

Drinking Water Board Packet

August 27, 2019

Agenda



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF DRINKING WATER
Marie E. Owens, P.E.
Director

Drinking Water Board
Betty Naylor, *Chair*
Roger G. Fridal, *Vice-Chair*
Kristi Bell
Brett Chynoweth
Jeff Coombs
Tage Flint
Eric Franson, P.E.
Alan Matheson
David Stevens, Ph.D.
Marie E. Owens, P.E.
Executive Secretary

DRINKING WATER BOARD MEETING

August 27, 2019 – 1:30 pm

Davis Conference Center

Meridian B Room

1651 N 700 W

Layton, Utah 84041

Marie Owens' Cell Phone #: (801) 505-1973

1. Call to Order
2. Roll Call – Marie Owens
3. New Board Member Introductions - Marie Owens
 - A. Blake Tullis - Utah State University
 - B. Barbara Gardner - Public at Large
 - C. Scott Morrison - Mountain Regional Water District
 - D. David Pitcher- Central Utah Water Conservancy District
4. Oath of Office for New Members – Tamie Call, Notary
5. Approval of the Minutes:
 - A. June 11, 2019
 - B. July 3, 2019
6. Financial Assistance Committee Report
 - A. Status Report – Michael Grange
 - B. Project Priority List – Michael Grange
 - C. Intended Use Plan Update - Michael Grange
 - D. SRF Applications
 - i. STATE:
 - a) Tropic Town Deauthorization - Heather Pattee
 - b) Pinon Forest - Lisa Nelson
 - c) Angell Springs - Heather Pattee
 - d) Paunsaugunt Cliffs - Heather Pattee
 - e) Bear River WCD - Heather Pattee
 - f) Bear River WCD - Heather Pattee
 - g) Twin Oaks- Heather Pattee
 - ii. FEDERAL:

- a) Kanab - Lisa Nelson
- b) Genola - Heather Pattee
- c) Central Utah WCD - Lisa Nelson
- d) Greenwich - Lisa Nelson
- e) Glen Canyon SSD/Big Water - Michael Grange

7. Rulemaking Activities

A. Current Rulemaking Activities (Board Action Needed)

- i. Approval of the IPS Program Document – Rachael Cassady
- ii. Authorization to Initiate the Rulemaking Process for R309-400 (the IPS Rule) Revision – Rachael Cassady

8. Rural Water Association Report – Dale Pierson

9. Open Board Discussion – Roger Fridal

10. Directors Report - Marie Owens

A. New Division Staff Introduction

- i. Allyson Spevak, Director’s Administrative Assistant

B. Enforcement Report

C. New Fee Proposal

D. Other

11. Public Comment Period

12. Other

13. Next Board Meeting:

Date: Tuesday, November 5, 2019
Time: 1:00 p.m.
Place: Multi Agency State Office Building
Division of Drinking Water
195 N 1950 W
Salt Lake City, Utah 84116

14. Adjourn

In compliance with the American Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Larene Wyss, Office of Human Resources, at: (801) 297-3828, TDD (801) 903-3978, at least five working days prior to the scheduled meeting.

Agenda Item

5(A)



State of Utah

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DRINKING WATER BOARD MEETING
June 11, 2019 – 1:00 pm
Multi Agency State Office Building – Board Room 1015
195 North 1950 West
Salt Lake City, Utah 84116

DRAFT MINUTES

1. Call to Order

Betty Naylor, Board Chairman called the meeting to order at 1:00 p.m.

2. Roll Call

Board Members present: Eric Franson, Betty Naylor, Brett Chynoweth, Roger Fridal, Alan Matheson, Kristi Bell, Jeff Coombs

Division Staff present: Marie Owens, Rachael Cassady, Michael Grange, Heather Pattee, Lisa Nelson, Michael Newberry, Jessica Jin, Luke Treutel, Chris Martin, Marianne Booth

3. Approval of the Minutes:

A. April 9, 2019

- Kristi Bell moved to approve the April 9, 2019 minutes as presented. Roger Fridal seconded. The motion was carried unanimously by the Board.

4. Financial Assistance Committee Report

A. Status Report – Michael Grange

Michael Grange, Technical Assistance Section Manager with the Division of Drinking Water (DDW, the Division) reported there is currently a balance of roughly \$2.4 million in the State SRF fund. Over the course of the next year, the Division is expecting an

additional \$4.5 million to come into the fund, for a total of approximately \$7 million for project allocation through April 2020.

Michael then reported currently there is approximately \$17.5 million in the Federal SRF fund. Over the course of the next year, the Division is expecting about \$22 million to come into the fund, for a total of approximately \$39.25 million for project allocation through April 2020.

B. Project Priority List – Michael Grange

Betty asked if any member of the Board has any conflicts of interest, or potential conflicts of interest needing disclosure prior to the start of the following agenda items. Brett has a conflict with the Tropic project as he works full time for Tropic.

- Eric Franson made a motion that Brett Chynoweth be allowed to speak from the floor and not participate as a board member. Jeff Coombs seconded. The motion was carried unanimously by the Board.

Michael reported there are three new projects recommended to be added to the Project Priority List this month including: Kearns with 28.4 points, Greenwich with 25 points, and Bluffdale with 14.4 points. The Financial Assistance Committee recommends the Board approve the updated Project Priority List as presented, with the addition of these three projects. Betty inquired if Angell Springs needs to be added as it's for SCADA. Michael said that Angell Springs would score relatively low but based on the amount of money in the fund, it's not an issue, so Angell Springs could be added to the list.

- Roger Fridal moved to approve the updated Project Priority List with the addition of Angell Springs. David Stevens seconded. The motion was carried unanimously by the Board.

C. SRF Applications

i. STATE:

a) Twin Oaks – Heather Pattee

Representing Twin Oaks is Karl Rasmussen and David Asay, the administrator.

Heather informed the Board that Twin Oaks is requesting financial assistance in the amount of \$161,000. The project includes drilling a new well and a transmission line to connect that well to the system. The total project is \$163,410 and they will contribute \$2,410 to the project. The local MAGI is \$38,774, which is 84% of the State MAGI. Their after project water bill will be \$86.30, which would be 2.66% of their local MAGI, so they do qualify for additional subsidy. Heather indicated that there is a table that shows the required water bill at full loan incurs the rate bond buyers index as well as 0% interest. The Financial Assistance Committee recommended the Drinking Water Board authorize a loan of \$81,000 at 0% for 30 years, and \$80,000 in grant. Conditions include resolving all issues on their compliance report. Heather indicated that as of the morning of June 11, 2019 Twin Oaks had no points on IPS.

- Brett Chynoweth moved that the Drinking Water Board authorize a loan of \$81,000 at 0% for 30 years, and \$80,000 in grant. Kristi Bell seconded. The motion was carried unanimously by the Board.

b) Mexican Hat Special Service District – Lisa Nelson

Representing Mexican Hat SSD Daniel Fleming, manager, and Daniel Hawley with Jones and DeMille Engineering.

Lisa Nelson informed the Board this is a funding request from Mexican Hat for \$536,000 to fund an upgrade to their existing reverse osmosis plant, which includes updating their SCADA, PLCs, VFDs, etc. This request will also include repayment of an existing Rural Development loan; they have a balance of \$161,000, initiated at 40 years at 4.5%. Mexican Hat is a remote location with between 25 and 30 full time year round residents and only 17 connections. The 17 connections translate into a total residential connection base of 54, so they don't have a large base to cover a whole lot of debt service. Mexican Hat's MAGI is 43% of the State average. Even if there were no loan on this project they're already at 4.33% of their MAGI for their water bill so they do qualify as a disadvantaged community.

Staff funding recommendation is for one-half grant and one-half loan and that determination was based on the financial analysis and their qualification as disadvantaged. In addition the recommended funding package includes for repayment of the existing loan which results in a lower water bill than if the Board were to grant the full amount of this project and leave their loan in place. The Financial Assistance Committee has recommended the Drinking Water Board authorize funding to Mexican Hat for a loan of \$218,000 at 0% for 20 years and a grant of \$218,000. We recently were allowed to extend loan terms from 30 years even up to 40 years, but by including the rural development refinance which was a project in 2000, we would be exceeding the service life of the equipment that we would be refinancing. In addition, the new equipment is primarily electronic equipment which really would not have service life of greater than 20 years and that's the basis for our recommendation.

Daniel Fleming said he was not informed of the Financial Assistance Committee's conference call. He said Mexican Hat is to pay off \$161,000 principal on the 4.5% loan, with another 24 years. Mexican Hat is seeing population and water sales go down. Mexican Hat is asking for \$161,000 0% loan and a \$275,000 grant to do the projects. Due to Rocky Mountain Power issues, well motors are replaced every two years and according to Daniel, Rocky Mountain Power won't pay anything for this issue. Part of the \$275,000 is to put in protection for their well house and treatment plant in order to contend with these electrical problems. Daniel doesn't live in Mexican Hat and must drive approximately 90+ miles round trip to take care of major issues, so this will considerably help the operation of the plant. Mexican Hat would like the Board to approve today the \$161,000 loan and the \$275,000 grant.

Lisa verified that this request would still meet the stipulations, given that Mexican Hat is at 4.33% MAGI, it far exceeds the 1.75% affordability criteria. Lisa is confident that Mr. Fleming's proposal would meet the Board's affordability criteria.

Michael verified that this proposal comes from the State program and the limitation of the Federal principal forgiveness amount does not apply.

Eric asked if the package initially recommended by the Financial Assistance Committee lowered their water bill. Betty confirmed yes, it lowered their bill by \$4.36.

Lisa verified that \$161,000 is allocated to the Rural Development loan and \$275,000 would be granted toward the new project. The old loan of \$161,000 would be refinanced for 20 years at 0%.

Marie reviewed Mexican Hat's IPS points for the Board and expressed this particular project does not appear to address any of these points. Specifically the cross connection control items which are no cost to the system to address but rather it's a matter of implementation. Rectifying those points wouldn't necessarily create any cost, but they are still on the systems record. All the other deficiencies that are in place are related to the well itself and will not be rectified as part of this project. Marie asked that Mexican Hat address their deficiencies.

Daniel Fleming said they would implement the cross connection control program.

Daniel Hardy outlined the project would include various treatment plant SCADA, work at the well site, in addition to the electrical items. It will also include replacement of pumps at the well house in part to address the sampling CAP deficiencies. Source protection plans would also be updated.

Marie notified Mexican Hat that the source protection plan is past due. Marie is very concerned regarding the lack of storage capacity, despite their down growth, because of their busy tourist season. She recommended that Mexican Hat take this issue into consideration to ensure capacity during their busy season.

- Jeff Coombs moved to authorize a loan of \$161,000 at 0.00% interest for 20 years and a grant of \$275,000 for total of \$436,000. The motion was carried unanimously by the Board.

c) Tropic Town – Heather Pattee

Due to Brett's conflict of interest, he left the stand at this time to participate as a participant, not as a board member.

Representing Tropic is Lisa Johnson, town board member, Joe Phillips with Sunrise Engineering and Brett Chynoweth, operator.

Heather informed the Board that Tropic Town is requesting financial assistance in the amount of \$738,000. Their project includes a spring development, waterline upgrade, and water meter replacement with electronic read meters. The local MAGI is for Tropic 88% of the State MAGI. After project water bill would be \$47.02 which is 1.4% of the local MAGI, so they do not qualify for additional subsidy. The Financial Assistance Committee

recommendation is that the Drinking Water Board authorize a loan of \$738,000 at 3.67% for 20 years. Conditions include they resolve all issues on their compliance report. As of June 11, 2019, their compliance report showed they are down to -10 points. They have taken care of those three small items listed in the board packet.

Lisa Johnson inquired if the loan could be 2% instead of 3% for 30 years.

Joe Phillips explained that Tropic anticipated a 2% loan for 30 years and worked to prepare that funding package. Were the Board to approve the terms of 3.67% on 20 years they anticipate that their total expense would be just above \$149,000 a year. Based on the recently implemented 38% rate increase, that would generate revenue in the neighborhood of \$150,000 a year. The expense doesn't include much in the form of recovery and replacement money and so the town faces a break even financial situation. If the Board were to authorize a 2% on a 30 year term, that would allow the town to have approximately \$20,000 a year that could be put towards renew and replacement. Based on where Tropic is economically today, he hesitates to recommend the town go forward with the project at 3.67% on 20 years.

Heather informed the Board that she did speak with Tropic before the Board meeting and she ran an evaluation based on 2.5% and 2%. Their water bill as recommended would be \$47.02. A term of 2% for 30 years would drop the bill down to \$37.90.

Based on community demographics, the town board hesitates to do any further rate adjustments for the time being. Based on the last three years of water use and application of the new rates they anticipate the average monthly bill at \$57.62 and average bill per ERU at just under \$38.00. But that remains to be seen, based on this year's water use and the new rates.

Michael explained why this project is going through the State loan program rather than the Federal loan program. When we work with the smaller communities throughout the State, we tend to try to go through the State program which will reduce their Federal burden. The Davis Bacon Act wages, the MBE/WBE EPA requirements, the American iron and steel requirements, etc., tend to increase the cost anywhere from 15 to 30% and so for the smaller systems where possible we try to go with the State program. \$700,000-\$800,000 is about the high end that we try to keep it under, simply because the State program doesn't have the revenue stream that the Federal program does. But the main reason is to reduce the federal burden.

Marie suggested that, were Tropic interested in this route, they would have the possibility of maybe increasing their loan amount, decreasing the percentage, with the federal program, because there's a little more flexibility to do that with federal funds.

Michael explained that the Board has the flexibility to base their loan decision on the information that is given to them during the staff presentation and preparation of the package as well as what the communities bring to the Board. However the decision to lower an interest rate is limited by the revolving nature of the fund. From a program standpoint, interest rates well below market rates start to impact how much money the Board will have to offer communities in the future.

- Eric Franson moved to authorize a loan \$738,000 at 3.67% interest for 30 years conditioned upon resolving issues on the compliance report. David Stevens seconded. The motion was carried unanimously by the Board.

d) Angell Springs Special Service District – Heather Pattee

Brett rejoined the Board at this time.

No Angell Springs representatives were present because of the last minute addition of their project.

Heather informed the Board that Angell Springs has a SCADA system that has failed and they're requesting assistance from the Board to replace it. Cost of the project is \$75,000 and they would contribute \$7,500 towards the project. The local MAGI for Angell Springs is 89% of the State MAGI, and the after project water bill would be \$89.23 which is 2.63% of the local MAGI, so they qualify as a disadvantaged community to receive additional subsidy. Due to the emergency nature of this project, it has not been reviewed by the Financial Assistance Committee. Staff recommendation is that the Drinking Water Board authorize a grant of \$67,500 to Angell Springs with the condition that they resolve all issues on their compliance report.

Board discussion recommended that in order for Angell Springs to cover their debt and operation costs they need to increase the water bill from \$53.71 to \$83.89.

Heather confirmed Angell Springs has a bond on their application; their annual payment is \$16,000.

Marie expressed concern with this particular grant because they're water rates are already too low. This is not a physical deficiency emergency, but rather an emergency because their water rates have been too low.

- Eric Franson moved to table this item until the Financial Assistance Committee has the opportunity to discuss and bring it to the next Board meeting. Jeff Coombs seconded. The motion was carried unanimously by the Board.

ii. FEDERAL:

a) Hildale City: Heather Pattee

Representing Hildale is Donia Jessop, mayor, Harrison Johnson, utility director and Chris Mikell with Bowens and Collins Engineers.

Heather informed the Board that Hildale City has a project consisting of a feasibility study to determine options for radium contamination. The study will include treatment options for contaminated sources and a new source development. The cost of the project was estimated at \$40,000 and Hildale was contributing \$5,000 toward the project. The local MAGI for Hildale is approximately 48% of the State MAGI, and the after project water bill would be 4.93% of the local MAGI, so they do qualify as a hardship community to receive

principal forgiveness. The city had previously been authorized funding by the assistant executive secretary to perform a master plan in 2018, and we felt due to the close time frame of these two requests that they exceeded the authority granted by the Board. There is a staff recommendation that the Drinking Water Board authorize \$35,000 in principal forgiveness to Hildale City.

Harrison Johnson explained to the Board that the townspeople obtain their drinking water from a nearby canyon and the city would like to figure out how to supply the canyon water directly to people's homes and discontinue use of the radium contaminated water supply.

Heather clarified that with \$40,000 for their master plan granted in November, Hildale is now requesting an additional \$100,000 to get a full study, for a total of \$140,000. This amount is higher than what was requested in the funding package before the Board.

Jeff stated that he was uncomfortable to change the amount that we fund at the Board meeting without going through the proper process. Jeff would be comfortable in approving what's in the Board packet, but he would not be comfortable in approving the amount requested on the floor.

- Jeff Coombs moved to approved that the Drinking Water Board authorize \$35,000 in principal forgiveness to Hildale City at this point. Eric seconded. Eric withdrew this motion.
- David Stevens moved to table this item and the applicant come forward in an expedited way with a request that covers the entire package that they envision and the Board will, the Financial Assistance Committee will take under advisement very rapidly in a conference call and then get that submitted to the full Board either via email or via another conference call. Roger Fridal seconded. The motion was carried unanimously by the Board.

b) Greenwich – Lisa Nelson

Mindy Talbot represented Greenwich Water Association and Jeff Albrecht represented Savage Albrecht Engineering..

Lisa informed the Board that this is a funding request from Greenwich Water Association for \$130,000 to construct a new chlorination facility. Greenwich is a private water company that serves a population of 67 with only 27 residential connections. They have existing chlorination equipment that is located in a manhole. Their southernmost spring, which is inaccessible during the winter and spring months and as such, is neglected and often doesn't work. The intention is to construct an above ground facility in an area that is more level and more accessible. As shown in the packet, Greenwich has 95 IPS points and this project will address the bottom four set of points. John Chartier, DEQ District Engineer, has been working with them to address their operator and source protection issues. Greenwich does qualify as a disadvantaged community since their MAGI is 67% of the state average and the project would put their monthly water bill at 2.75% of their MAGI. The Board did previously authorize this project in 2016; however, the system did not move forward with the project at that time, and as a result the Board deauthorized it in 2018. Since then the system leadership has changed and they are now ready to move

forward. Staff's funding recommendation is based on the original 2016 authorization. As presented to the Financial Assistance Committee, the recommendation was that the Drinking Water Board authorize funding to Greenwich with a loan of \$130,000 at 0% hardship grant/assessment fee for 30 years with \$65,000 in principal forgiveness and a repayable amount of \$65,000.

Marie pointed out the Greenwich does not currently have a certified operator. Lisa stated that they've been sent a letter from the Division giving them a 12 month term in order to get their operator certified.

Mindy Talbot stated that their operator would be going to the next certification in October.

- Brett Chynoweth moved that the Drinking Water Board authorize a loan of \$130,000 at 0% interest/hardship grant assessment fee for 30 years with \$65,000 in principal forgiveness with a repayable amount of \$65,000. Kristi Bell seconded. Brett then added to the motion to correct all the deficiencies on the IPS report. Kristi seconded. The motion was carried unanimously by the Board.

c) Bluffdale – Lisa Nelson

Representing Bluffdale is Mark Reid, city manager and Trevor Andra, city engineer.

Lisa informed the Board this is a funding request from the city of Bluffdale for \$6,000,000 to fund the construction of a new 4,000,000 gallon storage tank and installation of 7,000 feet of transmission line. Bluffdale has been one of the fastest growing cities in Utah. In order to accommodate the increased demand they need to construct a new storage tank. In the past, the city has had difficulty siting this tank, but they are purchasing land for it from Jordan Valley Water Conservancy District. Bluffdale does not qualify as a disadvantaged community; however, they did qualify for a reduction in interest rate based on their significant local contribution of \$972,000, their well fund reserved accounts, and the cost effectiveness of their regionalization. That is the basis of staff's recommendation that the Drinking Water Board authorize funding to the city of Bluffdale with a loan of \$6,000,000 at 2% hardship grant assessment fee for 20 years.

Regarding their cross connection points, Trevor explained that as a result of their recent sanitary survey the need for installation of air gaps and a mesh screen on a chlorinator have been addressed and he will get pictures and documentation back to the Division.

- Eric Franson moved that the Drinking Water Board authorize a loan of \$6,000,000 at 2% hardship grant assessment fee for 20 years to the City of Bluffdale contingent upon resolution of IPS points. David Stevens seconded. The motion was carried unanimously by the Board.

d) Kearns Improvement District – Heather Pattee

Representing Kearns is Pam Gill, general manager of Kearns Improvement District, Boyd, engineering department manager, and Alex Buxton with Zions Bank Public Finance, financial advisor to the district.

Heather informed the Board that Kearns Improvement District is requesting programmatic financing in the amount of \$21,000,000. Their numerous improvements projects will occur over the course of several years. Some of these improvements include new storage tanks, pump stations, installation of water lines, and upsizing their transmission line. The estimate of total project costs is \$22,935,000 and they are going to contribute \$1,935,000 towards the project. The local MAGI for Kearns is 70% of the State MAGI, and after project water bill would be \$46.95 which is 1.55% of the local MAGI. Staff is recommending a reduced rate of \$1.75% with an additional .5% reduction as an incentive for participating in the federal programmatic financing option, so the recommended rate is 1.25%. As shown in the packet, they have several IPS points and have been working diligently, without staff, on correcting their deficiencies and taking care of most of them. As of this morning they were at -6, so they do have a few small ones. The Financial Assistance Committee recommends that the Drinking Water Board authorize a loan of \$21,000,000 at 1.25% interest for 20 years on the condition that they resolve all issues on their compliance report.

Marie requested further explanation for this programmatic as it is fairly new for the Board. She asked if the \$21,000,000 would be taken all up front, or would it spread out over three years as indicated in the packet? Also when would you anticipate they starting to pay that back?

Heather explained that with the Granger-Hunter project, the other programmatic funding, they were planning to withdraw the money over a five year period. Heather believes the Kearns application shows a three year period, so those details would be worked out before the bond closing. Michael clarified that repayment would start one year after closing of the first project. Heather stated that it would be a tiered repayment schedule.

- Jeff Coombs moved that the Drinking Water Board authorize a loan of \$21,000,000 to Kearns Improvement District at 1.25%/fee for 20 years and the conditions include that they resolve all issues on their compliance report. Roger Fridal seconded. The motion was carried unanimously by the Board.

iii. Other:

a) Intended Use Plan (IUP) – Michael Grange

Michael explained that in the Board packet was a copy of our federal drinking water state revolving fund program IUP which is mandated by the program to be filed every year as part of the grant conditions. The IUP is a description of how we intend to use the money that we're authorized for that year through the capitalization grant. The IUP is an informational item in the packet and requires no Board action. Read through it and direct any comments back to Michael or Sandy Pett. The IUP is on the Division website for public comment. Michael said that this year they included the modified Project Priority List (PPL). The modified PPL removed a number of outdated projects under the American Recovery and Reinvestment Act. Also included in the modified IUP were the changes made to the Drinking Water SRF program on the federal level brought about by the America Water Infrastructure Act of 2018. The repayment period moved to 30 years for all communities and up to 40 years for disadvantaged communities. The timeframe changed

for repayment from 12 months after substantial completion to 18 months after substantial completion.

