	MEADOW TOWN	0.50
1/5/2022	Discussion with Bill Ford - operator for Deseret Feed Lot	DESERET FEED LOT	0.50
1/5/2022	Researching deficiency - Henefer Town booster pump. Repond email	HENEFER TOWN	1.00
1/5/2022	Meeting with Jake pertaining to SP updates	SPRING CITY	1.50
1/5/2022	Working via email with Katrina to resolve backup power deficiency	MARBLE HILL WATER CO	0.50
1/6/2022	Helping Rock troubleshoot check valve on well	ESCALANTE VLY HOUSING	0.50
1/10/2022	Working with Bill on helping Deseret Feedlot - operator/compliance	DESERET FEED LOT	1.00
1/10/2022	Working with Jim Moore: TC sampling, certification, treatment.	BEAVER DAM WTR CO	3.00
1/10/2022	Assisting Jim in creating SP updates for spring sources	SPRING CITY	1.00
1/10/2022	Helping Linda in her efforts to find a backflow assembly testers	PINON FOREST SSD (07073)	1.00
1/11/2022	SP update for spring sources - WS001, WS002, WS008	SPRING CITY	1.00
1/11/2022	Helping John - annual water report training	ELKRIDGE ESTATES	0.75
1/11/2022	SP update for spring sources - WS001, WS002, WS008	SPRING CITY	1.50
1/12/2022	SP update for spring sources - WS001, WS002, WS008	SPRING CITY	2.75
1/12/2022	Assisting with SP updates - Source WS003 & WS004	SPRING CITY	2.25
1/13/2022	Assisting Jim with SP updates - WS003 & WS004	SPRING CITY	2.75
1/13/2022	Training Verl - well control valve repair	ORDERVILLE TOWN	0.50
1/14/2022	Responding to Rob's email - lead service line inventory requirement	SPRINGDALE TOWN	0.50
1/18/2022	Emails response to Michelle - air in pipes, tank inspection, sounding	PINE VALLEY MTN FARMS	0.50
1/18/2022	Organizing and loading equipment	ORDERVILLE TOWN	0.50
1/18/2022	Onsite - well control valve O&M training	ORDERVILLE TOWN	3.00
1/18/2022	Helping Justin with annual CCR	NEPHI CITY WATER	0.25
1/19/2022	Advised Sean on new tank construction/planning	WHISPERING PINES WC (20048)	0.50
1/19/2022	Discussion with Roger - annual cross connection report, admin rule	FOUNTAIN GREEN CITY	0.50
1/20/2022	Teaching Best Practices - O&M	COALVILLE CITY	3.00
1/20/2022	Working with Paula - HB 115 concerns	MOUNTAIN VIEW SSD	1.00
1/21/2022	Working on SP update violation for Orderville Town	ORDERVILLE TOWN	0.50
1/21/2022	Discussion with Linda - SP update and CC program deficiencies	PINON FOREST SSD (07073)	0.50
1/24/2022	Researching violations - CC & SP update	PINON FOREST SSD (07073)	0.50
1/25/2022	Helping Joel with operator contract template	OLD MEADOW WATER CO	1.00
1/25/2022	Working on PINON Forest CC program	PINON FOREST SSD (07073)	3.00
1/25/2022	Helping Greg and Conrad Yanito with PRV sizing	Moab City	0.50
1/25/2022	Helping Aldo with funding and application dates, etc.	BRIAN HEAD TOWN	0.50
1/25/2022	Working on PINON Forest CC program	PINON FOREST SSD (07073)	1.50
1/26/2022	Response to Jim's question about keeping positive flow - main break	BEAVER DAM WTR CO	0.50
1/26/2022	Finished up CC program incorporating G. Rager's requirements	PINON FOREST SSD (07073)	1.00
1/26/2022	Working on SP update assistance	PINON FOREST SSD (07073)	2.25
1/26/2022	Conversation with Randy pertaining to CC program, ordinance, etc.	COVE SSD	0.50
1/26/2022	Working on SP update assistance	PINON FOREST SSD (07073)	3.25
1/27/2022	Instruction and guidance to Linda on SP Implementation	PINON FOREST SSD (07073)	1.00
1/27/2022	Proctor two operators	KANE COUNTY WCD	4.00
1/27/2022	Working on CC program with Gary Rager for Pinion	PINON FOREST SSD (07073)	1.00