Marie would like to incorporate in this year's IUP, the ability to loan back and forth between Division of Drinking Water's revolving loan fund and Water Quality's revolving loan fund as needs may require. That would be put in the IUP, but it would not obligate the Drinking Water Board to transfer those funds, and Board would still be able to vet that as a loan, a loan specifically to the Water Quality Board.

Michael says the IUP can be amended to incorporate loaning back and forth between the two divisions' revolving funds. Michael explained that Congress does allow up to 33% of the annual capitalization grant to be transferred to Water Quality or an equivalent dollar value from the Water Quality Clean Water State Revolving Fund to the Drinking Water State Revolving Fund as funding is necessary. The Board is not opposed to adding this language the IUP.

5. Rulemaking Activities

A. Current Rulemaking Activities (Board Action Needed)

i. Authorization to Begin to Public Comment on the Improvement Priority System (IPS) Program – Rachael Cassady

Rachael Cassady, the rules section manager of the Division, seeks Board authorization to being public comment on the IPS program revisions. The thresholds remain the same for the different water system types and the point thresholds remain the same, but many of the deficiencies and violations would be consolidated into common point totals that are reflective of the health threat to the public. Currently in the rules, the points vary widely which can be confusing to the water system operators. The proposed change is a clearer cut organizational way to put forth the points. The specific points tables are found in the packet appendices. The changes overall meets our needs and will help water systems prioritize and respond to severity of fixes. Going forward substantive changes to the IPS program will be reviewed and approved by the Drinking Water Board while the Division may make non-substantive changes.

They would like Appendices A & B published for public comment, receive the comments, get them approved, and then come before the Board at the August meeting to do the rulemaking process for the revision. The goal is to have this rule implemented on January 1, 2020.

IPS 2020 Training – In cooperation with Rural Water Association of Utah they have planned four, full day IPS 2020 training sessions throughout the State of Utah starting with one in July, two in August and one in September. It would be beneficial to the water systems to come to this training and have a copy of their IPS 2020 report and along with their current IPS report so that they can see the changes. In these trainings, they'll go through the rule revision in the morning and then in the afternoon they have one on one sessions scheduled with management, operators and Division staff to specifically address their needs with this revision.

Rachael will set up WaterLink portal access for Board members and LHDs so they can view their draft IPS 2020 reports and she'll provide a summary report which gives the systems their current IPS and what their IPS 2020 looks like.

- Roger Fridal moved that the Drinking Water Board authorize the Division of Drinking Water began a 30 day public comment period on the Improvement Priority System program. David Stevens seconded. The motion was carried unanimously by the Board.

At 3:15 PM Eric Franson excused himself from the meeting, after all items requiring a motion were covered.

6. Public Comment Period –

No public comments were made.

7. Rural Water Association Report – Dale Pierson

Dale informed the Board that the report from the contract employees is in the Board packet and the contract employees were at the meeting if anyone wanted to ask them questions.

Regarding outgoing board members Dale took a moment to say both from the perspective of RWAU and himself that they appreciate the friendship and support and the service that you all have given to the State of Utah and Utah's drinking water sector. Dale acknowledged the Board is serving an extremely important service to us all and he greatly appreciates that, so thank you all.

8. Open Board Discussion – Betty Naylor

Department of Environmental Quality Executive Director, Alan Matheson, is moving on to another opportunity. Betty thanked Alan Matheson and referenced Governor Herbert's comments who said that Alan was "an invaluable asset to his administration. I have appreciated his firm focus on improving our air quality as well as all aspects of our environment. He has been and will continue to be a trusted advisor and I wish him all the best as he accepts his new position guiding important land development projects at the Point of the Mountain." Betty expressed her appreciation for the service that Alan has given to the Board. Alan then expressed his thanks and appreciation to the members of the Board.

Betty also expressed appreciation to Brad Johnson, who has retired. Betty also thanked Haley Shaffer who recently left the Division and Marianne for taking over in Haley's absence.

9. Directors Report

A. New Division Staff Introductions

Marie introduced the following new staff members

- i. Michael Newberry is an engineer in the Permitting section and he's redoing plan approvals and operating permits.

- ii. Chris Martin is also an engineer in the Permitting section and he came to Drinking Water from another DEQ division.
- iii. Jessica Jin is a contract/grant analyst with Administrative Services group and she's working with Michael and Sandy to work on numbers for our SRF projects.
- iv. Luke Treutel is an environmental scientist in the Rules section and he is managing the Lead and Copper Rule.

B. Enforcement Report

Marie informed the Board that the enforcement report was in their packets, which is a list of items the Division is currently on an enforcement basis. Included is a list of the systems that are not approved and the systems that have entered into a contract with us, listed as corrective action. Also listed are systems that are under an administrative order with us. Marie wanted to keep the Board informed of the fact that not all water systems who are struggling or that we're working with come before the Board for funding packages, but rather we have alternate routes and mechanisms to work with them.

C. Board Member Years of Service Awards

Marie acknowledged the years of service to the Drinking Water Board for the four outgoing board members; David Stevens, Brett Chynoweth, Betty Naylor and Tage Flint. The three present members, David, Brett and Betty received a thank you and a small gift; Tage will receive his service award at a future time.

10. Next Board Meeting:

Date: Tuesday, August 27, 2019
Time: 1:00 pm
Place: Davis Conference Center
Room Meridian B
1651 N 700 W
Layton, Utah 84041

11. Adjourn

- David Stevens moved to adjourn the meeting. Brett Chynoweth seconded. The motion was carried unanimously by the Board.

The meeting adjourned at 3:30 p.m.

Agenda Item 5(B)



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF DRINKING WATER
Marie E. Owens, P.E.
Director

Drinking Water Board
Betty Naylor, *Chair*
Roger G. Fridal, *Vice-Chair*
Kristi Bell
Brett Chynoweth
Jeff Coombs
Tage Flint
Eric Franson, P.E.
Alan Matheson
David Stevens, Ph.D.
Marie E. Owens, P.E.
Executive Secretary

DRINKING WATER EMERGENCY TELECONFERENCE BOARD MEETING

July 3, 2019 – 1:00 pm

Multi Agency State Office Building – Arches North Conference Room

195 North 1950 West

Salt Lake City, Utah 84116

DRAFT MINUTES

1. Call to Order

Betty Naylor, Board Chairman called the meeting to order at 1:15 p.m.

2. Roll Call

Board Members who called in: Eric Franson, Betty Naylor, Tage Flint, Kristi Bell, and Jeff Coombs. Brett Chynoweth called in at 1:17 pm, after roll call.

Division Staff present: Marie Owens, Rachael Cassady, Michael Grange, Heather Pattee, Marianne Booth, and Allyson Spevak.

3. Financial Assistance Committee Report

A. SRF Applications – Heather Pattee

i. STATE:

a) Hildale City – Heather Pattee

On the call representing Hildale City is Nathan Johnson and Chris Mikell of Bowen Collins & Associates.

Heather informed the Board that Hildale City has a project consisting of a feasibility study to determine options for resolving their current radium contamination. The study will include treatment options for contaminated sources as well as new source development. The city was issued a notice of violation for radium levels in their power plant well. The well provides 60% of the city's water production capacity.

Included in the packet is the scope of work provided by the engineering firm. The local MAGI for Hildale City is 48% of the State MAGI and the after project water bill would be \$77.25 which is 4.22% of the local MAGI, therefore they do qualify as a hardship community. The financial assistance committee recommends the Drinking Water Board authorize \$100,000 in principle forgiveness to Hildale City.

Betty inquired about their monthly water bill listed on the report as \$129.98 and to do the project it would only require \$77.25, resulting in a \$43.73 bill reduction. Michael explained the reason for this is that that they're already charging enough and are way over the local MAGI affordability factor.

- Eric Franson moved that the Drinking Water Board authorize a loan of \$100,000 in principle forgiveness to Hildale City. Kristi Bell seconded. The motion was carried unanimously by the Board via roll call count.

b) Cole Canyon Water Company – Heater Pattee

Representing Cole Canyon was Dave Watman.

Heather informed the Board that Cole Canyon Spring has a history of total chloroform and has been determined to be under the direct influence of surface water resulting in significant deficiencies. The confirmation of E. coli at the spring which resulted in a required boil order brought about a need for an immediate solution. They have determined an emergency connection to Liberty Pipeline is the best solution at this time and do plan to look into solutions for using this spring in the future which may include redevelopment or adding treatment. Cole Canyon is requesting emergency funding in the amount of \$125,000 for an emergency connection to Liberty Pipeline. The local MAGI for Cole Canyon is 165% of the state and the after project water bill would be \$46.64 which is .074% of the local MAGI. Therefore they do not qualify for additional subsidy. This is not going to the Financial Assistance Committee due its emergency nature, so the staff recommendation is that the Drinking Water Board authorizes a loan of \$125,000 at 3.25% interest for 20 years.

Heather confirmed for Betty that Cole Canyon is a private community water system. Marie said the distinction between a private community system and a community system is the ownership of the system. Cole Canyon is a privately owned community water system whereas community water systems are a governmental subdivision. By definition Cole Canyon is a public water system that is privately owned.

Tage inquired if Liberty Pipeline requires a water rights transfer for the connection. Marie said, no, not for this emergency transfer. Liberty Pipeline has indicated that they have enough capacity to serve this on an emergency basis. It is our understanding that Cole Canyon is not intending to use this connection in the future for more than emergency without having those conversations.

Dave Watman confirmed that until the loan is repaid, the water bill would be \$19.56 higher.

As a point of information for the Board, Marie said that Cole Canyon has submitted plan approvals and we've approved for the connections to occur. The connection has been made. They have resampled and their system is clean at this point so the boil order has been lifted based on this connection. We anticipate that they'll be receiving an operating permit for this connection in the future.

- Tage Flint moved that the Drinking Water Board authorize a loan to Cole Canyon Water Company for \$125,000 at 3.25% interest for 20 years. Jeff Coombs seconded. The motion was carried unanimously by the Board via roll call count.

4. Public Comment Period – no public comments were made

5. Open Board Discussion – Betty Naylor

Michael confirmed that Eric would be the fourth member of the temporary Financial Assistance Committee for the next call on July 31. Eric will recuse himself during the discussion for the project involving Franson Civil Engineers. Kristi Bell, Jeff Coombs and Roger Fridal will also be a part of this FAC call.

6. Next Board Meeting:

Date: Tuesday, August 27, 2019
Time: 1:00 pm
Place: Davis Conference Center
Room Meridian B
1651 N 700 W
Layton, Utah 84041

7. Adjourn

- Brett Chynoweth moved to adjourn the meeting. Kristi Bell seconded. The motion was carried unanimously by the Board.

The meeting adjourned at 1:30 p.m.

Agenda Item

6(A)

DIVISION OF DRINKING WATER
STATE LOAN FUNDS
AS OF June 30, 2019

SUMMARY		
	Total State Fund:	\$14,724,672
	Total State Hardship Fund:	\$2,197,047
	Subtotal:	\$16,921,719
LESS AUTHORIZED	Less:	
	Authorized Loans & Closed loans in construction:	\$13,320,000
	Authorized Hardship:	\$1,015,650
	Subtotal:	\$14,335,650
	Total available after Authorized deducted	\$2,586,069
PROPOSED	Proposed Loan Project(s):	\$271,500
	Proposed Hardship Project(s):	\$178,240
	Subtotal:	\$449,740
AS OF:		
June 30, 2019	TOTAL REMAINING STATE LOAN FUNDS:	\$1,133,172
	TOTAL REMAINING STATE HARDSHIP FUNDS:	\$1,003,157

(see Page 2 for details)

(see Page 2 for details)

Total Balance of ALL Funds: \$2,136,329

Projected Receipts Next Twelve Months: and Sales Tax Revenue	
Annual Maximum Sales Tax Projection	\$3,587,500
Less State Match for 2020 Federal Grant	\$0
Less State Match for 2019 Federal Grant	(\$2,200,800)
	\$0
Less Appropriation to DDW/Board	(\$1,010,800)
SUBTOTAL Sales Tax Revenue including adjustments:	\$375,900
Payment:	
Interest on Investments (Both Loan and Hardship Accounts)	\$360,000
Principal payments	\$3,065,654
Interest payments	\$732,124
Total Projections:	\$4,533,678
Total Estimated State SRF Funds Available through 6-30-2020	\$6,670,007

**DIVISION OF DRINKING WATER
STATE LOAN FUNDS
PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF June 30, 2019**

Community	Loan #	Cost Estimate	Date Authorized	Date Closed/Anticipated	Authorized Funding		
					Loan	Grant	Total
Laketown 1.5% int @ 30 yrs	3S248	1,863,636	May-18	Jul-19	1,110,000	0	1,110,000
Mtn Regional-Community Wtr 2% 20 yr	3S254	2,600,000	Jul-18		2,600,000	0	2,600,000
Aurora City 0.75% int 30 yrs	3S258	4,228,000	Aug-18		3,804,000	424,000	4,228,000
Kane Co WCD .81% int 20 yrs	3S1712	210,000	Feb-19		168,000	42,000	210,000
Mexican Hat SSD 0% int 20 yrs	3S1723	436,000	Jun-19		161,000	275,000	436,000
Twin Oaks Local District 0% 30 yrs	3S1720	163,410	Jun-19		81,000	80,000	161,000
Tropic Town 3.67% int, 30 yrs	3S1724	738,000	Jun-19		738,000		738,000
Subtotal Loans and Grants Authorized					8,662,000	821,000	9,483,000
PLANNING LOANS / GRANTS IN PROCESS							
							0
Enoch City	3S256P	27,500	Jul-18	Jul-18		27,500	27,500
Paragonah	3S257P	10,000	Jul-18	Aug-18		10,000	10,000
Genola City	3S1735P	40,000				40,000	40,000
Panguitch 0% 5 yr loan master plan	3S1698P	40,000	Nov-18		40,000		40,000
Caineville	3S1738P	30,000			30,000		30,000
Escalante	3S1737P	38,000			38,000	0	38,000
Fairview	3S1736P	40,000			40,000	0	40,000
							0
							0
Subtotal Planning in Process					148,000	77,500	225,500
CLOSED LOANS (partially disbursed)							
Daggett Co - Dutch John 0% int 30 yrs	3S216	1,020,000	Jan-15	Feb-16	0	55,000	55,000
Ephraim 1% int, 20 yrs	3S251	1,422,905	Mar-18	Apr-19	560,000	62,150	622,150
Grantsville 1.5% int, 20 yrs	3S249	3,500,000	Mar-18	Dec-18	2,000,000		2,000,000
Pleasant Grove 2% int, 20 yrs	3S255	2,300,000	May-18	Jan-19	1,950,000		1,950,000
							0
Subtotal Closed Loans Partially Disbursed					4,510,000	117,150	4,627,150
TOTAL AUTHORIZED/PLANNING/OR CLOSED BUT NOT YET FUNDED					\$13,320,000	\$1,015,650	\$14,335,650
PROPOSED PROJECTS for JULY/AUG 2019							
Angell Springs SSD ??	3S1729	75,000				67,500	67,500
Pinion Forest	3S1714P	70,000				70,000	70,000
Paunsaugunt Cliffs	3S1728	20,740				20,740	20,740
Twin Oaks - additional \$	3S1720	39,000			19,000	20,000	39,000
Bear River		100,000			100,000		
Tabiona		152,500			152,500		
Total Proposed Projects					271,500	178,240	197,240

**DIVISION OF DRINKING WATER
STATE LOAN FUNDS
AS OF June 30, 2019**

	5235	5240	
	Loan	Interest	
	Funds	(use for Grants)	Total
Cash:	\$14,724,672	\$2,197,047	\$16,921,719
Less:			
Loans & Grants authorized but not yet closed (schedule attached)	(8,810,000)	(898,500)	(9,708,500)
Loans & Grants closed but not fully disbursed (schedule attached)	(4,510,000)	(117,150)	(4,627,150)
Proposed loans & grants	(271,500)	(178,240)	(449,740)
Administrative quarterly charge for entire year	(1,010,800)		(1,010,800)
Appropriation to DDW	0		0
FY 2020 Federal SRF 20% match	0		0
FY 2019 Federal SRF 20% match	(2,200,800)		(2,200,800)
	(2,078,428)	1,003,157	(1,075,271)
Projected repayments during the next twelve months			
Thru 06-30-2020			
Principal	3,065,654		3,065,654
Interest		732,124	732,124
Projected annual investment earnings on invested cash balance		360,000	360,000
Sales Tax allocation thru Jun-30-2020	3,587,500		3,587,500
Total	\$4,574,725	\$2,095,281	\$6,670,007
* All interest is added to the Hardship Fee account.			

DIVISION OF DRINKING WATER
FEDERAL SRF
AS OF June 30, 2019

FIRST ROUND FUND		FEDERAL SECOND ROUND FUND		Hardship Fund
1997 thru 2018 SRF Grants		Principal Repayments	Earnings on Invested Cash Balance	Total:
Net Federal SRF Grants:	\$171,144,401	Principal (P):	\$61,647,849	Total: \$1,219,353
Total State Matches:	\$39,050,300	Interest (I):	\$17,783,063	
Closed Loans:	-\$210,194,701	Total P & I:	\$79,430,912	Total: \$1,534,007
Total Grant Dollars:	\$0			

SUMMARY		
	Total Federal State Revolving Fund:	\$80,650,265
	Total Federal Hardship Fund:	\$1,534,007
	Subtotal:	\$82,184,272
LESS AUTHORIZED & PARTIALLY DISBURSED	Less:	
	Authorized & Partially Disbursed Closed Loans:	\$62,447,936
	Authorized Federal Hardship:	\$422,500
	Subtotal:	\$62,870,436
		(see Page 2 for details)
PROPOSED	Proposed Federal Project(s):	\$28,078,746
	Proposed Federal Hardship Project(s):	\$225,000
	Subtotal:	\$28,303,746
		(see Page 2 for details)
AS OF:	TOTAL REMAINING LOAN FUNDS:	-\$9,876,417
June 30, 2019	TOTAL REMAINING HARDSHIP FUNDS:	\$886,507

Total Balance of ALL Funds after deducting proposed actions: -\$8,989,910

Projected Receipts thru June 30, 2020	
2019 Fed SRF Grant	\$8,100,000
2019 State Match	\$2,200,800
Interest on Investments	\$2,022,000
Principal Payments	\$6,691,203
Interest	\$1,278,305
Hardship & Technical Assistance fees	\$253,552
Fund 5215 principal payments	\$83,000
Total:	\$20,628,859

} Receive 60% in January

Total Estimated Federal SRF Funds Available through: 06/30/2020 **\$11,638,950**

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

**PROJECTS AUTHORIZED BUT NOT YET CLOSED
AS OF June 30, 2019**

COMMUNITY	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	
Swiss Alpine Water Company	947,000	3.53% hgf, 25 YRS	3F300	Mar-18	Aug-19	807,000		807,000	
Twin Creeks SSD (Phase II)	3,976,000	1.87% hgf, 30 yrs	3F1716	Nov-17	Dec-19	3,395,000	300,000	3,695,000	
West Corinne Water Co	553,000	2.5% hgf, 20 yrs	3F305	Aug-18		500,000		500,000	
CU WCD - Duchesne Valley WTP	3,706,000	1.5% hgf, 30 yrs	3F307	Aug-18		3,100,000		3,100,000	
Lincoln Culinary Water Assn	2,516,000	60/40 1.25% hgf, 30 yrs	3F1696	Jan-19		1,510,000	1,006,000	2,516,000	
Virgin Town	1,200,000	50% PF 0% int, 20 yrs	3F1702	Jan-19		400,000	400,000	800,000	
Canyon Meadows Mutual Wtr	1,925,000	90/10 1.0% hgf, 30 yrs	3F1700	Jan-19		1,540,000	385,000	1,925,000	
Diamond Valley Acres	235,000	2.50% HGA 20 yrs	3F1706	Feb-19		235,000		235,000	
Marysvale	3,665,000	0% 30 yrs	3F1709	Apr-19		2,932,000	733,000	3,665,000	
Greenwich Water Association	130,000	50/50 0% int	3F1721	Jun-19	Sep-19			0	130,000
Kearns Improvement District	21,000,000	1.25% hgf, 20 yrs (portfolio)	3F1725	Jun-19		21,000,000		21,000,000	
Bluffdale City	6,972,000	2% hgf, 20 yrs (972K contribution)	3F1726	Jun-19		6,000,000		6,000,000	
TOTAL CONSTRUCTION AUTHORIZED:						\$ 41,419,000	\$ 2,824,000	\$ 44,243,000	\$ 130,000
COMMITTED ADVANCES / AGREEMENTS or PARTIALLY DISBURSED CLOSED 2ND ROUND AGREEMENTS:									
					Date Closed				
								0	0
Rural Water Assn of Utah	676,000	5 yr contract for Development Specialist	Ongoing	Jan-18	Jun-18			0	22,360
Granger Hunter Improvement District	20,000,000	1.25% HGA 20 yrs (portfolio)	3F1708	Feb-19	Jul-19	17,354,600		17,354,600	
Forest Glen Plat A HOA	1,438,986	0% int, 30 yrs	3F222	Feb-14	Dec-14	68,000	29,986	97,986	
Springdale	7,840,000	.5% int/hgf, 30 yrs	3F264	May-16	Oct-17	571,500	54,850	626,350	
Moab	90,000	100% pf engineering planning study	3F292P	Aug-17	Feb-18		90,000	90,000	
Johnson Water Imp Dist	90,000	100% pf master plan & Model	3F299P	Mar-18	May-18		36,000	36,000	
Summit Culinary Water	36,600	100% pf 5 point analysis	3F1694P	Jun-18	Jul-18			0	23,140
Old Meadows	25,000	100% pf master plan	3F312P	Sep-18				0	25,000
Sigurd	40,000	100% pf master plan	3F1695P	Nov-18				0	40,000
Hildale City	40,000	100% pf master plan	3F1704P	Nov-18				0	40,000
Goshen	22,000	5 yr 0% loan master plan	3F1718P	Mar-19				0	22,000
Axtell Community Service Distribution	40,000	5 yr 0% master plan & gw well siting	3F1719P	Mar-19				0	40,000
Central Iron Co WCD	40,000	100% pf master plan	3F1727P	Apr-19				0	40,000
Genola	40,000	100% pf engineering design	3F1735P	Aug-19					40,000
TOTAL PLANNING AUTHORIZED:						\$17,994,100	\$210,836	\$18,204,936	\$292,500
TOTAL CONSTRUCTION & PLANNING:								\$62,447,936	\$422,500
AVAILABLE PROJECT FUNDS:									\$18,202,329
AVAILABLE HARDSHIP FUNDS:									\$1,111,507
PROPOSED PROJECTS FOR JULY/AUG 2019:									
								0	
Hildale City	100,000	eng feasibility study 100% pf	3F1722P	Jul-19				0	100,000
Cole Canyon	125,000	Emergency Loan @ 3.25% int, 20 yrs	3F1730					0	125,000
Central Utah WCD-Duchesne Valley WTP	18,000,000		3F1731			18,000,000		18,000,000	
Kanab City	7,229,346		3F1733			7,229,346		7,229,346	
Genola City	2,850,000	0% int 30 yrs	3F1732			2,279,000	570,400	2,849,400	
TOTAL PROPOSED PROJECTS FOR THIS MEETING:						\$27,508,346	\$570,400	\$28,078,746	\$225,000
*RWAU hardship grant is being disbursed monthly									
TOTAL FUNDS AFTER PROPOSED PROJECTS ARE FUNDED:									-\$9,876,417
TOTAL FUNDS AFTER PROPOSED HS PROJECTS ARE FUNDED:									\$886,507
NOTES OF LOAN CLOSINGS SINCE LAST BOARD MEETING:									
Total Recent Loan Closings						\$0	\$0	\$0	\$0

DIVISION OF DRINKING WATER
FEDERAL SRF LOAN FUNDS
AS OF June 30, 2019

	Loan Funds 1st Round	Loan Payments			TOTAL
		2nd Round		Hardship Fund	
		Principal	Interest		
Federal Capitalization Grants and State 20% match thru 2015	\$210,194,701				
Earnings on Invested 1st Round Funds			1,219,353		
Repayments (including interest earnings on 2nd round receipts)		61,647,849	17,783,063	1,534,007	292,378,973
Less:					
Closed loans and grants	-210,194,701				-210,194,701
SUBTOTAL of Funds Available	\$0	\$61,647,849	\$19,002,416	\$1,534,007	\$82,184,272
Loans & Grants authorized but not yet closed or fully disbursed	-41,463,000	-20,774,100	-210,836	-422,500	-62,870,436
SUBTOTAL of Funds Available less Authorized	-\$41,463,000	\$40,873,749	\$18,791,580	\$1,111,507	\$19,313,836
Future Estimates:					
Proposed Loans/Grants for current board package	-28,078,746			-225,000	-28,303,746
SUBTOTAL of Funds Available less Proposed Loans & Grants	-\$69,541,746	\$40,873,749	\$18,791,580	\$886,507	-\$8,989,910
PROJECTIONS THRU June-2020					
2020 Fed SRF Grant & State Match	0				
2019 Fed SRF Grant	8,100,000				
2019 State Match	2,200,800				
Projected repayments & revenue during the next twelve months		6,774,203	1,278,305	253,552	8,306,059
Projected annual investment earnings on invested cash balance		1,620,000	360,000	42,000	2,022,000
TOTAL	-\$59,240,946	\$49,267,952	\$20,429,885	\$1,182,059	\$11,638,950

Agenda Item

6(B)

**DRINKING WATER BOARD
PACKET FOR PROJECT PRIORITY LIST**

There are three new projects being added to the project priority list

Central Utah Water Conservancy District is being added to the Project Priority List with 30 points. Their project consists of treatment plant upgrades to the Duchesne Valley water treatment plant.

Kanab City is being added to the Project Priority List with 21.5 points. Their project consists of a tank replacements, water main replacement and PRV's.

Genola City is being added to the Project Priority List with 7.0 points. Their project consists of a new tank and well.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board approve the updated Project Priority List.

July 18, 2019

Utah Federal SRF Program

Project Priority List

				Priority Points	Total Unmet Needs:	\$697,974,341	Total Needs, incl. Recent funding	\$1,031,330,432	Authorized	\$333,356,091
					System Name	County	Pop.	ProjectTitle	Project Total	Request DWB

N				30	Central Utah WCD	Duchesne		Duchesne Valley WTP	\$18,000,000.00	18,000,000	
N				21.5	Kanab	Kane	2,145	Tank replacement, main line replacement, PRV's	\$7,301,640.00	7,229,346	
N				7	Genola	Utah	1,500	Tank and well	\$2,849,400	2,849,400	

A				33.3	Granger-Hunter ID	Salt Lake	121,083	Reservoir storage, dist lines, booster station, well trmnt	25,950,000	20,000,000	\$20,000,000
A				31.6	Virgin Town	washington	596	New tank and distribution lines	1,200,000	800,000	\$800,000
A				30.7	Canyon Meadows	Wasatch	100	Trans line, Dist line, Tank, treatment plant	1,724,068	1,724,068	\$1,925,000
A				28.4	Kearns Improvement Dist	Salt Lake	51,500	Multiple tanks, booster pump station, trans line upgrade	\$21,000,000	21,000,000	
A				25	Greenwich	Piute	67	Chlorination building	\$130,000.00	130,000	
A				24.3	West Corrine	Box Elder	1,275	Spring redevelopment and transmission line replacement	533,075	479,767	\$500,000
A				20.3	Marysvale Town	Piute	420	Well improvement, chlorination bldg, booster pump, dist line	3,665,000	3,665,000	
A				19.5	Twin Creeks SSD	Wasatch	2,500	Treatment Plant, Storage Tank	4,029,650	3,757,000	\$3,695,000
A				18.8	Swiss Alpine	Wasatch	300	New Well and transmission line	955,152	815,152	\$807,000
A				16.6	Lincoln Culinary	Tooele	489	Well development, trans line, dist line, supply line	2,516,000	2,516,000	\$2,516,000
A				14.4	Bluffdale	Salt Lake	15,435	4 MG tank, transmission line	\$6,900,000	6,900,000	
A				7.2	Diamond Valley Acres	Washington	1,370	Well equipping and conn to system	235,000	235,000	\$235,000

- N = New Application
- A = Authorized
- P = Potential Project- no application
- E= Energy Efficiency
- W= Water Efficiency
- G= Green Infrastructure
- I= Environmentally Innovative

GREEN PROJECTS

EMERGENCY FUNDING

POTENTIAL PROJECTS

Utah Federal SRF Program

Project Priority List

July 18, 2019

Priority Points

Total Unmet Needs:

\$697,974,341

Total Needs, incl. Recent funding

\$1,031,330,432

Authorized

\$333,356,091

	date	type	%Green	System Name	County	Pop.	ProjectTitle	Project Total	Request DWB	Funds Authorized
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Agenda Item

6(C)



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

L. Scott Baird
Interim Executive Director

DIVISION OF WATER QUALITY
Marie E. Owens, P.E.
Director

MEMORANDUM

TO: Drinking Water Board

THROUGH: Marie E. Owens, P.E.
Director

THROUGH: Michael J. Grange, P.E.
Technical Assistance Section Manager

FROM: Sandy Pett
Administrative Services Manager

DATE: August 8, 2019

SUBJECT: Request to Amend FY19 Intended Use Plan and 2019 DWSRF Grant Application to Include Authority for Fund Transfers between State Revolving Fund Programs

Recently, the Water Quality Board and Drinking Water Board have experienced high demand for water infrastructure financing. As Fiscal Year 2020 begins, the Boards have limited revenue streams to support projects in the next five years with loans, principal forgiveness, or hardship grants. To help mitigate this fund shortage, the Division of Water Quality (DWQ) and the Division of Drinking Water (DDW) have been researching innovative methods to finance water infrastructure projects.

One method available to the Boards is the transfer of funds between the Clean Water SRF (CWSRF) Program and Drinking Water SRF (DWSRF) Program. The EPA policy was outlined in Federal Register Volume 65, October 2000 (<https://www.govinfo.gov/content/pkg/FR-2000-10-13/html/00-26353.htm>). The policy allows an amount equal to 33% of the DWSRF capitalization grant award to be transferred between program funds. In order to reserve authority to transfer these funds, the following information must be included in the annual Intended Use Plan (IUP):

- The total amount of authority being reserved for future transfer, including authority from previous years;
- The total amount and type of funds being transferred during the term of the IUP;
- The impact on the current year's Fund; and,
- The long-term impact on the Fund.

The Divisions have developed language to include in their respective IUPs to reserve authority for transfers. The amendment will state:

Transfer of Drinking Water State Revolving Funds

The Drinking Water Board and Division of Drinking Water reserve authority to transfer funds from the Drinking Water SRF (DWSRF) Program to the Clean Water SRF (CWSRF) Program and to receive transfers from the CWSRF Program to the DWSRF Program. The amount reserved for future transfers is up to 33% of each year’s DWSRF capitalization grant award. The table below indicates the reserved transfer amount by award year.

<i>Award Year</i>	<i>DWSRF Capitalization Grant Award</i>	<i>Reserved Transfer Amount</i>
<i>2019</i>	<i>\$11,004,000</i>	<i>\$3,631,320</i>

For FY19, the projected amount of funds to be transferred is \$0, with no short- or long-term impacts on the fund. Justification for any transfers to or from the DWSRF program, including amount, type of funds, and fund impact, will be documented in future Intended Use Plans (IUP).

The amendment will reserve the authority to transfer funding to the DWSRF program. However, actual transfers would need to be considered and approved by the Drinking Water Board. It is the intent of the Divisions to develop a Memorandum of Understanding to outline the process for actual transfers between the programs.

Proposed Intended Use Plan (IUP) Change

Transfer of Drinking Water State Revolving Funds and Cross-Collateralization of Funds between the DWSRF and CWSRF

The Drinking Water Board and Division of Drinking Water reserve authority to transfer funds from the Drinking Water SRF (DWSRF) Program to the Clean Water SRF (CWSRF) Program and to receive transfers from the CWSRF Program to the DWSRF Program. The amount reserved for future transfers is up to 33% of each year’s DWSRF capitalization grant award. The table below indicates the reserved transfer amount by award year.

Award Year	DWSRF Capitalization Grant Award	Reserved Transfer Amount
2019	\$11,004,000	\$3,631,320

For FY19, the projected amount of funds to be transferred is \$0, with no short- or long- term impacts on the fund. Justification for any transfers to or from the DWSRF program, including amount, type of funds, and fund impact, will be documented in future Intended Use Plans (IUP). Additionally, cross-collateralization is not anticipated to be used in the Drinking Water Program.

Paragraph in current authorized IUP

Transfer and Cross-Collateralization of Funds between the DWSRF and CWSRF

Section 302 of the SDWA authorizes the transfer up to 33 percent of the amount of a fiscal year’s DWSRF program capitalization grant to the CWSRF program or an equivalent amount from the CWSRF program to the DWSRF program. There has been no transfer of funds and no transfers are anticipated.

Agenda Item

6(D)(i)(a)

Tropic Town
Presented to the Drinking Water Board
August 27, 2019

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

APPLICANT'S REQUEST:

Tropic Town was authorized financial assistance in the amount of \$738,000. Their project includes a spring development, water line upgrade and water meter replacement with electronic read meters.

STAFF COMMENTS:

Tropic Town has sent a letter to Division staff declining the offer of funds from the Drinking Water Board.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board de-authorize a loan of \$738,000 at 3.67% interest for 20 years.

*Tropic Town
PO Box 130
20 North Main * Tropic UT 84776
435-679-8713 * Fax 435-679-8505
townoftropicut.gov*



*Mayor WaLon K Brinkerhoff
Council Members
Dennis Pollock * Brook Wiseman
Lisa Johnson * Kelly Shakespear*

Division of Drinking Water,

Kelly, WaLon and the Tropic Town Board, have decided to decline the Loan offer from the Division of Drinking Water for the construction of drinking water system improvements at the rate of \$738,000 @ 3.67% for 30 annual installments.

After meeting with Ken Tuttle of Sunrise Engineering, It is believed that approaching CIB for an alternate loaning rate would be beneficial for the town. We appreciate and acknowledge your cooperation in this decision and hope to continue working with you on future projects.

Thank you,


Mayor Brinkerhoff

Agenda Item

6(D)(i)(b)

**DRINKING WATER BOARD
BOARD PACKET FOR PLANNING ASSISTANCE**

APPLICANT'S REQUEST:

Pinon Forest Special Service District (District) is requesting funding in the amount of \$70,000 for an engineering planning study to re-examine the drilling a new well and construction of a new water hauling station.

STAFF COMMENTS:

The District currently has a well, a tank and a water hauling station that services approximately 90 customers who haul water to their residences at a rate of \$45/month. Staff did not provide a financial analysis based on MAGI as the District has no dedicated connected customers and therefore, no reliable source of water revenue for debt service.

The Division has coordinated with the District, the District's engineer, Tri-County Local Health Department, and Duchesne County to develop a scope of work for this planning effort. The Division is hesitant to give plan approval for a new well and hauling station without an updated plan to phase in a distribution system in the more densely populated area of the District.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

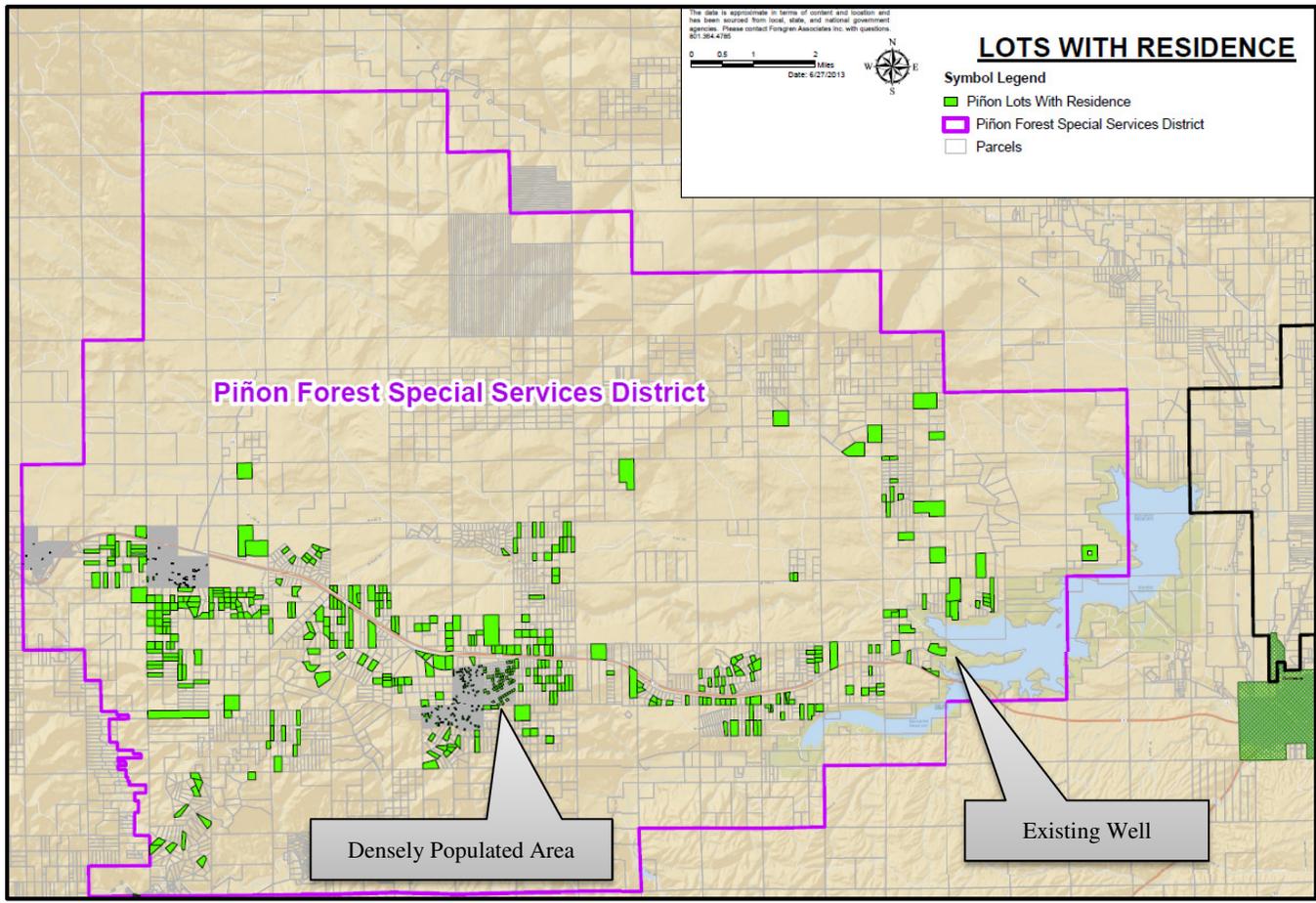
The Drinking Water Board authorize a grant of **\$70,000** to Pinon Forest Special Service District.

APPLICANT'S LOCATION:

Pinon Forest Special Service District is located in Duchesne County, between Tabiona and Duchesne City.

MAP OF APPLICANT'S LOCATION:





PROJECT DESCRIPTION:

In July of 2014, the Division of Drinking Water (Division) issued plan approval for the construction of a well, storage tank, and a water hauling pump station for the District. The service area for the District is approximately 165 square miles in an area west of Duchesne City and south of Tabiona. The District operates solely as a water hauling station for 90 customers. Customers however are not contractually committed to using the District’s water hauling station as they can also choose to go to other nearby water systems, and thus the District doesn’t have a dedicated customer base.

When the Division gave plan approval in 2014 for the well, tank, and water hauling pump station, it included a six phase implementation plan with the goal of constructing a distribution system in the more densely populated area of the District.

- Phase 1 - Water hauling station near US-40 on the east side of the District, designed to serve 210 users an average of 6000 gallons per month, completed in 2015.
- Phase 2 - Second well and water hauling station near the center of the District, increases the total users to 450, completed in 2018.
- Phase 3 – Third well and water hauling station on the west side of the District, increases the total users to 736, completed in 2021.
- Phase 4 – Upgrade Phase 2 to include a distribution system to the more densely populated region of the District surrounding the water hauling station, and construct an additional storage tank, increases the total users to 1029, completed in 2025.

- Phase 5 – Upgrade Phase 3 to include a distribution system to the more densely populated region of the District surrounding the water hauling station and construct an additional storage tank, increases the total users to 1477, completed in 2030.
- Phase 6 – Develop other water sources in the District and construct another storage tank, increases the total users to 2077, completed in 2035.

The Division is supportive of re-examining this phased approach as well as other potential alternatives, done in coordination with the District, the local health department and the county. The District’s engineer has developed the following scope of work to address alternatives:

- Section 1 – Background
- Section 2 – Land Use Data
- Section 3 – Projects of District Users and Future Demand
- Section 4 – Well Siting Study
- Section 5 – Deep Springs Study
- Section 6 – Private Well Water Quality
- Section 7 – Other Water Source Options
- Section 8 – Water Rights
- Section 9 – Distribution System and Tank Layout
- Section 10 – Selection of Preferred Alternative
- Section 11 – Survey of Residents for Water Connection

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:
Plan Completion

August 2019
June 2020

COST ESTIMATE:

Engineering - Planning	\$ 70,000
Total	\$ 70,000

COST ALLOCATION:

Funding Source	Cost Sharing	Percent
DWB	\$ 70,000	100%
Local Contribution	\$ 0	0%

IPS SUMMARY as of 07/22/2019:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
M005	CCC- Lacks Operator Training	10		
	Microbial Rule Violation – 3A – RTCR		35	
	Total = 35	0	35	0

APPLICANT: Pinon Forest Special Service District
P.O. Box 38
Duchesne, UT 84021

PRESIDING OFFICIAL &
CONTACT PERSON: Linda Northington, Chairwoman
Pinon Forest Special Service District
P.O. Box 38
Duchesne, UT 84021
pinionforest@gmail.com

TREASURER/RECORDER: Debbie Nelson

CONSULTING ENGINEER: Kelly Chappell, P.E.
Ensign Engineering
255 N 100 E
Richfield, UT 84701
(435) 896-2983
Kchappell@ensignutah.com

BOND COUNSEL: Richard Chamberlain,
Chamberlain & Associates
225 N 100 E
Richfield, UT 84701
(435) 869-5441
rchamberlain13@gmail.com

Agenda Item

6(D)(i)(c)

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

APPLICANT'S REQUEST:

Angell Springs Special Service District has a project consisting of SCADA replacement. The cost of the project is estimated at \$75,000. Angell Springs Special Service District is in need of replacing the current SCADA system as it has failed. Angell Springs has indicated they will be contributing \$7,500 towards the project.

STAFF COMMENTS:

The local MAGI for Angell Springs SSD is approximately \$40,766 (89% of the state MAGI), the after project water bill would \$89.23, which is 2.63% of the local MAGI. Therefore they do qualify as a hardship community to receive principal forgiveness. At this time, Angell Springs does not charge enough for their water. Staff has spoken to them and they took the issue before their Board to discuss. They are going to do incremental rate increases over several years to get them to the level they need to be to run the system more efficiently and build a repair and replacement fund for future needs.