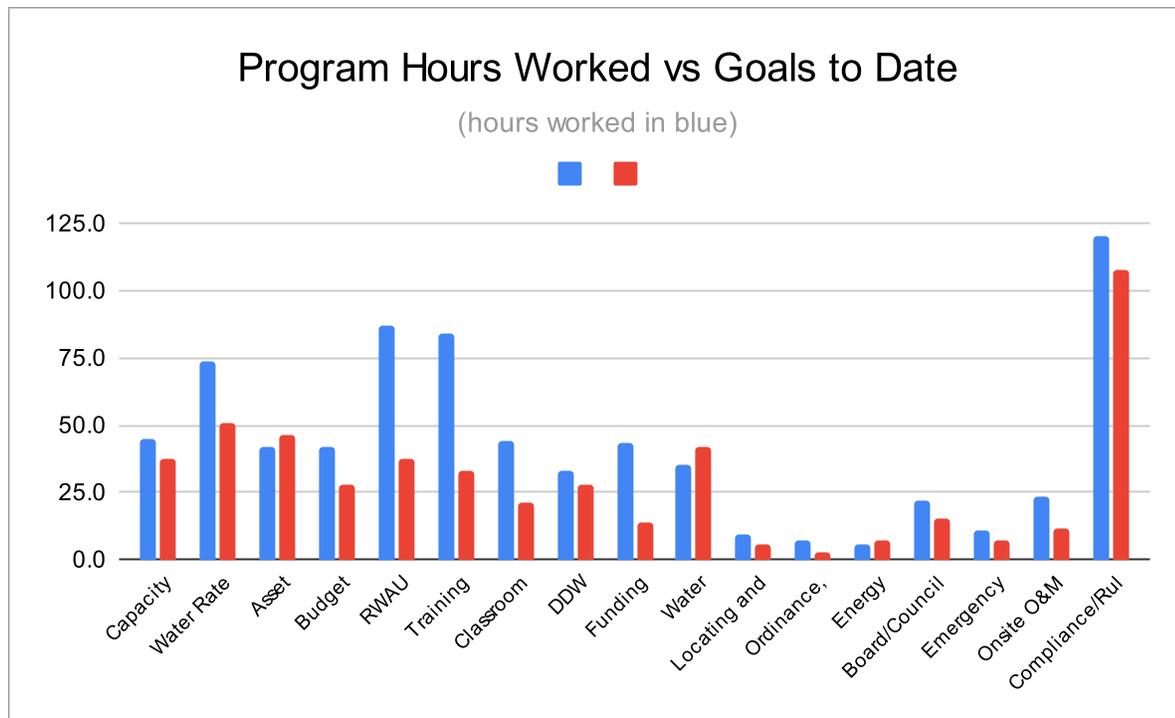
1/28/2022	Per request, sent op-cert certificates to Mike	KANE COUNTY WCD	0.25
1/28/2022	Working on Red Hollow Well #2 SP Update assistance	ORDERVILLE TOWN	4.50
1/31/2022	Preparation for meeting with Dave Harsh	VIRGIN TOWN	1.00
1/31/2022	Conversation with Brett - Op Cert and testing	CANNONVILLE TOWN	0.25
1/31/2022	Training on chlorine residual, bac-t, cross-connection methods	VIRGIN TOWN	2.00

Rural Water Association - DWB Report

Report Period: January, 2022

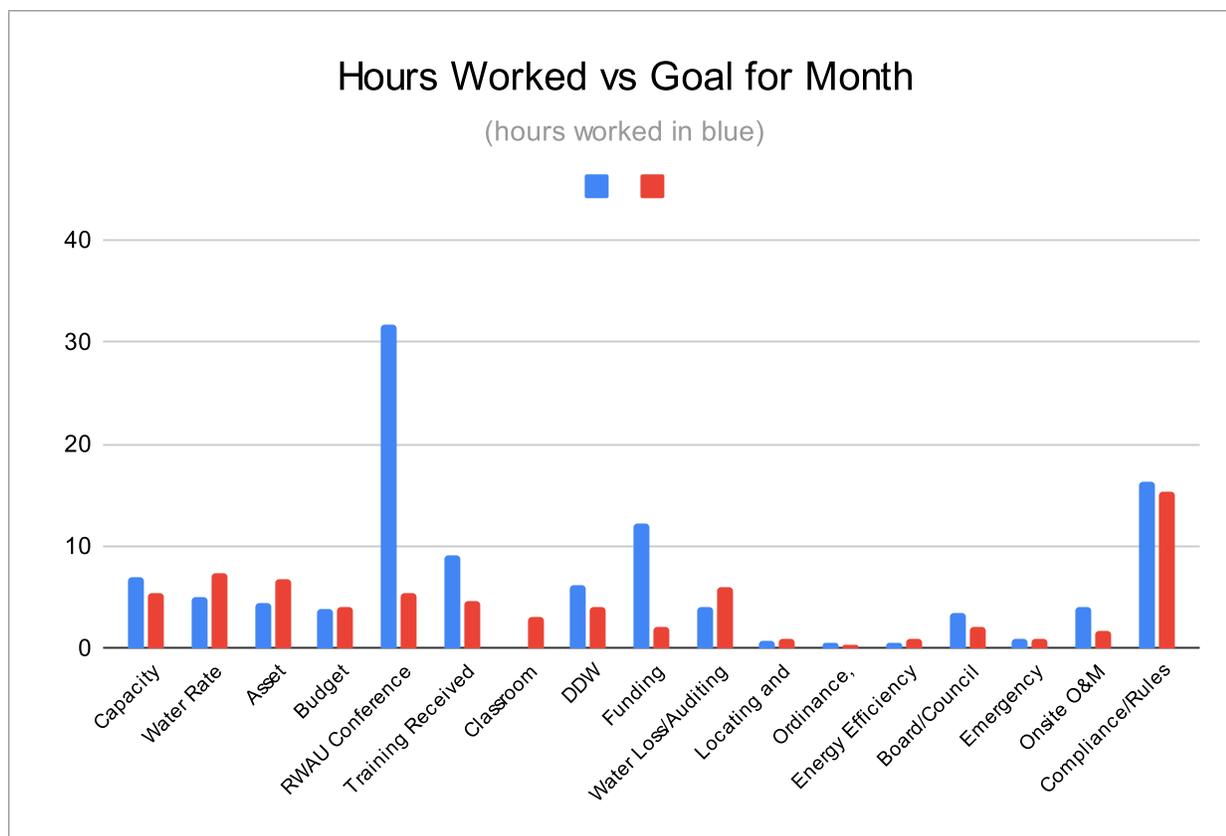
Janell Braithwaite - Management Technician