Option#	Loan	%/fee	P.F.	% of local MAGI	Water bill
Base	\$67,500	2.12%	\$0	2.63%	\$89.23
Grant	\$0	0%	\$67,500	2.47%	\$83.89

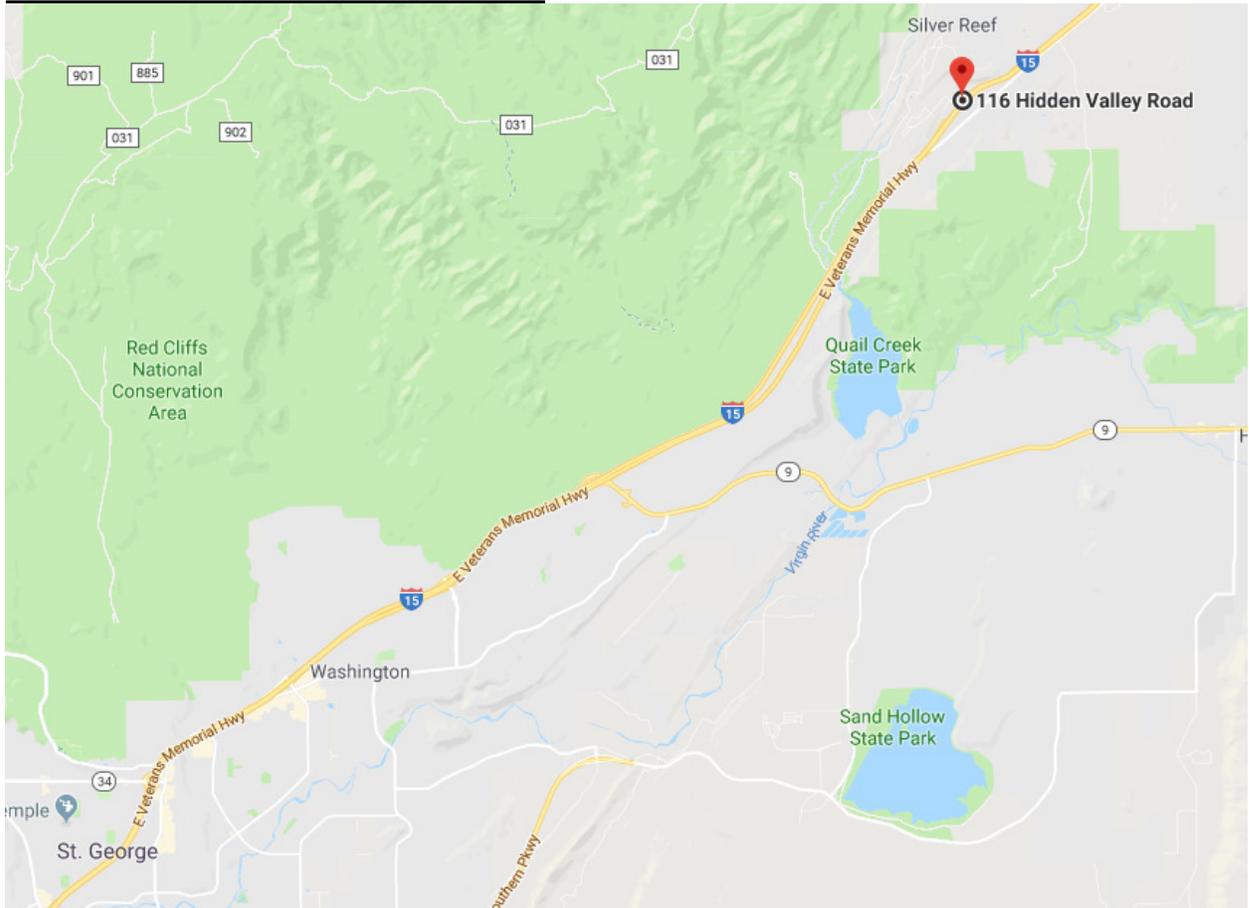
FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a grant of \$67,500. Conditions include that they resolve all issues on their compliance report.

APPLICANT'S LOCATION:

Angell Springs SSD is located in Washington County approximately 16 miles North East of St George.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Angell Springs Special Service District is in need of a new SCADA system as their current system has failed. The project will consist of replacing the current system by installing and programming a new SCADA. A submersible tank sensor will also be installed as well as moving the chlorine control to an adjacent location. This will allow them the use of their well which currently has unsafe radium and has not been used. The ability to monitor the levels will give them the ability to bring the well back on line.

POPULATION GROWTH:

There are no projected populations for Angell Springs as they do not have the water resources for additional connections.

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	July 2019
DWB Funding Authorization:	Aug 2019
Begin Construction:	Sep 2019
Complete Construction:	Oct 2019

COST ESTIMATE:

SCADA	\$75,000
Total Project Cost	\$75,000

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 Grant	\$67,500	90%
System contribution	\$7,500	10%
Total	\$75,000	100%

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
M006	CCC-lacks written records	10		
M007	CCC-lacks on-going enforcement	10		
S015	Well lacks a means to measure drawdown	1		
SS07	Deep rooted vegetation in spring collection area	10		
V008	Storage access not a min of 4" above surface	3		
	Total = 24	24	0	0

CONTACT INFORMATION:

APPLICANT:

Angell Springs SSD
118 Hidden Valley Rd
PO Box 461234
Leeds, UT 84746
435-467-5478
vickyinut@infowest.com

PRESIDING OFFICIAL &
CONTACT PERSON:

Vicky Cummins
Clerk
PO Box 460998
Leeds, UT 84746
435-467-5478
vickyinut@infowest.com

RECORDER:

M J Crystal
435-703-4991
mjcrystal@gmail.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Angell Springs SSD
 COUNTY: Washington
 PROJECT DESCRIPTION: SCADA

FUNDING SOURCE: State SRF

0 % Loan & 100 % Grant

ESTIMATED POPULATION:	200	NO. OF CONNECTIONS:	75 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$53.71 *			PROJECT TOTAL:	\$75,000
CURRENT % OF AGI:	1.58%	FINANCIAL PTS:	56	LOAN AMOUNT:	\$0
ESTIMATED MEDIAN AGI:	\$40,766			GRANT AMOUNT:	\$67,500
STATE AGI:	\$45,895			TOTAL REQUEST:	\$67,500
SYSTEM % OF STATE AGI:	89%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 4.56%		AFTER REPAYMENT PENALTY & POINTS 2.31%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	4.56%		2.31%
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:	\$52,097.00	\$52,097.00		\$52,097.00
OTHER DEBT + COVERAGE:	\$20,000.00	\$20,000.00		\$20,000.00
REPLACEMENT RESERVE ACCOUNT:	\$3,404.85	\$3,404.85		\$3,404.85
ANNUAL EXPENSES PER CONNECTION:	\$1,006.69	\$1,006.69		\$1,006.69
TOTAL SYSTEM EXPENSES	\$75,501.85	\$75,501.85		\$75,501.85
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$83.89	\$83.89		\$83.89
% OF ADJUSTED GROSS INCOME:	2.47%	2.47%		2.47%

* Equivalent Residential Connections

Agenda Item

6(D)(i)(d)

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

APPLICANT'S REQUEST:

Paunsaugunt Cliffs has a project consisting of radio read meters. The cost of the project is estimated at \$20,740. Paunsaugunt Cliffs is in need of replacing the current meters to radio read meters to improve accuracy, reduce waste and monitor water usage.

STAFF COMMENTS:

The local MAGI for Paunsaugunt Cliffs is approximately \$26,675 (58% of the state MAGI), even with full grant the water bill should be \$57.28, which is 2.58% of the local MAGI. Therefore they do qualify as a hardship community to receive principal forgiveness.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a grant of \$26,675 to Paunsaugunt Cliffs.

Paunsaugunt Cliffs

August 27, 2019

Page 2

APPLICANT'S LOCATION:

Paunsaugunt Cliffs is located in Garfield County approximately 14 miles South of Panguitch.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Paunsaugunt Cliffs is in need of replacing the current meters to radio read meters to improve accuracy, reduce waste and monitor water usage.

POPULATION GROWTH:

Projected populations and number of connections are shown in the table below:

Year	Population	Connections
2020	56	36
2030	66	40
2040	76	46

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	July 2019
DWB Funding Authorization:	Aug 2019
Begin Construction:	Sep 2019
Complete Construction:	Oct 2019

COST ESTIMATE:

Radio read meters	\$20,740
Total Project Cost	\$20,740

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 Grant	\$20,740	100%
Total	\$20,740	100%

Paunsaugunt Cliffs

August 27, 2019

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CONTACT INFORMATION:

APPLICANT:

Paunsaugunt Cliffs SSD
PO Box 620
Hatch, UT 84735

PRESIDING OFFICIAL &
CONTACT PERSON:

Mark Walter
Chairman
3623 Red Rock Circle
Santa Clara, UT 84765
435-632-1606
mwalter@naiexcel.com

RECORDER:

Kerri Justus
435-735-4185
pcssd@live.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Paunsaugunt Cliffs
 COUNTY: Garfield
 PROJECT DESCRIPTION: Radio read meters

FUNDING SOURCE: State SRF

0 % Loan & 100 % Grant

ESTIMATED POPULATION:	56	NO. OF CONNECTIONS:	38 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$72.66 *			PROJECT TOTAL:	\$20,948
CURRENT % OF AGI:	3.27%	FINANCIAL PTS:	60	LOAN AMOUNT:	\$0
ESTIMATED MEDIAN AGI:	\$26,675			GRANT AMOUNT:	\$20,740
STATE AGI:	\$45,895			TOTAL REQUEST:	\$20,740
SYSTEM % OF STATE AGI:	58%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 4.56%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	4.56%		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:	\$26,117.92	\$26,117.92		\$26,117.92
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00		\$0.00
ANNUAL EXPENSES PER CONNECTION:	\$687.31	\$687.31		\$687.31
TOTAL SYSTEM EXPENSES	\$26,117.92	\$26,117.92		\$26,117.92
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$57.28	\$57.28		\$57.28
% OF ADJUSTED GROSS INCOME:	2.58%	2.58%		2.58%

* Equivalent Residential Connections

Agenda Item

6(D)(i)(e)

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

APPLICANT'S REQUEST:

Bear River Water Conservancy District has a project consisting of a test well for the Collinston Project. The cost of the project is estimated at \$237,500. Bear River Water Conservancy District will be contributing \$197,500 towards the project. The request from the Drinking Water Board is \$40,000.

STAFF COMMENTS:

The local MAGI for Bear River WCD is approximately \$44,654 (97% of the state MAGI), the after project water bill would \$28.13, which is 0.76% of the local MAGI. Therefore they do not qualify to receive additional subsidy.

	Option#	Loan	Term	%/fee	P.F.	% of local MAGI	Water bill
1	Base	\$40,000	20 yr	3.92%	\$0	0.76%	\$28.12
2	Base	\$40,000	10 yr	3.92%	\$0	0.76%	\$28.16
3	0%	\$40,000	20 yr	0%	\$0	0.75%	\$28.09

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a loan of \$40,000 to Bear River WCD at 3.92% interest for 20 years. Conditions include that they resolve all issues on their compliance report.

APPLICANT'S LOCATION:

Bear River WCD is located in Box Elder County approximately 25 miles North of Ogden.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Bear River Water Conservancy District has a project consisting of a test well to provide water to the Collinston project. The test well is Phase I of the project and Bear River does plan on an additional project to equip the well and bring it into production.

POPULATION GROWTH:

Projected populations and number of connections are shown in the table below:

Year	Population	Connections
2020	54,479	3929
2030	64,263	4125
2040	71,047	4331

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	July 2019
DWB Funding Authorization:	Aug 2019
Begin Construction:	Sep 2019
Complete Construction:	Oct 2019

COST ESTIMATE:

Test Well	\$237,500
Total Project Cost	\$237,500

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	\$40,000	17%
System contribution	\$197,500	83%
Total	\$237,500	100%

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
	Total = -10	-10	0	0

CONTACT INFORMATION:

APPLICANT:

Bear River WCD
102 West Forest Street
Brigham City, UT 84302
435-723-7034

PRESIDING OFFICIAL &
CONTACT PERSON:

Carl Mackley
General Manager
102 West Forest Street
Brigham City, UT 84302
435-723-7034
carlm@brwcd.com

RECORDER:

Charles Holmgren
435-279-3303

ENGINEER:

William Bigelow
Hansen, Allen & Luce
859 W. South Jordan Parkway, ste 200
South Jordan, UT 84095
801-566-5599
bbigelow@hansenallenuce.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Bear River WCD
 COUNTY: Box Elder
 PROJECT DESCRIPTION: Test well

FUNDING SOURCE: State SRF

100 % Loan & 0 % Grant

ESTIMATED POPULATION:	54,079	NO. OF CONNECTIONS:	3929 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$34.14 *			PROJECT TOTAL:	\$237,500
CURRENT % OF AGI:	0.92%	FINANCIAL PTS:	74	LOAN AMOUNT:	\$40,000
ESTIMATED MEDIAN AGI:	\$44,654			GRANT AMOUNT:	\$0
STATE AGI:	\$45,895			TOTAL REQUEST:	\$40,000
SYSTEM % OF STATE AGI:	97%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 3.92%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	20	20		20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		0.00%
REQUIRED DEBT SERVICE:	\$2,000.00	\$2,922.46		\$2,000.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$200.00	\$292.25		\$200.00
ANNUAL NEW DEBT PER CONNECTION:	\$0.56	\$0.82		\$0.56
O & M + FUNDED DEPRECIATION:	\$716,826.00	\$716,826.00		\$716,826.00
OTHER DEBT + COVERAGE:	\$547,670.00	\$547,670.00		\$547,670.00
REPLACEMENT RESERVE ACCOUNT:	\$57,848.10	\$57,894.22		\$57,848.10
ANNUAL EXPENSES PER CONNECTION:	\$336.56	\$336.57		\$336.56
TOTAL SYSTEM EXPENSES	\$1,324,544.10	\$1,325,604.93		\$1,324,544.10
TAX REVENUE:	\$1,300,000.00	\$1,300,000.00		\$1,300,000.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$28.09	\$28.12		\$28.09
% OF ADJUSTED GROSS INCOME:	0.75%	0.76%		0.75%

* Equivalent Residential Connections

Agenda Item

6(D)(i)(f)

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

APPLICANT'S REQUEST:

Bear River Water Conservancy District has a project consisting of a standby generator for the Newman backup well. The cost of the project is estimated at \$122,600. Bear River Water Conservancy District will be contributing \$62,600 towards the project. The request from the Drinking Water Board is \$60,000.

STAFF COMMENTS:

The local MAGI for Bear River WCD is approximately \$44,654 (97% of the state MAGI), the after project water bill would \$28.13, which is 0.76% of the local MAGI. Therefore they do not qualify to receive additional subsidy.

	Option#	Loan	Term	%/fee	P.F.	% of local MAGI	Water bill
1	Base	\$60,000	20 yr	3.92%	\$0	0.76%	\$28.15
2	Base	\$60,000	10 yr	3.92%	\$0	0.76%	\$28.22
3	0%	\$60,000	20 yr	0%	\$0	0.76%	\$28.12

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a loan of \$60,000 to Bear River WCD at 3.92% interest for 20 years. Conditions include that they resolve all issues on their compliance report.

APPLICANT'S LOCATION:

Bear River WCD is located in Box Elder County approximately 25 miles North of Ogden.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Bear River Water Conservancy District has a project consisting of a standby generator for the Newman backup well in Bothwell.

POPULATION GROWTH:

Projected populations and number of connections are shown in the table below:

Year	Population	Connections
2020	54,479	3929
2030	64,263	4125
2040	71,047	4331

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	July 2019
DWB Funding Authorization:	Aug 2019
Begin Construction:	Sep 2019
Complete Construction:	Oct 2019

COST ESTIMATE:

Generator	\$122,600
Total Project Cost	\$122,600

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	\$60,000	49%
System contribution	\$62,600	51%
Total	\$122,600	100%

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
	Total = -10	-10	0	0

CONTACT INFORMATION:

APPLICANT:

Bear River WCD
102 West Forest Street
Brigham City, UT 84302
435-723-7034

PRESIDING OFFICIAL &
CONTACT PERSON:

Carl Mackley
General Manager
102 West Forest Street
Brigham City, UT 84302
435-723-7034
carlm@brwcd.com

RECORDER:

Charles Holmgren
435-279-3303

ENGINEER:

William Bigelow
Hansen, Allen & Luce
859 W. South Jordan Parkway, ste 200
South Jordan, UT 84095
801-566-5599
bbigelow@hansenallenuce.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Bear River WCD
 COUNTY: Box Elder
 PROJECT DESCRIPTION: Generator

FUNDING SOURCE: State SRF

100 % Loan & 0 % Grant

ESTIMATED POPULATION:	54,079	NO. OF CONNECTIONS:	3929 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$34.14 *			PROJECT TOTAL:	\$122,600
CURRENT % OF AGI:	0.92%	FINANCIAL PTS:	74	LOAN AMOUNT:	\$60,000
ESTIMATED MEDIAN AGI:	\$44,654			GRANT AMOUNT:	\$0
STATE AGI:	\$45,895			TOTAL REQUEST:	\$60,000
SYSTEM % OF STATE AGI:	97%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 3.92%	AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>			
ASSUMED LENGTH OF DEBT, YRS:	20	20	20
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%	0.00%
REQUIRED DEBT SERVICE:	\$3,000.00	\$4,383.69	\$3,000.00
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00	\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$300.00	\$438.37	\$300.00
ANNUAL NEW DEBT PER CONNECTION:	\$0.84	\$1.23	\$0.84
O & M + FUNDED DEPRECIATION:	\$716,826.00	\$716,826.00	\$716,826.00
OTHER DEBT + COVERAGE:	\$547,670.00	\$547,670.00	\$547,670.00
REPLACEMENT RESERVE ACCOUNT:	\$57,898.10	\$57,967.28	\$57,898.10
ANNUAL EXPENSES PER CONNECTION:	\$336.57	\$336.59	\$336.57
TOTAL SYSTEM EXPENSES	\$1,325,694.10	\$1,327,285.34	\$1,325,694.10
TAX REVENUE:	\$1,300,000.00	\$1,300,000.00	\$1,300,000.00
<u>RESIDENCE</u>			
MONTHLY NEEDED WATER BILL:	\$28.12	\$28.15	\$28.12
% OF ADJUSTED GROSS INCOME:	0.76%	0.76%	0.76%

* Equivalent Residential Connections

Agenda Item

6(D)(i)(g)

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

APPLICANT'S REQUEST:

Twin Oaks Local District was authorized financial assistance in the amount of \$161,000 on June 11, 2019. Their project includes drilling a new well and a transmission line to connect to system.

Twin Oaks has completed the bid process and the bids have come in about 25% higher than anticipated. Twin Oaks is requesting an additional \$39,000 in light of the higher cost of the project. The total project cost will be \$202,410, and Twin Oaks is contributing \$2,410.

STAFF COMMENTS:

The local MAGI for Twin Oaks is approximately \$38,774 (84% of the state MAGI), their after project water bill at a full loan would be \$86.03 which is 2.66% of the local MAGI. Therefor they do qualify for additional subsidy.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Grant or Principal Forgiveness	Monthly Water Rate	% Local MAGI
Authorized	50/50	\$81,000	0.00%	30 yrs	\$80,000	\$79.80	2.47%
Proposed	50/50	\$100,000	0.00%	30 yrs	\$100,000	\$81.28	2.52%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize an additional \$39,000 with the same terms as the original authorization for a loan of \$100,000 at 0% interest for 30 years with \$100,000 in grant. Conditions include that they resolve all issues on their compliance report.

APPLICANT'S LOCATION:

Twin Oaks Local District is located in Sanpete County approximately 4 miles Southeast of Mt. Pleasant.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Their project includes drilling a new well and a transmission line to connect to the system.

POPULATION GROWTH:

Projected populations and number of connections are shown in the table below:

Year	Population	Connections
2020	170	44
2025	295	53
2030	425	69
2035	500	79
2040	600	89

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	May 2019
Complete Design:	Mar 2019
Plan Approval:	May 2019
Advertise for Bids:	June 2019
Begin Construction:	July 2019
Complete Construction:	Oct 2019

COST ESTIMATE:

Legal – Bonding, Admin	\$1,800
Environmental clearances, Financial	\$3,000
Engineering- Plan, Design, CMS	\$14,000
Construction – source	\$185,000
Construction – lines	\$8,000
Contingency	\$1,610
Total Project Cost	\$213,410

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	\$106,000	49%
DWB Principal Forgiveness	\$105,000	48%
Applicant contribution	\$2,410	3%
Total	\$213,410	100%

Twin Oaks Local District

August 27, 2019

Page 5

CONTACT INFORMATION:

APPLICANT: Twin Oaks Local District
PO Box 2551
Cedar City, Utah 84721
435-463-3555

PRESIDING OFFICIAL &
CONTACT PERSON: David Asay
Administrator
PO Box 2551
Cedar City, Utah 84721
435-463-3555

CONSULTING ENGINEER: Karl Rasmussen
Pro Value Engineering
1381 South 325 West
Hurricane, Utah 84737
435-896-8635
jeff@saeutah.com

RECORDER: Bill Bowles
435-590-0062

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Twin Oaks Local District
 COUNTY: Sanpete
 PROJECT DESCRIPTION: new well

FUNDING SOURCE: State SRF

50 % Loan & 50 % Grant

ESTIMATED POPULATION:	155	NO. OF CONNECTIONS:	41 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$82.23 *			PROJECT TOTAL:	\$202,410
CURRENT % OF AGI:	2.54%	FINANCIAL PTS:	49	LOAN AMOUNT:	\$100,000
ESTIMATED MEDIAN AGI:	\$38,774			GRANT AMOUNT:	\$100,000
STATE AGI:	\$45,895			TOTAL REQUEST:	\$200,000
SYSTEM % OF STATE AGI:	84%				

	@ ZERO % RATE 0%	@ RBBI MKT RATE 4.56%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	4.56%		0.00%
REQUIRED DEBT SERVICE:	\$3,333.33	\$6,182.56		\$3,333.33
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$333.33	\$618.26		\$333.33
ANNUAL NEW DEBT PER CONNECTION:	\$89.43	\$165.87		\$89.43
O & M + FUNDED DEPRECIATION:	\$24,529.00	\$24,529.00		\$24,529.00
OTHER DEBT + COVERAGE:	\$10,000.00	\$10,000.00		\$10,000.00
REPLACEMENT RESERVE ACCOUNT:	\$1,793.12	\$1,935.58		\$1,793.12
ANNUAL EXPENSES PER CONNECTION:	\$885.91	\$889.38		\$885.91
TOTAL SYSTEM EXPENSES	\$39,988.78	\$43,265.40		\$39,988.78
TAX REVENUE:	\$0.00	\$0.00		\$0.00
<u>RESIDENCE</u>				
MONTHLY NEEDED WATER BILL:	\$81.28	\$87.94		\$81.28
% OF ADJUSTED GROSS INCOME:	2.52%	2.72%		2.52%

* Equivalent Residential Connections

Agenda Item

6(D)(ii)(a)

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

APPLICANT'S REQUEST:

The City of Kanab is requesting funding in the amount of \$7,227,000 to fund the construction of two new 2MG storage tanks to replace two existing tanks that are in deteriorating and failing condition. The City also intends to replace some existing water line.

STAFF COMMENTS:

The local MAGI for the City of Kanab is \$37,440 which is 82% of the State MAGI and the recommended funding would put the average monthly water rate at 1.74% of MAGI (within the Board's affordability criteria). The City therefore does not qualify as a disadvantaged community. Staff's recommendation of a reduced interest rate is based on financial considerations that include cost effectiveness, regionalization, local MAGI and proposed monthly water rate.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Minimum Increase in Water Rate	Monthly Water Rate	% Local MAGI
1	Full Loan	\$ 7,227,000	3.92%	30 yrs	\$18.42	\$57.15	1.83%
2	Full Loan	\$ 7,227,000	2.50%	30 yrs	\$15.53	\$54.26	1.74%

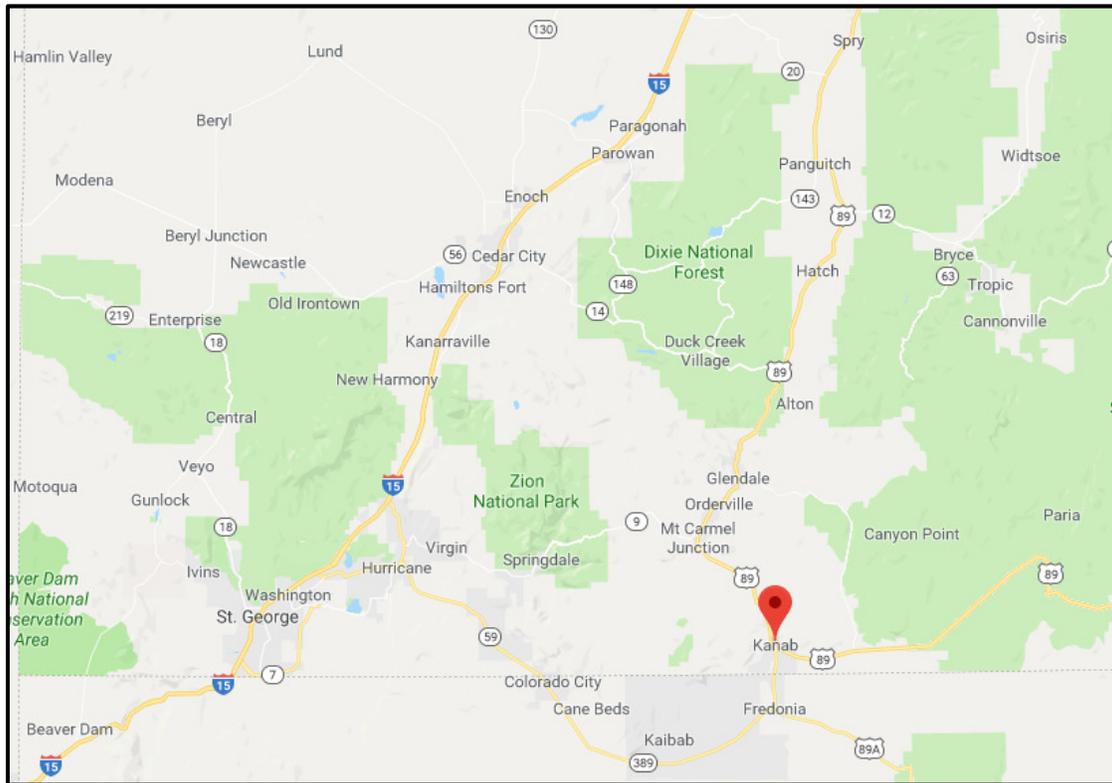
FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a loan of **\$7,227,000 at 2.5% hardship grant assessment fee for thirty (30) years** to the City of Kanab.

APPLICANT’S LOCATION:

The City of Kanab is located in Southeastern Utah in Kane County.

MAP OF APPLICANT’S LOCATION:



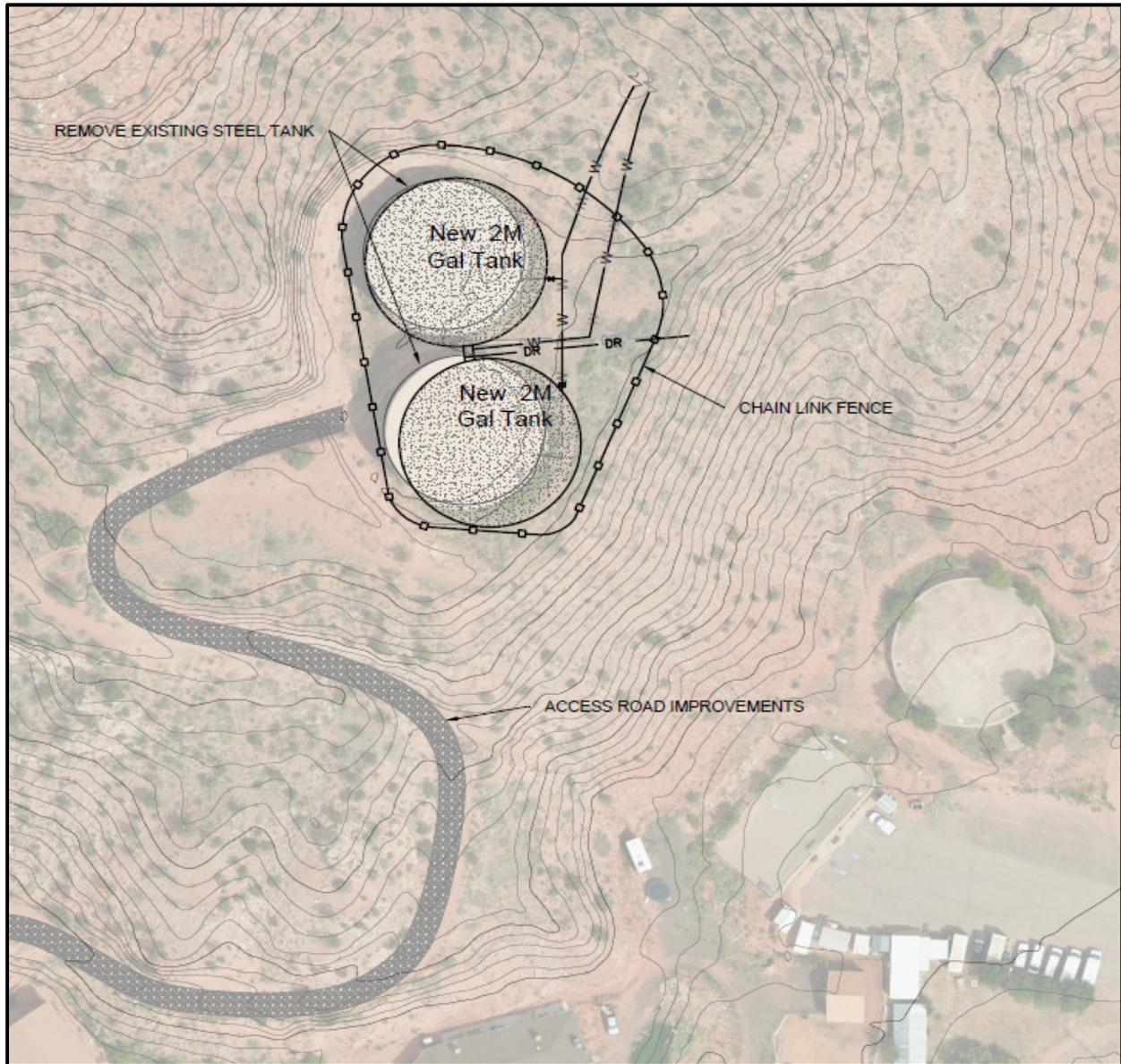
PROJECT DESCRIPTION:

The City of Kanab currently has two steel water storage tanks (the North and South Water Tanks) that were purchased in 1985 from an oil company that had been used for crude oil storage. These tanks were cleaned, reconditioned and rebuilt as drinking water tanks in 1986. A submerged water tank inspection in 2016 found that the North Tank foundation was failing and that the interior coating is in need of refurbishment. The North Tank is currently offline. There is concern that the South Tank is in a similar condition and is at imminent risk of failure.

In addition, the current distribution system water model shows that there are ten hydrant locations that do not meet Utah Administrative Code under the fire flow and residual pressure requirements of 1,000 gpm at 20 psi.

The City of Kanab intends to replace the North and South Water Tanks (1.5MG each) with two new 2MG concrete water tanks on the existing site and replacement of approximately 1,000 linear feet of water line. These new tanks should address their storage needs until 2040.





POPULATION GROWTH:

	<u>Year</u>	<u>Population</u>	<u>Equivalent Connections</u>
Current:	2019	4,798	2,274
Projected:	2040	7,733	3,276
Annual growth rate		2.30%	2.38%

IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:	August 2019
Plan Approval	June 2020
Bid Opening	July 2020
Loan Closing	July 2020
Begin Construction	August 2020
Complete Construction	April 2021
Receive Operating Permit:	May 2021

COST ESTIMATE:

Legal/Bonding/Financial	\$ 65,000	
Engineering - Planning	\$ 95,000	} \$958,000 13%
Engineering - Design	\$ 404,000	
Engineering - CMS	\$ 459,000	
Construction	\$ 5,205,000	
Contingency (~10%)	\$ 1,000,000	
DDW Loan Origination Fee (LOF)	\$ 72,000	
Total	\$ 7,300,000	

COST ALLOCATION:

The cost allocation proposed for the project is shown below.

Funding Source	Cost Sharing	Percent
DWB	\$ 7,227,000	99%
Local Contribution	\$ 73,000	1%
	\$ 7,300,000	100%

IPS SUMMARY as of 07/10/2019:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
SP04	Active Source Lacks Approved Updates to DWSP	10		
V005	Storage Facility Vent Not Downturned 2" Below Opening (North and South Tanks)	2		
	Total = 2	2	0	0

APPLICANT:	City of Kanab 26 North 100 East Kanab, UT 84741
PRESIDING OFFICIAL & CONTACT PERSON:	Joe Decker, City Manager 26 North 100 East Kanab, UT 84741 (435) 644-2534 jdecker@kanab.utah.gov
TREASURER/RECORDER:	Katherine Ohlwiler (435) 644-2534 kohlwiler@kanab.utah.gov
CONSULTING ENGINEER:	Cody Howick Civil Science 1453 S. Dixie Drive St. George, UT 84780 (435) 986-0100 chowick@civilscience.com
ATTORNEY:	Jeff Stoff 76 N. Main Street Kanab, UT 84741 (435) 644-5278
BOND COUNSEL:	Richard Chamberlain, Chamberlain & Associates 225 N 100 E Richfield, UT 84701 (435) 869-5441 rchamberlain13@gmail.com

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Kanab

FUNDING SOURCE: Federal SRF

COUNTY: Kane

PROJECT DESCRIPTION: Replace two existing steel 1.5MG tanks with two concrete 2MG tanks, and replace ~1,000-LF water line

100 % Loan & 0 % P.F.

ESTIMATED POPULATION:	4,798	NO. OF CONNECTIONS:	2274 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$38.73 *			PROJECT TOTAL:	\$7,300,000
CURRENT % OF AGI:	1.24%	FINANCIAL PTS:	47	LOAN AMOUNT:	\$7,227,000
ESTIMATED MEDIAN AGI:	\$37,440			PRINC. FORGIVE.:	\$0
STATE AGI:	\$45,895			TOTAL REQUEST:	\$7,227,000
SYSTEM % OF STATE AGI:	82%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
SYSTEM	0%	3.92%		2.50%
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		2.50%
REQUIRED DEBT SERVICE:	\$240,900.00	\$413,888.04		\$345,289.01
*PARTIAL COVERAGE (15%):	\$0.00	\$0.00		\$0.00
*ADD. COVERAGE AND RESERVE (10%):	\$24,090.00	\$41,388.80		\$34,528.90
ANNUAL NEW DEBT PER CONNECTION:	\$116.53	\$200.21		\$167.03
O & M + FUNDED DEPRECIATION:	\$1,032,000.00	\$1,032,000.00		\$1,032,000.00
OTHER DEBT + COVERAGE:	\$0.00	\$0.00		\$0.00
REPLACEMENT RESERVE ACCOUNT:	\$63,645.00	\$72,294.40		\$68,864.45
ANNUAL EXPENSES PER CONNECTION:	\$481.81	\$485.62		\$484.11
TOTAL SYSTEM EXPENSES	\$1,360,635.00	\$1,559,571.25		\$1,480,682.36
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$49.86	\$57.15		\$54.26
% OF ADJUSTED GROSS INCOME:	1.60%	1.83%		1.74%

* Equivalent Residential Connections

Agenda Item

6(D)(ii)(b)

**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.

STAFF COMMENTS:

The local MAGI for Genola City is approximately \$53,288 (116% of the state MAGI), but their after project water bill is \$116.25 which is 2.62% of the local MAGI. Therefore they do qualify as a hardship community to receive additional subsidy.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	Full Loan	\$ 2,849,400	3.92%	30 yrs	0	\$106.11	2.39%
2	80/20	\$2,273,000	0.00%	30 yrs	\$576,400	\$87.46	1.97%
3	70/30	\$1,995,000	0.00%	30 yrs	\$854,400	\$85.62	1.93%

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board 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.

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	\$ 30,000
Engineering – Design	\$ 200,000
Engineering – CMS	\$ 140,000
Construction - Source	\$ 814,000
Construction – Tank	\$ 1,057,000
Construction - lines	\$ 383,000
Contingency (~ 10%)	\$ 225,400
Total	\$ 2,849,400

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	80%
DWB principal forgiveness	\$576,400	20%
Total	\$2,849,400	100%

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	July 2019
DWB Funding Authorization:	August 2019
Complete Design:	December 2019
Plan Approval:	January 2020
Advertise for Bids:	February 2020
Begin Construction:	April 2020
Complete Construction:	August 2020

IPS SUMMARY:

Code	Description	Physical Facilities	Quality & Monitoring	Significant Deficiency Violations
M001	Current Emergency Response Program	-10		
	Total = -10	-10	0	0

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
801-754-5300
genolamayor@gmail.com

CONSULTING ENGINEER:

Eric Franson
Franson Civil Engineering
1276 South 820 East, ste 100
American Fork, UT 84003
801-756-0309
efranson@fransonicivil.com

RECORDER:

Lucinda Thomas
801-754-5300
genolaclerk@gmail.com

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:	\$2,849,400
CURRENT % OF AGI:	1.77%	FINANCIAL PTS:	21	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 0%	@ RBBI MKT RATE 3.92%		AFTER REPAYMENT PENALTY & POINTS 0.00%
<u>SYSTEM</u>				
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

6(D)(ii)(c)

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE

APPLICANT'S REQUEST:

Central Utah Water Conservancy District (CUWCD) is requesting \$18,000,000 in financial assistance to fund a Process Improvement Project (PIP) at the Duchesne Valley Water Treatment Plant (DVWTP). This project will convert the WTP from direct filtration to conventional treatment by adding conventional pretreatment and a new settled water pump station, convert the existing pre-ozonation to intermediate ozonation, expand the plant capacity to 10 mgd, upgrade the intake pumps and electrical, add a new chemical building and add two new residuals drying beds (lagoons) and a lagoon pump station. This project replaces the algae strainer project application for DVWTP approved last year by the Drinking Water Board.

STAFF COMMENTS:

The DVWTP provides wholesale water to the following areas within Duchesne County: Duchesne City, East Duchesne Culinary Water Improvement District, Duchesne County Water Conservancy District including Johnson Water Improvement District, Myton City, and Roosevelt City. Because this is a wholesaler to multiple public water systems, but not necessarily the sole provider of water to these systems, staff isn't confident that a weighted MAGI will provide a meaningful indication of affordability.

This project is the first, and largest, of multiple proposed projects to be submitted by CUWCD this year and they initially considered including it as part of a larger funding request for a larger programmatic financing project. After discussion with staff, it was determined to be more efficient, given the cost and scope of this project, to manage it as a stand-alone project and submit a programmatic financing application for multiple smaller projects at a later date.

Staff's funding recommendation is based on the terms recently approved by the Board for other larger systems for projects using programmatic financing.

FINANCIAL ASSISTANCE COMMITTEE RECOMMENDATION:

The Drinking Water Board authorize a loan of **\$18,000,000 at 1.25% hardship grant assessment fee, in lieu of interest for thirty (30) years** to the Central Utah Water Conservancy District to fund the construction of this process improvement project at the Duchesne Valley Water Treatment Plant.

APPLICANT'S LOCATION:

Central Utah Water Conservancy District – Duchesne Valley Water Treatment Plant is located in Duchesne County.

MAP OF APPLICANT'S LOCATION:



PROJECT DESCRIPTION:

Central Utah Water Conservancy District (CUWCD) owns and operates the Duchesne Valley Water Treatment Plant (DVWTP) located at Starvation Reservoir in Duchesne, Utah. The DVWTP is a direct filtration plant initially constructed in the early 1980's to supply wholesale treated culinary water for areas in Duchesne County.

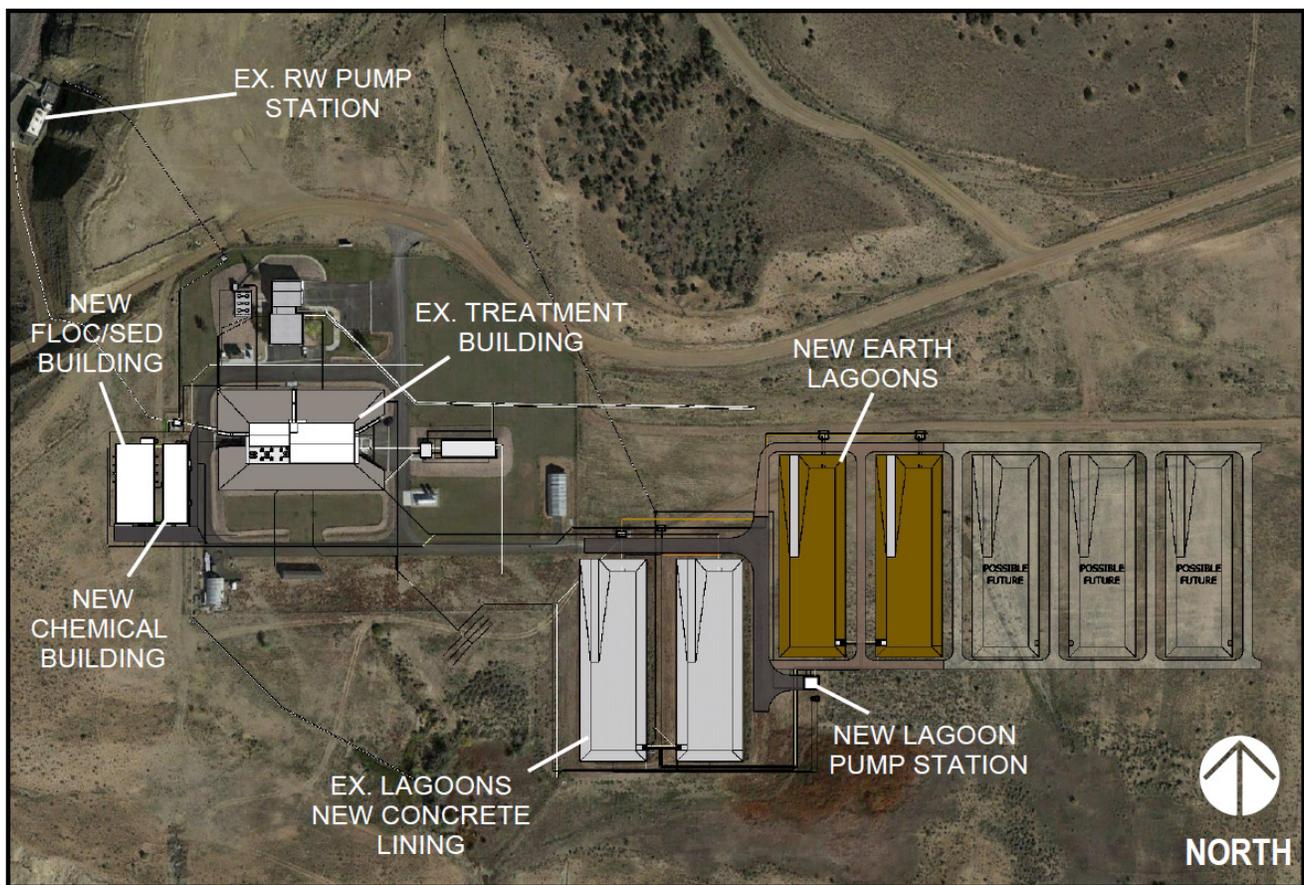
The source of raw water available to the DVWTP is Starvation Reservoir from water diverted from the Strawberry and Duchesne Rivers. The DVWTP pumps the water from the reservoir to the treatment and finished water storage facilities. From these facilities, the DVWTP provides drinking water and industrial water to Duchesne City, East Duchesne Culinary Water Improvement District, Johnson Water Improvement District, Myton City, and areas within Duchesne County Water Conservancy District, including Roosevelt City.

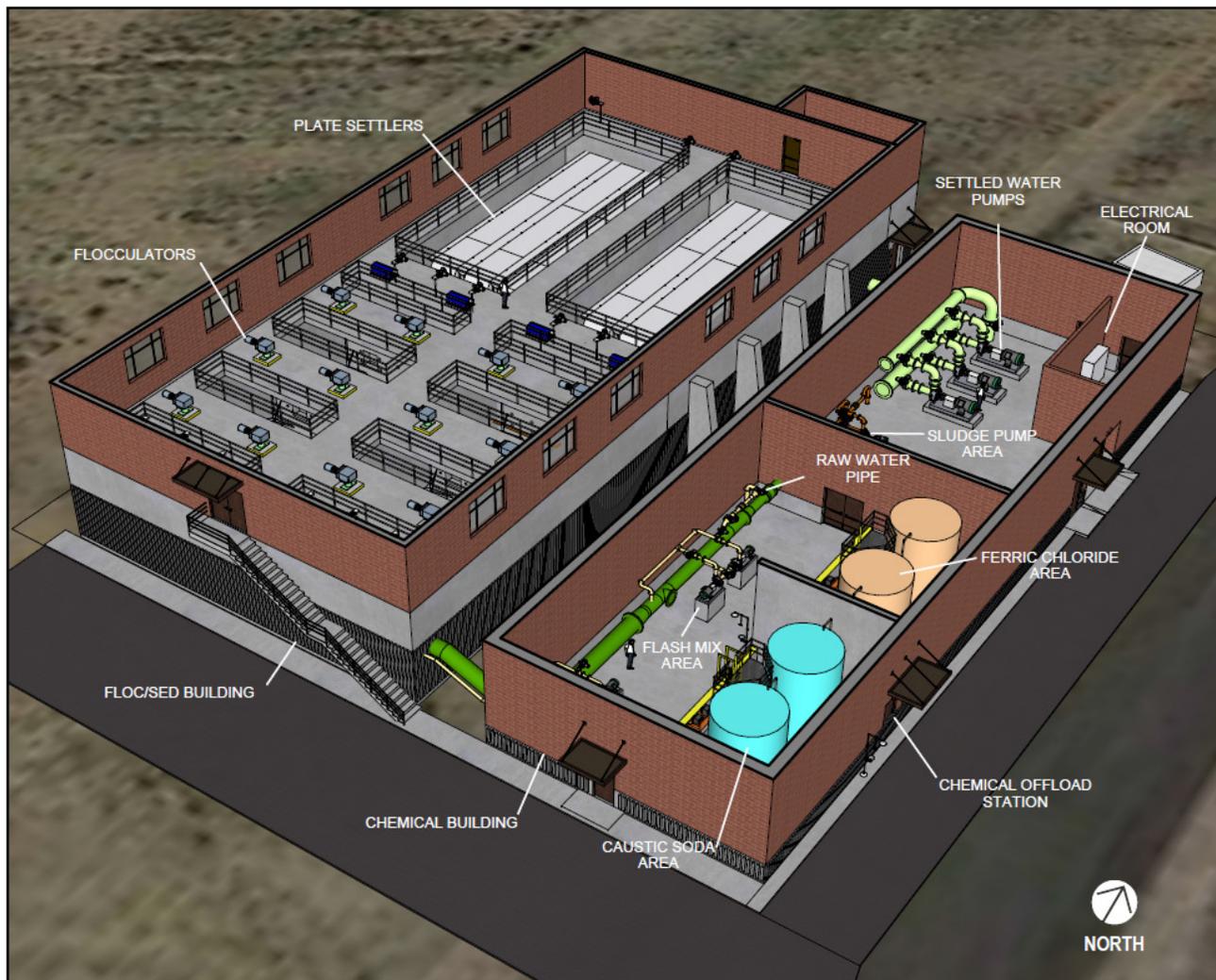
The DVWTP was rebuilt in 2010 with pre-ozone and a rated capacity of 8 million gallons per day (mgd). The existing plant cannot reliably produce treated water at the rated plant capacity due to water

quality challenges created by the Dollar Ridge Fire and subsequent rain storms in the Strawberry River watershed. These water quality challenges include increased turbidity, increased total organic carbon (TOC), increased taste and odor, and increased disinfection by-product (DBP) formation. These water quality changes have increased the ozone and chlorine demand and decreased filter run times.