Contract Goal Titles	YTD Goal Hours Achieved	YTD Goal Hours	Annual Program Goals
Capacity Development/Master Planning	37.3	44.5	64.0
Water Rate Development & Fee Analysis	50.8	73.7	87.0
Asset Management/Evaluation	46.7	42.0	80.0
Budget Planning/Evaluation	28.0	41.7	48.0
RWAU Conference	37.3	87.0	64.0
Training Received	32.7	84.0	56.0
Classroom Instruction/Training	21.0	43.8	36.0
DDW Interaction/Meetings/Reports	28.0	33.2	48.0
Funding Procurement	14.0	43.5	24.0
Water Loss/Auditing	42.0	35.5	72.0
Locating and Securing Engineering	5.8	9.5	10.0
Ordinance, Resolution, By-Law Development	2.3	6.7	4.0
Energy Efficiency Study	7.0	5.7	12.0
Board/Council Training	15.2	22.0	26.0
Emergency Response	7.0	10.5	12.0
Onsite O&M Training	11.7	23.5	20.0
Compliance/Rules Assistance, CCC, Water Monitor	107.9	120.0	185.0
Totals:	495	727	848



Report Period: January, 2022
Notable Assistance & Work Performed

System	Description:
SOUTH DUCHESNE CUL WTR	Called Tyler, water op, where at on project, what can we do to help?
MONROE CITY	Meet w/Mayor, Recorder, Jones & DeMille, DWQ, Water Op
REDMOND TOWN	Discuss apprenticeship program and Master Plan w/Nancy
HINCKLEY TOWN	Meet w/Trey, water op, re: tanks, projects, funding, certifications
HINCKLEY TOWN	Phone call w/John Chartier re: Hinckley tanks
SPRING CITY	Work on Spring City water rate study, water rates and budget
OAK CITY	Called J.Chartier, DEQ to discuss Oak City situation
HOLDEN TOWN	Meet w/Holden Mayor, water op, councilmember and engineer
OAK CITY	Discuss e-coli problems, training, and compliance w/council member
VIRGIN TOWN	Discuss water op cert, IPS w/water op, Dan, called Terry to help
KANOSH TOWN	Proctor test for Kanosh water op, Lorin Shumway
HOLDEN TOWN	Meet w/city treasurer, Tyler, to fill out financials on DDW funding app
STOCKTON TOWN	Contacted by Ted, Jones & DeMille Eng. re: water rate study
RICHFIELD CITY WATER	Visit w/Finance Director, Tyson, re: energy efficiency review of system
HOLDEN TOWN	Holden funding app and water loss, discuss w/Jaison (Sunrise Eng),



Rural Water Association of Utah

Water System Assistance Report

Report Month: January
 Contract _____
 Employee: Janell Braithwaite

Total Working Hours: 134.75
Hours Assisting Specific Systems: 59.75
System assistance percentage of total working hours: **44.34%**

Date:	Description:	Water System:	Task Hours:
1/3/2022	Call Curt and Councilmember, Tom Nielsen re: water problems	OAK CITY	0.75
1/3/2022	Review Hinckley information-what can we do to help/contact Terry	HINCKLEY TOWN	0.25
1/3/2022	Contacted by Ruth Ann re: info needed for water rate study	SPRING CITY	0.25
1/3/2022	Work on Pine Valley Mt. Farms info-contact Michelle	PINE VALLEY MTN FARMS	1.00
1/3/2022	Call Jeff and tried to contact Kris Kofford re: progress on project	SOUTH DUCHESNE CUL WTR	0.25
1/4/2022	Call Trey, new water op, will set up meeting-he would like help	HINCKLEY TOWN	0.25
1/4/2022	Called Tyler, water op, where at on project, what can we do to help?	SOUTH DUCHESNE CUL WTR	0.75
1/4/2022	Researched South Duchesne further-project, funding and budget	SOUTH DUCHESNE CUL WTR	0.50
1/4/2022	Contact Mike Davis re: South Duchesne progress	SOUTH DUCHESNE CUL WTR	0.50
1/4/2022	Call from Rod, Councilmember, re: compliance issues	GUNNISON CITY	0.50
1/4/2022	Contact Mike re: billing software likes and cost affordability	COTTONWOOD MUTUAL	0.50
1/4/2022	Call Curt re: Oak City problems	OAK CITY	0.50
1/4/2022	Call from Phil re: Monroe mtg. set up	MONROE CITY	0.25
1/4/2022	Call Tom Nielsen to set up meeting, possible project	OAK CITY	0.25
1/4/2022	Call Miles to see progress made at Hoytsville	HOYTSVILLE PIPE WTR CO	0.25
1/4/2022	Received water rate information and started study	SPRING CITY	1.25
1/5/2022	Call from Dan, water op, re: training and books for conference	VIRGIN TOWN	0.25
1/5/2022	Work on Spring City water rate study	SPRING CITY	2.50
1/6/2022	Call from Wolf Creek Water -questions on funding and engineer	WOLF CREEK SEWER ID	0.25
1/6/2022	Phone call from Annette at Eden, questions on funding and budget	EDEN WATERWORKS	0.50
1/6/2022	Contacted Curt re: salary surveys, couldn't get hold of M. Grange	PINE VALLEY MTN FARMS	0.50
1/6/2022	Worked on Spring City water rate study, water loss	SPRING CITY	0.75
1/10/2022	Meet w/Mayor, Recorder, Jones & DeMille, DWQ, Water Op	MONROE CITY	2.50