Experts in fire-impacted watersheds believe that these watershed impacts will persist for many years. Furthermore, seasonal filter-clogging algae events in Starvation Reservoir have been getting more severe in recent years, limiting plant capacity and requiring additional staff time to maximize production. Increased nutrient loading from the recent fire is anticipated to exacerbate the filter clogging algae challenges.

The recommendations for the DVWTP Process Improvement Project (PIP) are to convert the plant from direct filtration to conventional treatment by adding conventional pretreatment and a new settled water pump station, convert the existing pre-ozonation to intermediate ozonation, expand the plant capacity to 10 mgd, upgrade the intake pumps and electrical, a new chemical building and two new residuals drying beds (lagoons) and a lagoon pump station..





IMPLEMENTATION SCHEDULE:

DWB Funding Authorization:
Plan Approval
Bid Opening
Loan Closing
Begin Construction
Complete Construction
Receive Operating Permit:

August 2019
October 2019
November 2019
January 2020
February 2020
June 2021
July 2021

COST ESTIMATE:

Legal/Bonding (District will self-pay)	\$ 37,000	
Engineering - Planning	\$ 20,000	} \$2,489,000 11%
Engineering - Design	\$ 1,537,000	
Engineering - CMS	\$ 932,000	
Construction	\$ 18,674,000	
Contingency (~10%)	\$ 1,800,000	
DDW Loan Origination Fee (LOF)	\$ 180,000	
Total	\$ 23,180,000	

COST ALLOCATION:

The cost allocation proposed for the project is shown below.

<u>Funding Source</u>	<u>Cost Sharing</u>
DWB	\$ 18,000,000
FEMA PDM Grant*	\$ 4,000,000
CIB Loan 30-yrs 0%	\$ 3,500,000
Local Contribution	\$ 1,680,000
	<u>\$ 27,180,000</u>

*CUWCD is requesting DWB authorize \$18,000,000 in case the FEMA grant is not authorized.

WEIGHTED MAGI:

City	MAGI 2017	ERCs estimated)	Annual O&M	Current Monthly DW Rate	"Affordable" Monthly DW Rate	New Monthly Rate	%MAGI
Roosevelt	\$ 49,038	2,672	\$ 1,612,000	\$ 50.27	\$ 71.51	\$ 62.64	1.53%
JWID	\$ 48,460	1,008	\$ 1,261,000	\$ 104.25	\$ 70.67	\$ 116.62	2.89%
Duchesne City	\$ 44,160	900	\$ 663,000	\$ 61.39	\$ 64.40	\$ 73.76	2.00%
East Duchesne CWID	\$ 44,160	361	\$ 403,000	\$ 93.03	\$ 64.40	\$ 105.40	2.86%
Myton	\$ 36,994	321	\$ 196,000	\$ 50.88	\$ 53.95	\$ 63.25	2.05%
Weighted Average	\$ 47,024	5,262	\$ 1,213,122	\$ 65.49	\$ 68.58	\$ 77.86	1.99%

APPLICANT: Central Utah Water Conservancy District
1426 East 750 North, Suite 400
Orem, UT 84097

CONTACT PERSON: Gerard Yates
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801-596-0700
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DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Duchesne Valley WTP
 COUNTY: Duchesne Valley WTP
 PROJECT DESCRIPTION: New Treatment Process Upgrade

FUNDING SOURCE: Federal SRF

100 % Loan & 0 % P.F.

ESTIMATED POPULATION:	0	NO. OF CONNECTIONS:	5262 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$65.49 *			PROJECT TOTAL:	\$23,180,000
CURRENT % OF AGI:	1.67%	FINANCIAL PTS:	53	LOAN AMOUNT:	\$18,000,000
ESTIMATED MEDIAN AGI:	\$47,024			PRINC. FORGIVE.:	\$0
STATE AGI:	\$45,895			TOTAL REQUEST:	\$18,000,000
SYSTEM % OF STATE AGI:	102%				

	@ ZERO % RATE	@ RBBI MKT RATE		AFTER REPAYMENT PENALTY & POINTS
SYSTEM	0%	3.92%		1.25%
ASSUMED LENGTH OF DEBT, YRS:	30	30		30
ASSUMED NET EFFECTIVE INT. RATE:	0.00%	3.92%		1.25%
REQUIRED DEBT SERVICE:	\$600,000.00	\$1,030,854.41		\$723,213.78
*PARTIAL COVERAGE (15%):	\$90,000.00	\$154,628.16		\$108,482.07
*ADD. COVERAGE AND RESERVE (10%):	\$0.00	\$0.00		\$0.00
ANNUAL NEW DEBT PER CONNECTION:	\$131.13	\$225.29		\$158.06
O & M + FUNDED DEPRECIATION:	\$0.00	\$0.00		\$0.00
OTHER DEBT + COVERAGE:	\$134,167.00	\$134,167.00		\$134,167.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00		\$0.00
ANNUAL EXPENSES PER CONNECTION:	\$25.50	\$25.50		\$25.50
TOTAL SYSTEM EXPENSES	\$824,167.00	\$1,319,649.57		\$965,862.85
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$13.05	\$20.90		\$15.30
% OF ADJUSTED GROSS INCOME:	0.33%	0.53%		0.39%

* Equivalent Residential Connections

Agenda Item

6(D)(ii)(d)

DRINKING WATER BOARD
BOARD PACKET FOR CONSTRUCTION ASSISTANCE
REVISED AUTHORIZATION

APPLICANT’S REQUEST:

The Greenwich Water Association is requesting \$162,000 in financial assistance to construct a new chlorination building.

STAFF COMMENTS:

Greenwich Water Association is a private water company. The local MAGI for Greenwich is \$30,719 which is 67% of the State's \$45,895 MAGI. The water bill for Greenwich is a flat \$25.00 per month, which is 0.98% of the local MAGI. An affordable water bill for Greenwich, based on 1.75% of MAGI is \$44.80/month.

On June 11, 2019, the Drinking Water Board authorized a loan of \$130,000 for 30-years at 0% with \$65,000 in Principal Forgiveness for this project.

UPDATE: The bids came in slightly higher than budgeted and Greenwich is requesting an additional \$32,000 in funding assistance. Staff is recommending the same 50/50 split to accommodate this revised request.

Option #	Description	Repayable Loan Amount	Interest Rate	Term	Principal Forgiveness	Monthly Water Rate	% Local MAGI
1	50/50 loan/PF	\$ 81,000	0%	30 yrs	\$ 81,000	\$67.82	2.65%
*	Prior Auth	\$ 65,000	0%	30 yrs	\$ 65,000	\$65.77	2.57%

STAFF RECOMMENDATION:

The Drinking Water Board modify the prior authorization to a loan of \$162,000 at 0% hardship grant assessment fee for 30 years with \$81,000 in Principal Forgiveness. The repayable amount will be \$81,000.

APPLICANT’S LOCATION:

The town of Greenwich is located in Piute County approximately 30 miles north of Otter Creen Reservoir on State Highway 62.

MAP OF APPLICANT’S LOCATION:



PROJECT DESCRIPTION:

Greenwich Water Company collects its water from the Parker Springs on the East Side of Grass Valley. They currently have a chlorination building on the Southern-most spring. The existing chlorination equipment has reached the end of its service life and the location of the manhole is inaccessible during the winter and spring months of the year. Where the location of the facility is hard to access, and where the equipment doesn't work properly, the facility has been neglected. It would be beneficial for the Water Company to have a more accessible chlorination facility that was above ground if possible.

The project would consist of constructing a small building, and equipping it with a tablet chlorination system. In order to operate, the system would need to incorporate some valves to sustain enough pressure to provide a syphon for the system. The project also includes a new totalizing meter to account for water entering the system. No power is available at the site so a solar service has been included in the project. The facility could be placed within the existing fences surrounding the Company's storage tanks.

POPULATION GROWTH:

	<u>Year</u>	<u>Population</u>	<u>Connections</u>
Current:	2019	67	27
Projected:	2040	67	27
<hr/>			
Annual growth rate		0%	0%

COST ESTIMATE:

		<u>Original</u>	<u>Revised</u>
Legal/Bonding/Admin	} 16%	\$ 17,000	\$ 17,000
Engineering – Environmental		\$ 2,500	\$ 2,500
Engineering – Design		\$ 9,000	\$ 9,000
Engineering – CMS		\$ 9,000	\$ 9,000
Construction		\$ 80,100	\$ 108,000
Contingency (~ 15%)		\$ 12,400	\$ 16,500
Total		\$ 130,000	\$ 162,000

COST ALLOCATION:

Greenwich Water Association is not bringing a local contribution to this project

<u>Funding Source</u>	<u>Cost Sharing</u>	<u>Percent of Project</u>
DWB	\$ 162,000	100%
Local Contribution	\$ 0	0%
	<hr/>	
	\$ 162,000	100%

IMPLEMENTATION SCHEDULE:

FA Committee Conference Call:	May 8, 2019
DWB Funding Authorization - revised:	August 27, 2019
Complete Design:	August 2019
Plan Approval:	September 2019
Advertise for Bids:	September 2019
Loan Closing	October 2019
Begin Construction:	October 2019
Complete Construction:	December 2019

IPS SUMMARY:

<u>Code</u>	<u>Description</u>	<u>Physical Facilities</u>	<u>Quality & Monitoring</u>	<u>Significant Deficiency Violations</u>
M001	Current Emergency Response Program	-10		
C002	Operator Not Available within 1-hr travel time	20		
SP04	System Not Current on All DWSP Updates	10		
SS02	Spring Collection Areas Not Fenced	10		
SSL2	Vent Not Present	0		
TD22	CL2 Insufficient Backup Equipment	10		
TD25	CL2 Disinfection Process Not Continuous	0		
TG63	Improper Dry Chemical Feeder	20		
TP001	Failure to Address Deficiency			35
	Total = 95	60	0	35

CONTACT INFORMATION:

APPLICANT:	Greenwich Water Association PO Box 550 Greenwich, Utah 84732 435-627-6735
PRESIDING OFFICIAL	Mindy Talbot PO Box 550 Greenwich, Utah 84732 435-627-6735
CONSULTING ENGINEER:	Jeff Albrecht, P.E. Savage Albrecht Engineering 1925 South Industrial Park Road Richfield, Utah 84701 435-896-8635 jeff@savagealbrechtengineering.com
RECORDER:	Mindy Talbot 435-616-7415
BOND ATTORNEY:	N/A

DRINKING WATER BOARD FINANCIAL ASSISTANCE EVALUATION

SYSTEM NAME: Greenwich Water Association
 COUNTY: Piute
 PROJECT DESCRIPTION: New chlorination building

FUNDING SOURCE: Federal SRF

50 % Loan & 50 % P.F.

ESTIMATED POPULATION:	570	NO. OF CONNECTIONS:	27 *	SYSTEM RATING:	APPROVED
CURRENT AVG WATER BILL:	\$25.00 *			PROJECT TOTAL:	\$162,000
CURRENT % OF AGI:	0.98%	FINANCIAL PTS:	42	LOAN AMOUNT:	\$81,000
ESTIMATED MEDIAN AGI:	\$30,719			PRINC. FORGIVE.:	\$81,000
STATE AGI:	\$45,895			TOTAL REQUEST:	\$162,000
SYSTEM % OF STATE AGI:	67%				

	\$81,000 FULL LOAN	\$162,000 FULL LOAN		AFTER REPAYMENT PENALTY & POINTS
SYSTEM	2.50%	0.00%		0.00%
ASSUMED LENGTH OF DEBT, YRS:	20	30		30
ASSUMED NET EFFECTIVE INT. RATE:	2.50%	0.00%		0.00%
REQUIRED DEBT SERVICE:	\$5,195.92	\$5,400.00		\$2,700.00
*PARTIAL COVERAGE (15%):	\$779.39	\$810.00		\$405.00
*ADD. COVERAGE AND RESERVE (10%):	\$519.59	\$540.00		\$270.00
ANNUAL NEW DEBT PER CONNECTION:	\$240.55	\$250.00		\$125.00
O & M + FUNDED DEPRECIATION:	\$8,100.00	\$8,100.00		\$8,100.00
OTHER DEBT + COVERAGE:	\$10,500.00	\$10,500.00		\$10,500.00
REPLACEMENT RESERVE ACCOUNT:	\$0.00	\$0.00		\$0.00
ANNUAL EXPENSES PER CONNECTION:	\$688.89	\$688.89		\$688.89
TOTAL SYSTEM EXPENSES	\$25,094.90	\$25,350.00		\$21,975.00
TAX REVENUE:	\$0.00	\$0.00		\$0.00
RESIDENCE				
MONTHLY NEEDED WATER BILL:	\$77.45	\$78.24		\$67.82
% OF ADJUSTED GROSS INCOME:	3.03%	3.06%		2.65%

* Equivalent Residential Connections

Agenda Item

6(D)(ii)(e)

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

CHANGE FOR ADDITIONAL SCOPE

APPLICANT'S REQUEST

A loan of \$1,228,000 for 30 years with a 2.45% interest rate and \$176,000 in principal forgiveness was previously awarded to Big Water Town by the Drinking Water Board in 2016.

At this point in the construction project, **Big Water Town has a remaining contingency budget of approximately \$98,800.** The Town would like to use these remaining funds towards additional drinking water system improvements.

STAFF COMMENTS:

The **original scope of work** includes:

1. Refurbishing an existing 100,000 gallon concrete tank for use in the culinary water system
2. Add a standby power generator and fuel tank to the well pump house for emergency backup
3. Acquire and install radio read meters and data collection system to improve metering accuracy and reduce operational costs
4. Install a new 8" distribution line, and maintenance and replacement of 4 PRV facilities

Big Water Town came before the Board in **2018 to expand their scope**, this included:

1. Additional Pipeline Replacement - While addressing the original scope of pipeline replacements, the Town has encountered three other sections (approximately 850 feet each) of old, 4" pipeline
2. SCADA Repairs and Upgrades – Over the years the SCADA system for the water system has been repeatedly damaged by lightning and other power issues and has become outdated and mostly unusable.
3. Re-Equip North Well - The pump and motor in the Town's North Well have become worn and less efficient. The Town would like to use funds from the project contingency to re-equip the well now instead of waiting for a complete failure.

4. Backhoe, Trailer, Vehicle - Being a small system with only one maintenance employee, the Town often must hire out for equipment and labor to perform routine system maintenance.

Big Water requests additional expanded scope for a water line project, which comes at an estimated cost of \$101,040. This would spend the remaining budget in the original construction loan. Per the Town's request:

“The southwest part of the Town of Big Water has 7 lots that cannot be served by the existing culinary water system. The Town wishes to use the remaining funding from their current water project to include installation of an 8" water line, valves, and fire hydrants to this area. ...

The reason for the Town's desire to install these pipelines is that the property owners bordering the proposed pipelines have been paying an annual assessment to the water system for many years. This request is not development or speculation driven, but rather to serve those who have been paying into the system for years. ... The water system does not currently have the ability to deliver water to those lots and these improvements would make that possible.”

Please see the attached documentation including a discussion of the additional work and an itemized cost-estimate.

STAFF RECOMMENDATION:

The Drinking Water Board authorize an expanded scope of work to include a waterline project to the southwest section of the Town of Big Water.

APPLICANT'S LOCATION:

Big Water Town City is located in Kane County.

MAP OF APPLICANT'S LOCATION:



CONTACT INFORMATION:

APPLICANT:

Big Water Town
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bigwaterclerk@gmail.com

PRESIDING OFFICIAL &
CONTACT PERSON:

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TREASURER/RECORDER

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ENGINEER'S OPINION OF PROBABLE COST

Big Water Additional Pipeline
 Big Water

June 26, 2019
 TLN/dws

NO.	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
General Construction					
1	Mobilization	5%	LS	\$ 3,900.00	\$ 3,900.00
3	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
4	Materials Sampling & Testing	1	LS	\$ 1,500.00	\$ 1,500.00
5	Dust Control & Watering	1	LS	\$ 2,000.00	\$ 2,000.00
6	Construction Staking	1	LS	\$ 1,500.00	\$ 1,500.00
7	Erosion Control Compliance	1	LS	\$ 2,500.00	\$ 2,500.00
8	8" Gate Valve Assembly	1	EA	\$ 2,000.00	\$ 2,000.00
9	Fire Hydrant Assemblies	1	EA	\$ 4,500.00	\$ 4,500.00
10	Misc. Connections, Fittings, Tie-ins	1	LS	\$ 2,500.00	\$ 2,500.00
11	8" PVC Lines, Fittings, Tracer Wire, Bedding, Backfill, & Installation (C900 DR-	2,000	LF	\$ 30.00	\$ 60,000.00
					\$ 81,400.00
				10% Contingency	\$ 8,140.00
General Construction Total					\$ 89,540.00
Professional Services & Incidentals					
1	Funding & Administrative Services	0.0%	LS	\$ -	\$ -
3	Engineering Design	4.0%	LS	\$ 4,000.00	\$ 4,000.00
4	Survey	4.9%	LS	\$ 5,000.00	\$ 5,000.00
5	Bidding & Negotiating	0.0%	HR	\$ -	\$ -
6	Engineering Construction Services	2.5%	HR	\$ 2,500.00	\$ 2,500.00
7	Geotechnical Report	0.0%	EST	\$ -	\$ -
					Subtotal \$ 11,500.00
TOTAL PROJECT COST					\$ 101,040.00

In providing opinions of probable construction cost, the Client understands that the Engineer has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinion of probable construction cost provided herein is made on the basis of the Engineer's qualifications and experience. The Engineer makes no warranty, expressed or implied, as to the accuracy of such opinions compared to bid or actual costs.

Agenda Item

7(A)(i)

Proposed Improvement Priority System Program Document

PROPOSAL:

The proposed IPS Program document retains most of the violations and deficiencies found in the existing R309-400. In this IPS Program document, the current violations and deficiencies have been carefully reviewed, updated and reorganized into a table format. The IPS Program document identifies all deficiencies and violations with their associated types and point values.

The content of the IPS Program document is anticipated to be incorporated by reference in the proposed rule R309-400 (Improvement Priority System and Public Water System Ratings).

Any substantive revision to this IPS Program document in the future will require an approval from the Drinking Water Board.

HISTORY/CONTEXT:

The Board authorized the staff to begin public comment on the proposed Improvement Priority System (IPS) Program document on June 11, 2019. The public comment period was from June 12, 2019, to July 12, 2019.

A summary of the comments received and Division response is enclosed.

DIVISION STAFF/DIRECTOR RECOMMENDATION:

Division staff recommends that the Board approves the Improvement Priority System (IPS) Program document as effective August 27, 2019.

IMPLEMENTATION SCHEDULE:

The anticipated schedule of the rulemaking process for revising the existing R309-400 is as follows:

1. Drinking Water Board Approves the IPS Program Document – August 27, 2019
2. Drinking Water Board Authorizes Rulemaking to Amend Rule – August 27, 2019
3. File Proposed Rule Amendment with Office of Administrative Rules – August 30, 2019
4. Begin 30-Day Comment Period (Utah State Bulletin Publication) – September 15, 2019
5. End 30-Day Comment Period – October 15, 2019
6. Drinking Water Board Authorizes Rule Adoption – November 8, 2019
7. Implementation of the Revised R309-400 Starts – January 1, 2020

COST ESTIMATE:

The proposed amendment to R309-400 is not expected to result in costs or savings to the state budget, local governments, or small businesses. R309-400 does not add any new requirements to the existing rules, it only enforces them.

Utah Division of Drinking Water Improvement Priority System (IPS) Program

I. Introduction

The Improvement Priority System (IPS) program is used by the Division of Drinking Water (the Division) to evaluate public water system compliance with Title R309 of the Utah Administrative Code, and to prioritize noncompliance for enforcement action. Under IPS, the Division assesses points for noncompliance or public health risk and assigns ratings to public water systems.

Three documents affect how the Division implements the IPS program:

IPS Program

The IPS program, which is this document, identifies the points associated with noncompliance and the point thresholds for assigning public water system ratings. Substantive changes to the IPS program must be approved by the Drinking Water Board.

Utah Administrative Code R309-400, Improvement Priority System and Public Water System Ratings

The IPS rule establishes the IPS program, the Division's and the Director's authority, and a public water system's responsibility. Changes to the rule must go through the official rulemaking process. The Division plans to revise R309-400 in 2019. The implementation of the revised R309-400 starts January 1, 2020.

IPS Implementation Standard Operating Procedure (SOP)

The IPS SOP outlines the Division's internal procedures for implementing the IPS program. The SOP may be modified as needed by the Division.