1/10/2022	Work w/Vickie & Gary re: op cert compliance, need DRC	SIGURD TOWN WATER	0.50
1/10/2022	Unable to catch up w/office in Aurora	AURORA CITY	0.25
1/11/2022	Contact Tom, Councilmember, to set up meeting re: project	OAK CITY	0.25
1/11/2022	Contact Trey, water op, to set up meeting re: compliance	HINCKLEY TOWN	0.25
1/11/2022	Contact Rod, water op, to set up meeting, water decreasing	HOLDEN TOWN	0.25
1/11/2022	Discuss apprenticeship program and Master Plan w/Nancy	REDMOND TOWN	0.50
1/11/2022	Discuss water op and conference registration, w/Kathy & Ashlee	SALINA CITY	0.50
1/11/2022	Discuss treatment plant compliance w/Matt, certified operator	GUNNISON CITY	1.00
1/11/2022	Work on meeting set up for Oak City	OAK CITY	0.25
1/11/2022	Work on information for meeting set up for Hinckley	HINCKLEY TOWN	0.25
1/12/2022	Review Mountain Springs information	MOUNTAIN SPRINGS WATER	0.50
1/12/2022	Review New Harmony information	NEW HARMONY TOWN	0.50
1/12/2022	Holden needs rate increase, worked on resolution	HOLDEN TOWN	0.50
1/12/2022	Work on information for Hinckley visit tomorrow	HINCKLEY TOWN	0.50
1/12/2022	Work on Oak City information for visit tomorrow	OAK CITY	0.50
1/12/2022	Phone call from Mike Davis, work on So. Duchesne project info	SOUTH DUCHESNE CUL WTR	1.00
1/13/2022	Meet w/Trey, water op, re: tanks, projects, funding, certifications	HINCKLEY TOWN	1.00
1/13/2022	Phone call w/John Chartier re: Hinckley tanks	HINCKLEY TOWN	0.25
1/13/2022	Meet w/Trey, water op, re: tanks, projects, funding, certifications	HINCKLEY TOWN	1.25
1/13/2022	Meet w/water op, councilmember re: compliance, projects, funding	OAK CITY	1.25
1/13/2022	Meet w/water op, councilmember re: project and funding	HOLDEN TOWN	1.50
1/14/2022	Talk to Greg re: Holden's need for funding and project	HOLDEN TOWN	0.25
1/14/2022	Talk to Greg re: Oak City's system and e-coli problem	OAK CITY	0.25
1/14/2022	Work on Spring City water rate study, water rates and budget	SPRING CITY	1.25
1/14/2022	Work w/Lorin to set up proctoring time, let Brandi Smith know	KANOSH TOWN	0.25
1/18/2022	Email Rod DDW information and application	HOLDEN TOWN	0.25
1/18/2022	Contacted by Rod in Holden to set up meeting	HOLDEN TOWN	0.25
1/18/2022	Contacted Lorin to reschedule proctored water op cert test	KANOSH TOWN	0.25
1/18/2022	Talked w/Lorin, contacted Brandi Smith, DDW	KANOSH TOWN	0.25
1/19/2022	Review Oak City problems with compliance	OAK CITY	0.50
1/19/2022	Contacted by Dan, re: books for water op cert, I contacted Brittney	VIRGIN TOWN	0.25
1/19/2022	Called J.Chartier, DEQ to discuss Oak City situation	OAK CITY	0.25
1/20/2022	Worked on DDW funding app for Holden	HOLDEN TOWN	2.00

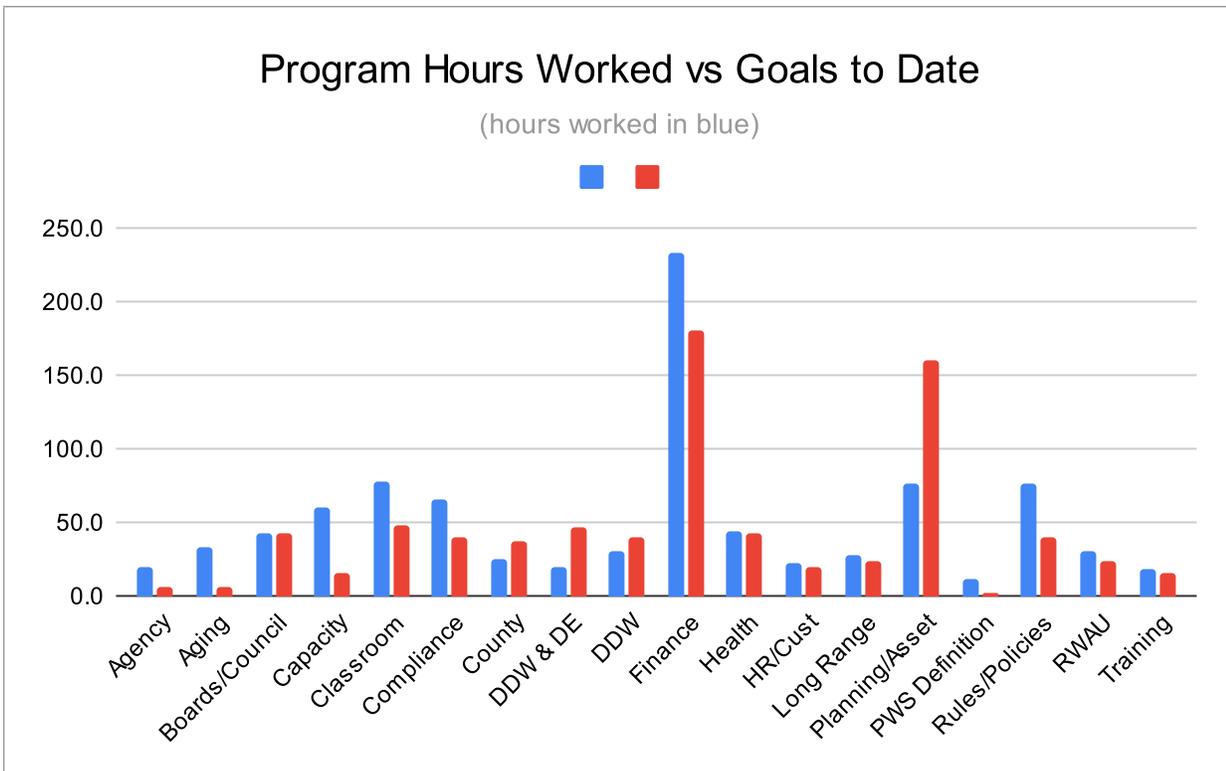
1/20/2022	Reviewed Oak City to stop there again	OAK CITY	0.50
1/20/2022	Meet w/Holden Mayor, water op, councilmember and engineer	HOLDEN TOWN	1.00
1/20/2022	Discuss e-coli problems, training, and compliance w/council member	OAK CITY	0.25
1/20/2022	Met w/Sherri, City Recorder re: possible projects	DELTA CITY	0.50
1/21/2022	Reviewed info from phone calls yesterday w/Mike D.	SOUTH DUCHESNE CUL WTR	0.25
1/21/2022	Reviewed Pinion Forrest system, called Mike D. re: compliance	PINION FORREST (07073)	0.75
1/25/2022	Discuss water op cert, IPS w/water op, Dan, called Terry to help	VIRGIN TOWN	1.00
1/25/2022	Proctor test for Kanosh water op, Lorin Shumway	KANOSH TOWN	2.50
1/26/2022	Meet w/city treasurer, Tyler, to fill out financials on DDW funding app	HOLDEN TOWN	1.75
1/26/2022	Contacted by Ted, Jones & DeMille Eng. re: water rate study	STOCKTON TOWN	0.25
1/26/2022	Phone call from engineer re: Escalante project and funding	ESCALANTE TOWN (09004)	0.25
1/26/2022	Visit w/Finance Director, Tyson, re: energy efficiency review of system	RICHFIELD CITY WATER	0.50
1/26/2022	Contact Sharon to discuss project and set up meeting, let Mike know	PINION FORREST (07073)	0.50
1/26/2022	Contact Tyler to discuss progress on project and set up meeting	SOUTH DUCHESNE CUL WTR	0.50
1/26/2022	Discuss depreciation schedule/asset w/Ruth Ann, City Recorder	SPRING CITY	0.50
1/26/2022	Work on DDW funding app for Holden	HOLDEN TOWN	0.50
1/27/2022	Work on DDW funding app for Holden	HOLDEN TOWN	2.00
1/27/2022	Phone call from Aaron, Sunrise re: Master Plan, contact funding agencies	DUTCH JOHN WATER & SEWER	1.00
1/27/2022	Contacted by water op to schedule proctor, try to find water op# he never received	MANTI CITY	0.50
1/27/2022	Contact Laura, Treasurer, to discuss water rate study and sent info	STOCKTON TOWN	0.50
1/28/2022	Work on Holden DDW funding app	HOLDEN TOWN	1.75
1/28/2022	Work on Holden DDW asset management information	HOLDEN TOWN	1.25
1/28/2022	Holden funding app and water loss, discuss w/Jaison (Sunrise Eng),	HOLDEN TOWN	1.00
1/28/2022	Review emergency response action from DDW	ECHO MUTUAL WATER CO	0.25
1/28/2022	Work on DDW funding app for Holden	HOLDEN TOWN	1.25
1/31/2022	Contacted by Ruth Ann w/questions re: water rate study	SPRING CITY	0.25
1/31/2022	Work on water loss information for Spring City	SPRING CITY	2.00
1/31/2022	Help water op who has scheduled test to be proctored-test confusion	MANTI CITY	0.25
1/31/2022	Work on DDW funding app for Holden	HOLDEN TOWN	0.75
1/31/2022	Worked on DDW funding application	HOLDEN TOWN	1.50