II. Assessment of Points

1. The Division will assess points based on noncompliance with Title R309 of the Utah Administrative Code, noncompliance with a directive or order issued by the director, or operational practices or performance that may result in a threat to public health.
2. In general, the Points assessed for each category of health threat are as follows:
 - a) Low health risk – 5 points
 - b) Minor potential to cause harm – 15 points
 - c) Moderate potential to cause harm; chronic monitoring violations – 25 points
 - d) Significant potential to cause harm – 50 points
 - e) Acute monitoring violations – 100 points
 - f) Imminent health threat (automatic not-approved status) – 200 Points

3. **Appendix A** of the IPS program contains a table specifying the number of points associated with each instance of noncompliance with a drinking water rule requirement and noncompliance with a directive or order issued by the Director.
4. **Appendix B** of the IPS program contains a table specifying the number of points associated with each instance of noncompliance with a drinking water rule requirement when a violation is issued.
5. The Division may remove points when a water system submits written documentation of correction of a deficiency and/or violation with supporting evidence or when the noncompliance is resolved. In some cases, a site inspection by the Division staff may be required.

III. Public Water System Rating Thresholds

1. The Division will rate a public water system based on the point thresholds shown below or based on a written agreement with the Director.
2. The point thresholds for rating a public water system as Approved or Not Approved are different for each type of water system and are given below:
 - Community Water System – 150 points
 - Non-transient Non-community Water System – 120 points
 - Transient Non-community Water System – 100 points
3. The Division will assign Ratings to water systems in accordance with R309-400 as follows:
 - **Approved** – the total number of points is below the point threshold
 - **Not Approved** – the total number of points is equal to or greater than the point threshold or the Director finds a threat to public health
 - **Corrective Action** – a water system has entered into a written agreement with the Director to resolve its deficiencies according to a compliance schedule

IV. Changes to the IPS Program

1. Substantive changes to the IPS program must be reviewed and approved by the Drinking Water Board.
2. The Division may make non-substantive changes to the IPS Program.

Date of Approval by Drinking Water Board: [August 27, 2019](#)

Appendix A

Utah Division of Drinking Water R309-400 Rule - IPS Program Deficiency Points Table

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
General				
G004	INSUFFICIENT SYSTEM OWNERSHIP INFORMATION	MIN	15	R309-100-4(3)
A025	ADMINISTRATIVE ISSUES - SEE R309-400 FOR DETAILS	MIN	15	R309-400-11
A050	ADMINISTRATIVE ISSUES - SEE R309-400 FOR DETAILS	SIG	25	R309-400-11
A075	ADMINISTRATIVE ISSUES - SEE R309-400 FOR DETAILS	SIG	50	R309-400-11
A100	ADMINISTRATIVE ISSUES - SEE R309-400 FOR DETAILS	SIG	100	R309-400-11
A150	ADMINISTRATIVE ISSUES - SEE R309-400 FOR DETAILS	SIG	200	R309-400-11
A226	AFTER THE FACT OP ISSUED FOR FACILITY THAT DID NOT FOLLOW APPROVAL PROCESS. CODE REMAINS UNTIL FACILITY IS REPLACED OR UPDATED.	REC	0	R309-500-6
Management (Cross Connection Control, Operator Certification, Emergency Response, etc.)				
M020	CROSS CONNECTION EXISTS IN WATER SYSTEM	SIG	50	R309-105-12(1)
M003	CCC-LACKS LOCAL AUTHORITY	MIN	15	R309-105-12(2)
M004	CCC-NO ANNUAL PUBLIC EDUCATION OR AWARENESS	MIN	15	R309-105-12(2)
M005	CCC-LACKS OPERATOR TRAINING	MIN	15	R309-105-12(2)
M006	CCC-LACKS WRITTEN RECORDS OF CCC ACTIVITIES	MIN	15	R309-105-12(2)
M007	CCC-LACKS ON-GOING ENFORCEMENT IMPLEMENTATION	MIN	15	R309-105-12(2)
M008	SERVICE CONNECTIONS IN DISTRIBUTION SYSTEM RELY ON INDIVIDUAL HOME BOOSTER PUMP DUE TO INADEQUATE PRESSURE	SIG	50	R309-550-11(3)
M009	IMPROPER BACTERIOLOGICAL SAMPLE COLLECTING AND HANDLING	MIN	15	R309-215-4(3)
M014	CONFIRMED PATTERN OF UNSATISFACTORY DRINKING WATER QUALITY SAMPLES	SIG	25	R309-200-6, R309-105-18, R309-215-4(3)
M015	CONFIRMED WATER BORNE ILLNESS AS A RESULT OF PUBLIC DRINKING WATER CONTAMINATION	SIG	50	R309-105-18(f), R309-215-11
M016	HISTORY OF VERIFIED CUSTOMER COMPLAINTS REGARDING DRINKING WATER QUALITY OR QUANTITY	SIG	50	R309-105-18(f), R309-215-11
M017	WATER STAGNATION, BIOFILM OR SEDIMENTS CONTRIBUTES TO DRINKING WATER CONTAMINATION	SIG	50	R309-200-6, R309-105-18, R309-215-4(3)
M018	INTERRUPTION OF TREATMENT PROCESS CONTRIBUTES TO DRINKING WATER CONTAMINATION	SIG	50	R309-200-6, R309-105-18, R309-215-5, R309-215-4(3)
C001	SYSTEM DIRECT RESPONSIBLE CHARGE OPERATORS NOT CERTIFIED AT THE REQUIRED LEVEL	SIG	50	R309-105-11, R309-300-5(3)
C011	TREATMENT PLANT NOT OPERATED BY OPERATOR CERTIFIED TO THE REQUIRED LEVEL	SIG	50	R309-525-7(3)
M019	FAILURE TO SUBMIT REQUIRED WATER USE DATA ANNUALLY OR VERIFY DATA ACCURACY	MIN	15	R309-105-15(1)
G001	UNAPPROVED FACILITY IN SERVICE	SIG	50	R309-100-5(2), R309-500-6, R309-500-9, R309-500-9(2) and (3)
G006	USING UNAPPROVED TREATMENT PROCESS OR CHEMICAL	SIG	50	R309-105-6(1)(a), R309-500-6
G007	CONSTRUCTION WITHOUT PRIOR APPROVAL	SIG	50	R309-100-5(1), R309-105-6(1)(a), R309-500-6, R309-500-9, R309-500-9(3)
S001	UNAPPROVED SOURCE IN SERVICE	SIG	200	R309-515-6(1)(5), R309-515-7(7), R309-550-9(2) and (3)
M025	UNAPPROVED INTERCONNECTION WITH ANOTHER WATER SYSTEM	SIG	50	R309-550-9(3)
M026	LACKS OPERATIONAL RECORDS	SIG	25	R309-105-13

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
Minimum Sizing				
V031	SYSTEM LACKS UP TO 20% OF REQUIRED STORAGE CAPACITY (FIRE DEMAND NOT INCLUDED)	MIN	15	R309-510-8(1)(a)
V034	SYSTEM LACKS MORE THAN 20% OF REQUIRED STORAGE CAPACITY (FIRE DEMAND NOT INCLUDED)	SIG	50	R309-510-8(1)(a)
VF34	SYSTEM LACKS REQUIRED STORAGE CAPACITY DUE TO FIRE DEMAND BUT HAS SOP FOR FOLLOWING FIRE INCIDENT	MIN	15	R309-510-8(1)(b)
VF35	SYSTEM LACKS REQUIRED STORAGE CAPACITY DUE TO FIRE DEMAND AND LACKS SOP FOR FOLLOWING FIRE INCIDENT	SIG	25	R309-105-8(3), R309-510-8(1)(b)
S091	SYSTEM LACKS UP TO 20% OF REQUIRED SOURCE CAPACITY	MIN	15	R309-510-7(1)
S094	SYSTEM LACKS MORE THAN 20% OF REQUIRED SOURCE CAPACITY	SIG	50	R309-510-7(1)
Source Development				
TGR 7	COM SYSTEM SERVING 100 OR MORE CONNECTIONS LACKS REDUNDANT SOURCE	SIG	50	R309-515-4(3)
S033	COM SYSTEM WITHOUT NATURALLY FLOWING SOURCES LACKS BACKUP POWER FOR AT LEAST ONE WATER SOURCE	SIG	25	R309-515-6(2)(a)
S013	WELL LACKS THE REQUIRED WELL SEAL	SIG	50	R309-515-6(6)(i)
S005	WELL WITH PITLESS ADAPTOR NOT WATER TIGHT OR NOT PROTECTED AGAINST VANDALISM	SIG	50	R309-515-6(12)(c)
S006	END OF WELL CASING VENT LACKS NO. 14 SCREEN	SIG	25	R309-515-6(12)(d)(iii)
S007	WELL CASING VENT NOT DOWNTURNED			R309-515-6(12)(d)(iii)
S008	WELL CASING VENT LACKS AIR GAP AGAINST CONTAMINATION			R309-515-6(12)(d)(iii)
S028	AIR RELEASE VACUUM RELIEF VALVE PIPING NOT DOWNTURNED			R309-515-6(12)(d)(v)
S029	END OF AIR RELEASE VACUUM RELIEF VALVE PIPING LACKS NO. 14 SCREEN			R309-515-6(12)(d)(v)
S030	END OF AIR RELEASE VACUUM RELIEF VALVE PIPING LACKS A CLEARANCE OF AT LEAST 6 INCHES			R309-515-6(12)(d)(v)
SL01	WELL THAT PUMPS DIRECTLY TO DISTRIBUTION LACKS A MEANS TO RELEASE TRAPPED AIR	MIN	5	R309-515-6(12)(d)(v)
S003	WELL CASING TERMINATES LESS THAN 12 INCHES ABOVE FLOOR OR LESS THAN 18 INCHES ABOVE GROUND SURFACE	SIG	25	R309-515-6(6)(b)(vi), R309-515-6(12)(c)(ii), R309-515-6(13)(a)
S095	UNFINISHED WELL NOT CAPPED SECURELY	SIG	50	R309-515-6(8)(a), R655-4-14.1
S009	WELL PUMP-TO-WASTE LINE LACKS A CLEARANCE OF AT LEAST 12 INCHES	SIG	25	R309-515-6(12)(d)(ix)
S010	END OF WELL PUMP-TO-WASTE LINE LACKS NO. 4 SCREEN	SIG	25	R309-515-6(12)(d)(ix)
S011	WELL PUMP-TO-WASTE LINE NOT DOWNTURNED	SIG	25	R309-515-6(12)(d)(ix)
S015	WELL LACKS A MEANS TO MEASURE WATER LEVELS PERIODICALLY	MIN	5	R309-515-6(12)(e), R309-515-6(12)(c)(vi)
S002	WELL HOUSE NOT PROTECTED AGAINST VANDALISM	SIG	25	R309-105-10(5)
S020	WELL HEAD OR WELL HOUSE NOT PROTECTED FROM FLOODING	SIG	25	R309-515-6(6)(b)(vi), R309-515-6(12)(d)(iii), R309-515-6(13)(a) to (d)
S021	CROSS CONN EXISTS IN WELL HOUSE OR AT WELL HEAD	SIG	50	R309-105-12(1), R309-515-6(12)(d)(iii)
S022	WELL HOUSE LACKS A MEANS OF PROVIDING DRAINAGE	MIN	5	R309-515-6(13)(b)
S023	NO SMOOTH NOSED SAMPLING TAP ON WELL DISCHARGE PIPING	MIN	5	R309-515-6(12)(d)(iv)
S024	NO CHECK VALVE ON WELL DISCHARGE PIPING	MIN	5	R309-515-6(12)(d)(iv)
S025	NO PRESSURE GAUGE ON WELL DISCHARGE PIPING	MIN	5	R309-515-6(12)(d)(iv)
S026	NO FLOW METER ON WELL DISCHARGE PIPING	MIN	5	R309-515-6(12)(d)(iv)
S027	NO SHUTOFF VALVE ON WELL DISCHARGE PIPING	MIN	5	R309-515-6(12)(d)(iv)
S031	PUMP LUBRICANTS NOT ANSI/NSF 60 CERTIFIED MINERAL OIL	SIG	25	R309-105-10(7), R309-515-6(6)(a)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
S150	GWUDI OR SURFACE WATER SOURCE LACKS SURFACE WATER TREATMENT	SIG	200	R309-505-5(1)(a) to (d), R309-505-7(1), R515-7(3), R309-520-6(3)(a) and (4)
SS19	SPRING IMPERMEABLE LINER INADEQUATE OR NOT INTACT	SIG	50	R309-515-7(7)(b)
SS22	SPRING IMPERVIOUS SOIL COVER INADEQUATE OR NOT INTACT	SIG	50	R309-515-7(7)(b)
L014	SPRING COLLECTION BOX NOT PRESENT	MIN	5	R309-515-7(7)(c)
SS13	SPRING BOX LID NOT LOCKED	SIG	25	R309-515-7(7)(d), R309-545-14 (3)
SS09	SPRING BOX LID NOT SHOEBOX STYLE			R309-515-7(7)(d), R309-545-14 (2)
SS10	SPRING BOX LID LACKS A GASKET			R309-515-7(7)(d), R309-545-14 (2)
SS20	UNSEALED OPENINGS IN SPRING COLLECTION BOX	SIG	50	R309-515-7(7)(d), R309-545-14 (1)
SS12	SPRING BOX ENTRY NOT ELEVATED AT LEAST 18 INCHES ABOVE EARTHEN COVER	MIN	15	R309-515-7(7)(d), R309-545-14 (1),
SS11	SPRING BOX LACKS A MEANS OF VENTING	MIN	5	R309-515-7(7)(d), R309-545-15
SS16	SPRING BOX VENT NOT DOWNTURNED	SIG	25	R309-515-7(7)(d), R309-545-15(1)
SS17	SPRING BOX VENT LACKS NO. 14 SCREEN			R309-515-7(7)(d), R309-545-15(4)
SS18	END OF SPRING BOX VENT IS AT LEAST 24 INCHES ABOVE EARTHEN COVER			R309-515-7(7)(d), R309-545-15(23)
SS15	HEIGHT OF SPRING BOX VENT NOT SIZED TO PREVENT BLOCKAGE IN WINTER			R309-515-7(7)(d), R309-545-15(3)
SS23	SPRING BOX LACKS A MEANS OF PROVIDING OVERFLOW	MIN	15	R309-515-7(7)(d), R309-545-13(1)
SS14	SPRING BOX OVERFLOW OR DRAIN LACKS A FREE FALL OF 12 TO 24 INCHES	SIG	25	R309-515-7(7)(d), R309-545-13
SS04	SPRING BOX OVERFLOW LACKS NO. 4 SCREEN			R309-515-7(7)(d), R309-545-10(1)(d), R309-545-13(3)
SS02	SPRING COLLECTION AREA NOT FENCED	MIN	15	R309-515-7(7)(e)
SS03	SPRING LACKS A DIVERSION CHANNEL OR BERM TO DIVERT RUNOFF AWAY FROM SPRING COLLECTION AREA	MIN	15	R309-515-7(7)(g)
SS01	LACKS A PERMANENT DEVICE FOR MEASURING SPRING FLOW	MIN	5	R309-515-7(7)(h)
SS06	PONDING WITHIN SPRING COLLECTION AREA	SIG	25	R309-515-7(7)(i)
SS07	DEEP ROOTED VEGETATION IN SPRING COLLECTION AREA	SIG	25	R309-515-7(7)(f)
SS08	ROOTS IN SPRING COLLECTION PIPES	SIG	25	R309-105-10(4)(a)
SS24	HERBICIDE, PESTICIDES OR ALGICIDES APPLIED ARE NOT ANSI NSF 60 CERTIFIED AND WITHOUT APPROVAL	SIG	50	R309-105-10(4)(b), R309-515-8(1)(b) and (3)
Disinfection Methods				
TD75	LACKS SPARE PARTS OR BACKUP EQUIPMENT FOR CHLORINATOR	MIN	15	R309-520-7(1)(k)(i and ii), R309-520-6(1)(a) and (c)
TD41	CLEANING CHEMICALS DO NOT MEET ANSI NSF 60 STANDARD	SIG	50	R309-520-8(3)(j)
TD90	ADDING CHEMICALS THAT DO NOT MEET ANSI NSF 60 STANDARD			R309-520-6(2)
TD47	QUENCHING CHEMICALS DO NOT MEET ANSI NSF 60 STANDARD			R309-520-9(4)(h)
TD78	LACKS EQUIPMENT FOR CHLORINE RESIDUAL TESTING	MIN	15	R309-520-7(1)(j)
TD22	LACKS BACKUP POWER SUPPLY FOR REQUIRED DISINFECTION	SIG	25	R309-520-7(1)(k)(iii)
TD42	UNABLE TO ISOLATE UV REACTOR FOR MAINTENANCE	MIN	15	R309-520-8(3)(g)
TD43	LACKS BACKUP POWER SUPPLY FOR REQUIRED UV DISINFECTION	SIG	25	R309-520-8(3)(l)
TD44	LACKS REDUNDANT PRIMARY DISINFECTION METHOD IF UV REACTOR IS OFF SPEC	SIG	25	R309-520-8(3)(m)
TD25	DISINFECTION IS REQUIRED BUT DISINFECTION IS INTERMITTENT OR NOT CONTINUOUS	SIG	50	R309-520-6(1)(a)
TD39	UV FACILITY LACKS STANDARD OPERATING PROCEDURES	MIN	15	R309-520-8(4)(b)
TD97	INSUFFICIENT UV DOSE FOR REQUIRED TREATMENT	SIG	25	R309-525-8(1)(b)(iv), R309-215-15(19)(d)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
TD08	CHLORINATOR BUILDING NOT HEATED, LIGHTED OR VENTILATED	MIN	15	R309-520-7(1)(l)
TD69	INCOMPATIBLE CHEMICALS STORED IN CHLORINE ROOM	SIG	25	R309-520-7(1)(m)
TD91	CHLORINATOR LACKS A MEANS TO MEASURE FLOW OF TREATED WATER	SIG	25	R309-520-7(1)(i)
TD01	CONTINUOUS DISINFECTION IS REQUIRED BUT CHLORINATOR LACKS AUTOMATIC SWITCHOVER	MIN	15	R309-520-7(2)(a), R309-520-6(1)
TD09	CHLORINE ROOM EXHAUST FAN SUCTION NOT LOCATED NEAR FLOOR	MIN	15	R309-520-7(2)(d)(iii)
TD10	CHLORINE ROOM AIR INLET NOT LOCATED NEAR CEILING THROUGH WALL LOUVERS	MIN	15	R309-520-7(2)(d)(iv)
TD12	LACK SEPARATE SWITCHES FOR FAN AND LIGHTS NEAR CHLORINE ROOM ENTRANCE	MIN	15	R309-520-7(2)(d)(v)
TD13	CHLORINE VENT LINE NOT DISCHARGED OUTSIDE ABOVE GRADE OR LACKS NO. 14 SCREEN	SIG	25	R309-520-7(2)(e)
TD17	CHLORINE CYLINDERS ARE EXPOSED TO DIRECT SUN OR EXCESSIVE HEAT	SIG	25	R309-520-7(2)(f)(ii)
TD92	GAS CHLORINATION EQUIPMENT NOT SECURE OR LACKING PROPER HOUSING	SIG	25	R309-520-7(2)(f)(i)
TD15	CHLORINE CYLINDERS NOT RESTRAINED	SIG	25	R309-520-7(2)(h)
TD16	INADEQUATE DISINFECTION FOR GROUND WATER SOURCE REQUIRED TO DISINFECT	SIG	200	R309-520-6(3)(b) and (4)
TD02	LACKS EQUIPMENT TO MEASURE CHLORINE FEED RATE	SIG	25	R309-520-7(1)(c), R309-520-7(2)(i)
TD21	CROSS CONNECTION EXISTS IN CHLORINE MAKEUP WATER SUPPLY LINE	SIG	25	R309-520-7(1)(h)(i)
TD14	NO AMMONIA HYDROXIDE SOLUTION FOR CHLORINE LEAK DETECTION	MIN	15	R309-520-7(2)(l)(i)
TD04	150-POUND CYLINDER FACILITY LACKS IMMEDIATE ACCESS TO NIOSH RESPIRATOR	SIG	25	R309-520-7(2)(k)(ii)
TD06	1-TON CYLINDER FACILITY LACKS IMMEDIATE ACCESS TO NIOSH SELF-CONTAINED BREATHING APPARATUS	SIG	25	R309-520-7(2)(k)(i)
TD05	1-TON CYLINDER FACILITY LACKS A LEAK REPAIR KIT APPROVED BY CHLORINE INSTITUTE	SIG	25	R309-520-7(2)(l)(ii)
TD19	1-TON CYLINDER FACILITY LACKS CONTINUOUS CHLORINE LEAK DETECTION EQUIPMENT	SIG	25	R309-520-7(2)(l)(iii)
TD23	1-TON CYLINDER FACILITY LACKS ALARMS ON CONTINUOUS CHLORINE LEAK DETECTOR	SIG	25	R309-520-7(2)(l)(iv)
TD93	1-TON CYLINDER OPERATING AREA LACKS GAS SCRUBBER	SIG	25	R309-520-7(2)(b)
TD18	1-TON CYLINDER CHLORINE ROOM VENTILATION NOT INDEPENDENT OR SEPARATE FROM VENTILATION FOR THE REST OF THE TREATMENT PLANT	SIG	25	R309-520-7(2)(d)(iv)
TD66	HYPOCHLORITE FACILITY LACKS A MEANS OF EMERGENCY EYEWASH	SIG	25	R309-520-7(3)(a)(i)
TD67	HYPOCHLORITE LIQUID NOT PROTECTED FROM EXCESSIVE HEAT OR DIRECT SUNLIGHT	MIN	5	R309-520-7(3)(a)(ii)
TD68	NO RECORDS KEPT TO MINIMIZE USE OF DECAYED HYPOCHLORITE SOLUTION	MIN	5	R309-520-7(3)(b)
TD24	HYPOCHLORITE TANK LACKS A LIQUID LEVEL INDICATOR	MIN	5	R309-525-11(6)(a)(iv)(A)
TD29	HYPOCHLORITE FACILITY DOES NOT HAVE ADEQUATE SPILL CONTAINMENT	MIN	5	R309-525-11(6)(a)(iv)(B)
TD70	CHLORINE SOLUTION MAKEUP WATER NOT OF DRINKING WATER QUALITY	SIG	25	R309-520-7(1)(h)(i), R309-520-7(3)(c)(iii)