Rural Water Association - DWB Report

Report Period: January, 2022

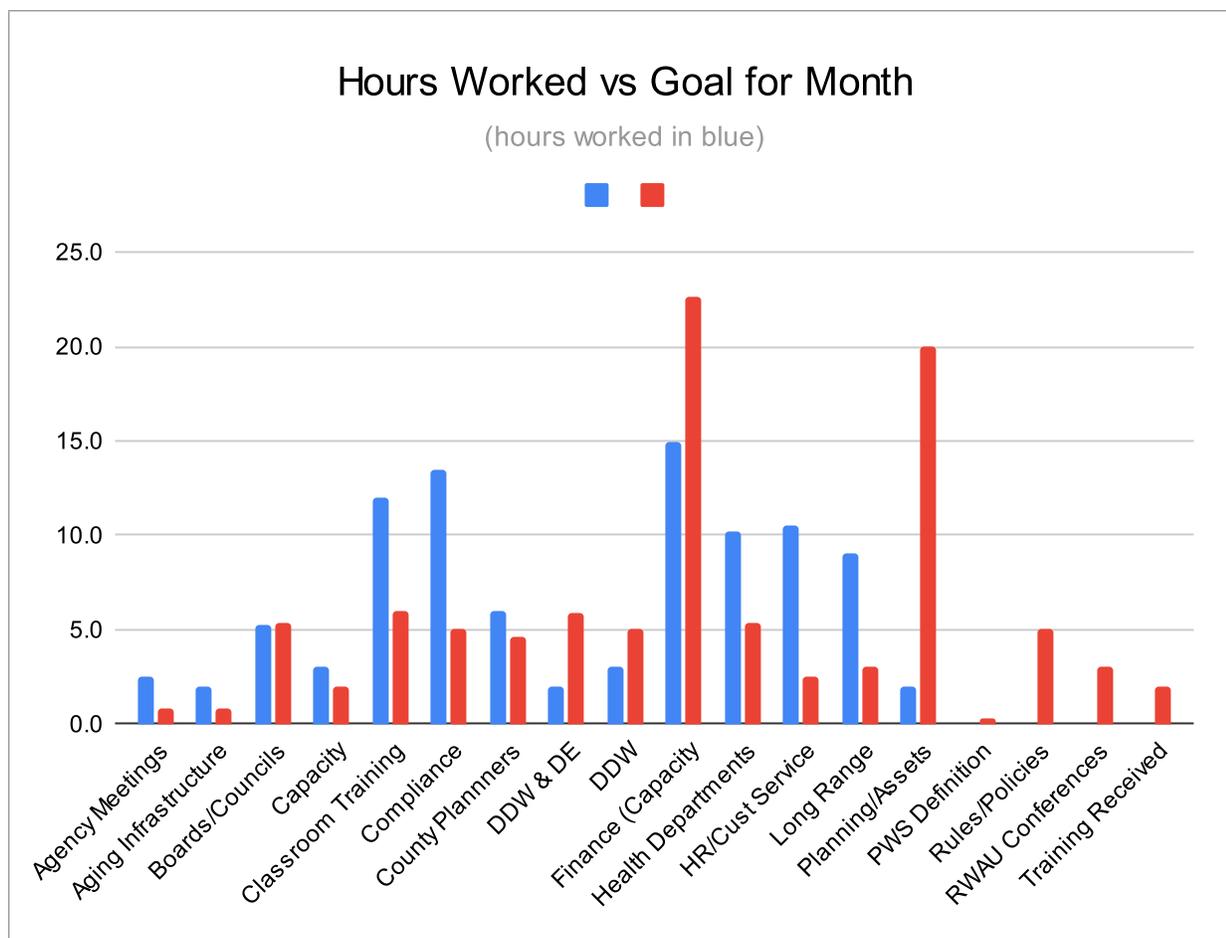
Curt Ludvigson - Development Specialist

Contract Goal Titles	YTD Goal Hours Achieved	YTD Goal Hours	Annual Program Goals
Agency Meetings	20	7	10
Aging Infrastructure Planning	33	7	10
Boards/Councils	42	43	64
Capacity Development Planning	60	16	24
Classroom Training	78	48	72
Compliance (Capacity Development)	65	40	60
County Planners	25	37	56
DDW & DE	19	47	71
DDW Interaction/Meetings	30	40	60
Finance (Capacity Development)	234	181	272
Health Departments	45	43	64
HR/Cust Service (Capacity Development)	23	20	30
Long Range Planning	29	24	36
Planning/Assets (Capacity Development)	76	160	240
PWS Definition Training	12	3	4
Rules/Policies (Capacity Development)	77	40	60
RWAU Conferences	31	24	36
Training Received	19	16	24
Totals:	919	795	1,193



Report Period: January, 2022
Notable Assistance & Work Performed

System	Description:
JOHNSON WATER DIST	Meeting with Johnson Water and discussed the employee policies and
MAESER WATER IMP DIST	I met with Maeser Water and discussed their water rates and funding of
NEOLA WATER/SEWER DIST	I met with the Neola Water and Sewer District and discussed funding fo
BALLARD W/S DISTRICT	I met with the Ballard Secretary and discussed annexation issues and t
TABIONA TOWN	I met with the Town Clerk and discussed issues they are having with Ha
Duchesne County	Attended the Duchesne County Planning Commission Meeting
DUCHESNE CITY	I met with the Duchesne City Recorder and went over their budget and
Wasatch Health Dept.	I met with the Wasatch County Health Dept and discussed the small de
WALLSBURG TOWN	I met with the Wallsburg Mayor and discussed the project they are plan
MORGAN CITY	I met with the City Recorder and went over their budget and helped with
TEASDALE SSD	I help a Long Range Planning Session with the Teasdale SSD Board. V
COVERED BRIDGE CANYON	I met with the Chairman and the Secretary going over their budget and
CORINNE CITY	Conducted a Long Range Planning session for Corinne City where I he
PARAGONAH TOWN	Preparing an RFP for Paragonah
PARAGONAH TOWN	I met with the Paragonah Town Board and discussed funding options fo



Rural Water Association of Utah

Off-Site Water System Assistance Report

Report Month: January

Contract

Employee: **Curt Ludvigson**

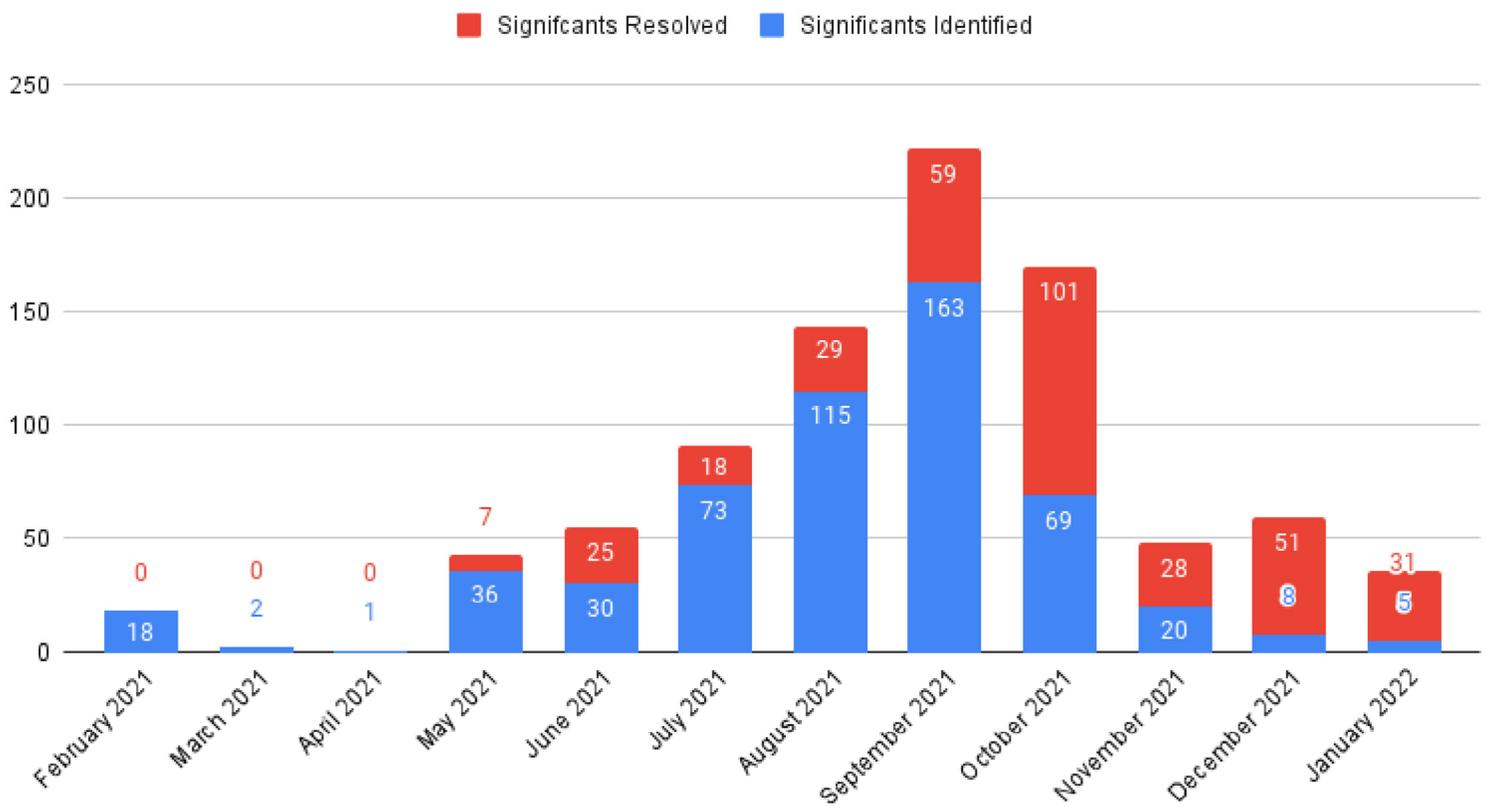
1/4/2022	Meeting with Johnson Water and discussed the employee policies and benefits	JOHNSON WATER DIST	2.50
1/4/2022	I met with Maeser Water and discussed their water rates and funding options for projects.	MAESER WATER IMP DIST	1.25
1/5/2022	I met with the Neola Water and Sewer District and discussed funding for projects and their rates	NEOLA WATER/SEWER DIST	1.75
1/5/2022	I met with the Ballard Secretary and discussed annexation issues and things pertaining to development	BALLARD W/S DISTRICT	1.50
1/5/2022	I met with the Town Clerk and discussed issues they are having with Hanna Water in wanting to merge systems	TABIONA TOWN	1.50
1/5/2022	Attended the Duchesne County Planning Commission Meeting	Duchesne County	1.50
1/6/2022	I met with the Duchesne City Recorder and went over their budget and discussed their need for infrastructure upgrades, funding, and rates	DUCHESNE CITY	2.00
1/6/2022	I met with the Wasatch County Health Dept and discussed the small developments that don't qualify as a public system and the Ordinance they need	Wasatch Health Dept.	1.50
1/6/2022	I met with the Wallsburg Mayor and discussed the project they are planning and the need they have for a rate study	WALLSBURG TOWN	1.00
1/11/2022	Juab County Commission Meeting	Juab County Commission	2.00
1/12/2022	I met with the City Recorder and went over their budget and helped with a budget amendment	MORGAN CITY	1.50
1/12/2022	Had a lunch meeting with the Weber/Morgan Health Dept. discussing the growth issues and how to deal with the small developments who don't qualify as Public Systems	Weber/Morgan Health Dept.	2.75
1/12/2022	Attended the Sanpete County Planning Commission Meeting	Sanpete County Planning Comm.	2.50
1/13/2022	I help a Long Range Planning Session with the Teasdale SSD Board. We discussed their future plans for development, the need they have to develop new Ordinances and Resolutions in order to properly manage the growth that they are expecting.	TEASDALE SSD	5.00
1/18/2022	I met with the Chairman and the Secretary going over their budget and figuring out what their rates will need to be in order to cover the new loan payment	COVERED BRIDGE CANYON	2.00
1/18/2022	Conducted a Long Range Planning session for Corinne City where I helped them make a plan for the future of their utilities.	CORINNE CITY	4.00
1/21/2022	Meeting with Rural Development discussing several projects who qualify for funding, we discussed the new Census numbers and when they will be used officially, we discussed the ARPA and other funding also	USDA RURAL DEVELOPMENT	2.50
1/24/2022	I met with the District Engineer and discussed several systems who are in need of financial assistance and out of compliance	District Engineers	2.00
1/24/2022	Attended the Central Utah Health Department meeting	Central Utah Health Dept	2.00
1/26/2022	I met with the Town Clerk and went over their budget and rates	ELSINORE TOWN CORP	1.50

1/26/2022	I had a lunch meeting with the Town Board where we discussed the project they are planning and the funding options, ARPA, etc.	CIRCLEVILLE WTR SYSTEM	2.25
1/26/2022	I met with the City Manager and discussed some projects that they are planning. We discussed the funding options and their rates. We will need to do a rate study for them, if they decide to proceed.	PANGUITCH CITY	2.00
1/26/2022	I met with the Paragonah Town Board and discussed funding options for projects. We discussed engineering needs, the projects they are anticipating, their Master Plan, etc.	PARAGONAH TOWN	3.00

Agenda Item

9(A)

Significants Identified and Significants Resolved



Board Report as of February 23, 2022

NAME	PWS ID	PWS Type	Population	Rating	Rating Date
Corrective Action Systems					
ALTON TOWN WATER SYSTEM	UTAH13001	C	136	Corrective Action	24-Jun-21
BIG PLAINS SW SSD - CANAAN RANCH	UTAH27093	C	56	Corrective Action	26-Aug-20
DEER CREEK PARK	UTAH26033	NC	150	Corrective Action	08-Jul-20
ECHO MUTUAL WATER SYSTEM	UTAH22003	C	70	Corrective Action	28-Aug-20
GOSHEN TOWN WATER SYSTEM	UTAH25013	C	925	Corrective Action	08-Mar-16
EAST GROUSE CREEK PIPELINE CO	UTAH02010	C	70	Corrective Action	09-Sep-20
BATEMANS MOSIDA FARMS	UTAH25184	C	90	Corrective Action	24-Apr-20
COBBLES CONDOMINIUM HOA	UTAH29126	C	56	Corrective Action	20-Jan-22
MOUNTAIN DELL CAFE AND GOLF COURSE	UTAH18104	NC	300	Corrective Action	14-Oct-20
WASATCH MOBILE HOME PARK	UTAH26059	C	31	Corrective Action	16-Oct-20
NORTH VALLEY RANCHES SUB	UTAH27086	C	63	Corrective Action	04-May-21
ROUND VALLEY COUNTRY CLUB	UTAH15027	NC	25	Corrective Action	10-Apr-19
TOOELE ARMY DEPOT NORTH	UTAH23022	NTNC	541	Corrective Action	09-Feb-21
TRAIL CYN RESIDENTS ASSN	UTAH08043	C	42	Corrective Action	02-Sep-20
Not Approved Systems					
AXIA LAKESIDE, LLC.	UTAH07039	NC	28	Not Approved	03-Nov-16
M & J TRAILER HOME COMMUNITY	UTAH02078	C	27	Not Approved	20-Feb-18
DESERT SAGE HOA	UTAH24051	C	55	Not Approved	12-Jan-22
OLD MEADOWS WATER CO	UTAH11043	C	48	Not Approved	18-Apr-17
RIVERBEND GROVE INC	UTAH25077	NC	25	Not Approved	10-Feb-21
WELLSVILLE RECOVERY	UTAH03076	NTNC	123	Not Approved	03-Nov-16
SOUTH DUCHESNE CULINARY WATER	UTAH07067	C	525	Not Approved	24-Apr-19
SOUTH ROBINSON SPRINGS WATER USERS	UTAH15018	C	28	Not Approved	09-Sep-19
STODDARD INN	UTAH15029	NC	25	Not Approved	24-Apr-20