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TD71	HYDROGEN GAS FROM ONSITE HYPOCHLORITE GENERATION ELECTROLYTIC CELL NOT VENTED UPWARD TO OUTSIDE	SIG	50	R309-520-7(3)(c)(iv)
TD72	HYPOCHLORITE TABLETS NOT STORED IN COOL, DRY AND VENTED AREA	MIN	5	R309-520-7(3)(d)(iii)
TD73	HYPOCHLORITE TABLETS STORED WITH COMBUSTIBLE MATERIALS OR ACIDS	SIG	25	R309-520-7(3)(d)(iii)
TD26	FAIL TO PROVIDE DISINFECTION CT OR REPORT INACCURATE CT FOR REQUIRED TREATMENT	SIG	50	R309-505-5(3), R309-505-7(2), R309-520-4 and 6(4)
TD46	OZONE FACILITY LACKS ADEQUATE OZONE RESIDUAL ANALYZERS FOR CT DETERMINATION	MIN	15	R309-520-9(7)(c)
TD48	OZONE OFFGAS BLOWERS NOT FUNCTIONING	MIN	15	R309-520-9(5)(b)
TD49	OZONE OFFGAS DESTRUCTION UNITS NOT PROVIDED OR NOT FUNCTIONING	MIN	15	R309-520-9(5)(a)
TD31	CHLORINE DIOXIDE FACILITY LACKS EMERGENCY EYEWASH AND SAFETY SHOWER	SIG	25	R309-520-10(3)(b)(viii)
TD32	NO EMERGENCY SHUTOFF FOR CHLORINE DIOXIDE GENERATOR	SIG	25	R309-520-10(3)(b)(ix)
TD34	NO AMBIENT CHLORINE DIOXIDE SENSOR OR ALARM OR WARNING LIGHT	SIG	25	R309-520-10(3)(b)(v)
TD35	CHLORINE DIOXIDE OPERATING AREA LACKS WASH DOWN WATER	MIN	15	R309-520-10(3)(b)(xvi)
TD28	COMBUSTIBLE OR REACTIVE MATERIALS STORED IN CHLORINE DIOXIDE OPERATING AREA	SIG	50	R309-520-10(5)(a)
TD30	PERSONAL PROTECTIVE EQUIPMENT NOT AVAILABLE NEAR AND OUTSIDE OF CHLORINE DIOXIDE OPERATING AREA	SIG	25	R309-520-10(5)(c)
TD33	CHLORINE DIOXIDE OPERATING AREA AND SOLUTION TANKS NOT PROPERLY VENTED	MIN	15	R309-520-10(5)(k), R309-525-11(8)(b)(vi)
TD36	CHLORINE DIOXIDE OPERATING AREA TEMPERATURES NOT MAINTAINED BETWEEN 60 AND 100 DEGREES F	MIN	15	R309-520-10(5)(d)
TD37	CHLORINE DIOXIDE FACILITY LACKS SAFETY AND EMERGENCY MANUAL OR OPERATORS LACKS SAFETY AND EMERGENCY TRAINING	SIG	25	R309-520-10(5)(f)
Surface Water Treatment and Miscellaneous Treatment Methods				
TD58	STANDBY POWER NOT AVAILABLE FOR PRIMARY TREATMENT PROCESS FOR SURFACE WATER TREATMENT	SIG	25	R309-525-7(5), R309-525-11(7)(b)(iii)
TD59	BACKUP EQUIPMENT OR SPARE PARTS NOT AVAILABLE FOR CRITICAL TREATMENT ITEMS	SIG	25	R309-525-7(6), R309-525-11(7)(b)(i) and (iii)
TC15	PIPING NOT COLOR CODED OR LABELED TO INDICATE CONTAINED LIQUID AND FLOW DIRECTION	MIN	5	R309-525-8
TD79	NO MEANS TO MEASURE FLOW RATE OF WATER TREATED	SIG	25	R309-525-11(7)(d)(iii) and R309-252-11(7)(a)(i)
TD99	NO MEANS TO MEASURE QUANTITIES OF CHEMICALS USED	SIG	25	R309-525-11(7)(d)(iv)
TD62	NO SAMPLE TAP FOR EACH UNIT OPERATION OF TREATMENT	MIN	15	R309-525-18
TD74	PERSONAL PROTECTIVE EQUIPMENT, SAFETY SHOWER OR EYEWASH NOT PROVIDED	SIG	25	R309-525-11(10)(b)
TD76	INADEQUATE MEANS TO MAINTAIN DISINFECTANT RESIDUAL IN THE WATER ENTERING THE DISTRIBUTION SYSTEM	SIG	25	R309-215-10(2), R309-520-7(1)(c)(iii)
TG31	NO SAMPLE TAP FOR TESTING FINISHED WATER	MIN	15	R309-525-18, R309-525-25(4)
TG35	CROSS CONNECTION BETWEEN UNTREATED WATER AND FINISHED WATER	SIG	50	R309-520-7(1)(h), R309-525-11(9)(a) and (b)
TG53	NO BACKFLOW PROTECTION ON IN-PLANT WATER SUPPLY LINE	SIG	50	R309-525-11(9)(a)
TX07	NO BACKFLOW PROTECTION ON CHEMICAL MAKEUP WATER SUPPLY LINE	SIG	50	R309-525-11(2)(c), R309-525-11(9)(b)(i) to (iv)

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TX08	SOLUTION TANK OVERFLOW PIPE NOT DOWNTURNED OR LACKING A CLEARANCE OF 6 INCHES OR MORE	SIG	50	R309-525-11(8)(b)(v), R309-525-11(9)(b)(iii)
TG64	IN-PLANT WATER SUPPLY LACKS CROSS CONNECTION CONTROL	SIG	50	R309-525-11(9)(a)(iii) and (b)
T027	IN-PLANT WATER SUPPLY TO LABORATORY AND SANITARY FACILITIES NOT OF FINISHED WATER QUALITY	SIG	25	R309-525-16, R309-525-17(3)
TD94	PRESEDIMENTATION BASINS NOT EQUIPPED FOR SLUDGE REMOVAL	MIN	15	R309-525-10(1)
T001	PLANT LACKS PROVISION FOR BYPASSING PRESEDIMENTATION BASINS	MIN	15	R309-525-10(3)
TC07	ACTIVATED CARBON APPLICATION POINT NOT APPROPRIATE (BEFORE OXIDANT ADDITION)	MIN	15	R309-525-11(2)(a) and (d)
TC10	ACTIVATED CARBON NOT STORED SEPARATELY OR AWAY FROM INCOMPATIBLE CHEMICALS	SIG	25	R309-525-11(7)(a)(iv), R309-105-10
TC17	ACTIVATED CARBON STORAGE AND OPERATION AREA NOT CLEAN, DRY OR SAFE FOR OPERATOR SAFETY	SIG	25	R309-525-11(6)(a)(i)(C), R309-525-11(6)(c), R309-525-19, R309-105-10, R309-525-15(d)
TX09	BACKUP OR STANDBY CHEMICAL FEEDER NOT AVAILABLE	MIN	15	R309-525-11(7)(b)(i) and (ii)
TG21	CHEMICAL FEEDER NOT ACCURATE, CALIBRATED OR FUNCTIONING	SIG	25	R309-525-11(7)(a)(i) and (x)
T080	CHEMICALS USED FOR DRINKING WATER TREATMENT NOT ANSI NSF 60 CERTIFIED	SIG	25	R309-525-11(5), R309-525-25(1), R309-535-11(5)(d)
TG05	SAFETY DATA SHEET INFO INCLUDING CHEMICAL NAME, PURITY, CONCENTRATION AND SUPPLIER, NOT AVAILABLE FOR ALL CHEMS	MIN	15	R309-525-11(5)(a), R309-525-11(6)(b)(i)
TD98	LACKS OPERATIONAL RECORDS FOR CHEMICAL DOSING	MIN	15	R309-105-14(3)
TG19	INCOMPATIBLE CHEMICALS ARE FED, STORED OR HANDLED TOGETHER	SIG	25	R309-525-11(7)(a)(iv)
TG09	NO MEANS TO MEASURE LIQUID LEVEL IN SOLUTION TANK	MIN	15	R309-525-11(6)(a)(iv)(A), R309-525-11(8)(b)(ii), R309-525-11(8)(c)(iv)
TG59	LACKS CONTAINMENT PROVISIONS TO HANDLE SOLUTION TANK SPILLS OR OVERFLOWS	MIN	15	R309-525-11(6)(a)(iv)(B), R309-525-11(8)(b)(viii)
TG10	SOLUTION TANK LACKS AN INVERTED J VENT OR A MEANS OF VENTING	MIN	5	R309-525-11(6)(a)(iv)(C)
TG13	ACID SOLUTION NOT KEPT IN CLOSED ACID-RESISTANT CONTAINERS	MIN	15	R309-525-11(6)(a)(v)
TG17	DUST CONTROL AND VENTILATION NOT ADEQUATE FOR HANDLING DRY CHEMICALS	MIN	15	R309-525-11(6)(c)
TG60	ACID TANK NOT VENTED TO OUTSIDE	MIN	15	R309-525-11(8)(b)(vi)
TG03	SOLUTION TANKS AND CHEMICAL REFILL LINES NOT LABELED	MIN	15	R309-525-11(8)(c)(vii)
TG18	SOLUTION TANK NOT PROTECTED AGAINST BACKFLOW OR NOT PROVIDED WITH A VALVED DRAIN	SIG	50	R309-525-11(8)(b)(vii)
TD64	CHEMICAL SOLUTION NOT COVERED OR TANK ACCESS OPENINGS NOT COVERED	MIN	5	R309-525-11(8)(b)(iii)
T081	FLASH MIX PROCESS FUNCTIONS IMPROPERLY OR CHEMICAL FOR FLASH MIXING ADDED IMPROPERLY	MIN	15	R309-525-12(1)
T082	FLOCCULATION PROCESS FUNCTIONS IMPROPERLY	MIN	15	R309-525-12(2)
T083	NO MEANS TO DETERMINE ANTICIPATED COAGULANT DOSE	MIN	15	R309-525-11(2)(a) and (d)
T043	FILTER OR MEDIA NOT CLEANED, INSPECTED, MAINTAINED OR PROPERLY FUNCTIONING	SIG	25	R309-105-10, R309-525-19, R309-525-15(4)(a), R309-525-15(4)(b)(ii to v), R309-525-15(4)(c)(ii to vi)
T021	INSTRUMENTATION AND CONTROLS IN TREATMENT PLANT NOT MAINTAINED, OPERABLE OR FUNCTIONING PROPERLY	SIG	25	R309-525-25(4)
T004	FILTRATION BASINS LACK SAFETY HANDRAILS	SIG	25	R309-525-15(6)(n)
T074	NO FILTER-TO-WASTE PROVISION FOR EACH FILTER	SIG	25	R309-525-15(6)(p)
TT01	TURBIDIMETER NOT CALIBRATED OR MAINTAINED FOR ACCURATE CONTINUOUS MONITORING OF TREATMENT PROCESSES	SIG	50	R309-525-25(4)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
T002	PRIMARY COAGULANT NOT USED PROPERLY	SIG	50	R309-525-11(1)(a)
T084	REQUIRED DISINFECTANT NOT ADDED TO FINISHED WATER	SIG	50	R309-525-11(1)(b)
T005	MULTI-MEDIA FILTER NOT PROVIDED WITH CONTINUOUS TURBIDITY MONITORING	SIG	50	R309-525-15(4)(b)(vi), R309-525-15(4)(c)(vii)
T085	MULTI-MEDIA FILTER NOT EQUIPPED TO INITIATE AUTOMATIC SHUTDOWN OR BACKWASH	SIG	50	R309-525-15(4)(b)(vi), R309-525-15(4)(c)(vii)
T006	NO SAMPLE TAP OR A MEANS TO SAMPLE RAW WATER OR FINISHED WATER	SIG	25	R309-525-15(10)(a)(i)
T007	NO MEANS TO MONITOR MEDIA FILTER HEAD LOSS	SIG	25	R309-525-15(10)(a)(ii)
T008	NO MEANS TO MONITOR OR RECORD FLOW RATE OF EACH FILTER	MIN	15	R309-525-15(10)(a)(iii), R309-525-15(2)
T076	INADEQUATE WATER SUPPLY OR FLOW RATE TO MEET FILTER BACKWASH NEEDS	MIN	15	R309-525-15(7)(a)(iv)
T075	BACKWASH WATER SUPPLY NOT OF FINISHED DRINKING WATER QUALITY	SIG	50	R309-525-15(7)(a)(ix)
T009	SLOW SAND PROCESS DOES NOT HAVE AT LEAST 3 FILTER UNITS	MIN	15	R309-530-6(5)(a)
T086	SLOW SAND FILTERS ARE NOT PROTECTED TO PREVENT FREEZING	MIN	15	R309-530-6(5)(b)
T087	SLOW SAND FILTERS DO NOT HAVE AT LEAST 24 INCHES OF SAND THAT MEETS RULE REQUIREMENTS	MIN	15	R309-530-6(5)(e) and (f)
T089	SLOW SAND FILTERS DOES NOT HAVE FILTER-TO-WASTE PROVISION	SIG	25	R309-530-6(5)(k)
T088	SLOW SAND FILTERS ARE NOT MAINTAINED OR OPERATED PROPERLY	MIN	15	R309-530-6(4)
T090	SOURCE WATER QUALITY OR TURBIDITY UNSUITABLE FOR SLOW SAND TREATMENT	SIG	50	R309-530-6(2)(a)
T091	INADEQUATE DIRECT INTEGRITY TESTING TO MONITOR MEMBRANE INTEGRITY FOR EACH MEMBRANE UNIT	SIG	50	R309-215-15(18)(b)(iii)
T092	INADEQUATE CONTINUOUS INDIRECT INTEGRITY TESTING TO MONITOR MEMBRANE INTEGRITY FOR EACH UNIT	SIG	50	R309-215-15(18)(b)(iv)
T093	INCORRECT CONTROL LIMIT OF MEMBRANE DIRECT INTEGRITY TEST SENSITIVITY TO INDICATE LOG REMOVAL	SIG	50	R309-215-15(18)(b)(iii)c
T094	INCORRECT TRIGGER FOR MEMBRANE CONTINUOUS INDIRECT INTEGRITY TESTING	SIG	50	R309-215-15(18)(b)(iv)
T095	INSUFFICIENT BACKWASH WATER SUPPLY TO ALLOW BACKWASHING 2 MEMBRANE UNITS CONSECUTIVELY	MIN	15	R309-525-15(7)(a)(iv)
TD95	GAS CHLORINE ROOM IN TREATMENT PLANT LACKS OUTWARD-OPENING EXIT DOOR WITH PANIC BAR	SIG	25	R309-520-7(2)(g)(iii)
TD96	GAS CHLORINE ROOM IN TREATMENT PLANT HAS FLOOR DRAINS THAT CONNECT TO OTHER DRAINS IN THE PLANT	SIG	25	R309-520-7(2)(g)(iv)
TD56	GAS CHLORINE ROOM IN TREATMENT PLANT LACKS SHATTER RESISTANT INSPECTION WINDOW(S)	SIG	25	R309-520-7(2)(g)(i)
TD07	GAS CHLORINE AREA IN TREATMENT PLANT NOT SEPARATE FROM OTHER AREAS	SIG	25	R309-520-7(2)(g)(v)
T096	CLEAR WELL INADEQUATELY DESIGNED TO PROVIDE REQUIRED DISINFECTION CT	SIG	25	R309-525-16(b) and (b)(i)
T018	CLEAR WELL LACKS AN OVERFLOW AND VENT	SIG	25	R309-525-16(1)(b)(iii), R309-545
T019	LACKS SUFFICIENT LABORATORY EQUIPMENT FOR PROPER O&M OF THE PLANT	SIG	25	R309-525-17(1)
TG20	DAILY RECORDS DO NOT REFLECT DOSAGES ACCURATELY	SIG	25	R309-105-14(3)(a)
T033	MEDIA DEPTHS NOT MEETING REQUIREMENTS	SIG	25	R309-525-15(4)
TGR2	TRIGGER FOR BACKWASH RECYCLING REVIEW	MIN	15	R309-215-8(4)
TGR3	TRIGGER FOR UNDOCUMENTED FACILITY OR PROCESS	MIN	15	R309-105-6
T097	LACKS MONITORING OR RECORDS OF RECYCLED WATER	MIN	15	R309-215-8(1)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
TGR9	TRIGGER FOR REGULATORY FOLLOWUP TO ADDRESS CONCERNS	MIN	15	R309-105-8, R309-100 through 605
T098	FAIL TO MEET GIARDIA, VIRUS OR CRYPTOSPORIDIUM TREATMENT REQUIREMENTS	SIG	100	R309-505-5(1)(d), R309-215
T099	INCORRECT SURFACE WATER TREATMENT COMPLIANCE WATER QUALITY SAMPLING LOCATION	SIG	25	R309-215
T028	INCORRECT COMPLIANCE CHLORINE RESIDUAL SAMPLING LOCATION	SIG	25	R309-216
T029	CHEMICAL DOSING NOT PROPORTIONAL TO FLOW CHANGES	MIN	15	R309-525-11(7)(d)(ii)
T032	OPERATING FILTER ABOVE APPROVED LOADING RATE	MIN	15	R309-105, R309-525-15(2), R309-525-15(4)(a), R309-525-15(4)(b)(v), R309-525-15(4)(c)(vi), R309-525-15(2), R309-530
TF04	FL CHEMICAL LACKS ANSI NSF 60 CERTIFICATION	SIG	25	R309-535-5(2)(a)(i)
TF06	FL CHEMICAL CONTAINER NOT COVERED OR UNOPENED	MIN	15	R390-535-5(2)(b)(i)
TF01	FL DOSING NOT CALCULATED OR RECORDED DAILY	MIN	15	R309-105-14(3)
TF02	FL MONITORING AND REPORTING NOT MEETING HEALTH DEPARTMENT REQUIREMENTS	MIN	15	R309-105-14(3), R309-535-5(1)
TF03	FL FACILITY LACKS SECONDARY CONTROL MECHANISM TO PREVENT OVERFEED	SIG	50	R309-535-5(2)(h)
TF28	FL IMPROPER STORAGE OF CHEMICALS	MIN	15	R309-535-5(2)(b)(ii), (iii) and (iv)
TF36	FL DRY CHEMICALS NOT STORED ON PALLETS	MIN	5	R309-535-5(2)(b)(iii)
TF41	FL INADEQUATE DISPOSAL OF BAGS, DRUMS OR BARRELS	MIN	15	R309-535-5(5)(c)(i)
TF18	FL IMPROPER OVERFLOW FROM BULK TANK OR DAY TANK	MIN	15	R309-525-11(6)(a)(i)(B) and (iv)(B), R309-535
TF20	FL LACKS OPERATIONAL RECORDS OF CHEM DOSE AND QUANTITY USED	MIN	15	R309-105-14(3)
TF26	FL ACID RESISTANT SPILL CONTAINMENT INADEQUATE OR NOT PROVIDED	SIG	25	R309-535-5(2)(c)(i), (ii) and (iii)
TF14	FL NO MEANS TO MEASURE CHEMICAL QUANTITY USED	SIG	25	R309-535-5(2)(d)(ii)
TF10	EMERGENCY EYEWASH NOT PROVIDED FOR FL SATURATOR OR DRY FEEDER	SIG	25	R309-535-5(4)(g), R309-535-5(5)(d)
TF11	FL NO MEANS TO MEASURE FLOW OF WATER TO BE TREATED	SIG	25	R309-535-5(2)(d)(i)
TF22	FL FEED PUMP STARTS WITHOUT WELL OR SERVICE PUMP RUNNING AND WATER FLOWING IN THE PIPE	SIG	100	R309-535-5(2)(f)
TF16	FLUORIDE INJECTION LINE DOES NOT ENTER IN THE LOWER 1/3 OF WATER PIPE	MIN	5	R309-535-5(2)(g)(i)
TF50	INJECTING FLUORIDE UPSTREAM OF LIME SODA SOFTENING, ION EXCHANGE OR OTHER SOFTENING PROCESS	MIN	15	R309-525-25(4)
TF23	FLUORIDATION EQUIPMENT NOT HOUSED IN SECURE BUILDING	SIG	25	R309-535-5(2)(h)(i)
TF24	FL ACID STORAGE OR INJECTION AREA LACKS VENTING TO OUTSIDE AND AWAY FROM AIR INTAKES	MIN	15	R309-535-5(2)(j)(iii)
TF25	NO SEPARATE SWITCHES FOR FANS AND LIGHTS IN FLUORIDE AREA	MIN	15	R309-535-5(2)(j)(iv)
TF27	MAKEUP WATER SUPPLY FOR FL FACILITY LACKS BACKFLOW PROTECTION	SIG	50	R309-535-5(2)(k), R309-535-5(4)(d)
TF42	FL NEUTRALIZING CHEMICAL IS NOT AVAILABLE FOR IMMEDIATE USE FOR ACID SPILLS	SIG	25	R309-535-5(3)(e)
TF29	FL VENTS DO NOT DISCHARGE OUTSIDE ABOVE GRADE	MIN	15	R309-535-5(3)(b)(ii)
TF21	FL TEST EQUIPMENT NOT VERIFIED OR CALIBRATED	MIN	15	R309-525-25(4)
TF31	FL ACID BULK AND DAY TANKS DO NOT HAVE SEPARATE VENTS WHEN BULK TANK OVERFLOW RISK EXISTS	MIN	15	R309-535-5(3)(b)(iii)
TF30	FL ACID FACILITY CONSTRUCTED AFTER JAN 1, 2017 LACKS A VIEW WINDOW BETWEEN OPERATING AREA AND CONTROL ROOM	MIN	15	R309-535-5(3)(c)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
TF15	FL ACID FACILITY LACKS SAFETY SHOWERS AND EYEWASH	SIG	25	R309-535-5(3)(d)
TF13	FL FACILITY INADEQUATE PERSONAL PROTECTIVE EQUIPMENT PROVIDED	SIG	25	R309-535-5(3)(f), R309-535-5(4)(h), R309-535-5(5)(e)
TF32	FL ACID FACILITY LACKS A MEANS TO STOP TRANSFER PUMP TRANSFERRING ACID FROM BULK TANK TO DAY TANK	REC	0	recommendation
TF33	FL ACID FACILITY LACKS AN EMERGENCY SHUTOFF FOR FL FEED PUMP OR TRANSFER PUMP	REC	0	recommendation
TF34	FL ACID FACILITY LACKS MEANS TO HANDLE CATASTROPHIC FAILURE OF ACID BULK TANK	REC	0	recommendation
TF35	FL ACID FACILITY LACKS SEISMIC RESTRAINT FOR ACID BULK TANK	REC	0	recommendation
TF43	FL SATURATOR LACKS A MEANS OF MEASURING QUANTITY OF CHEMICAL SOLUTION USED	SIG	25	R309-535-5(4)(a)
TF44	NO SAMPLE TAP AVAILABLE FOR TESTING FL LEVEL IN TREATED WATER	MIN	15	R309-535-5(2)(d)(iii)
TF12	INSUFFICIENT FL CRYSTAL AMOUNT IN FL SATURATOR TANK (BELOW MINIMUM LEVEL MARKED ON OUTSIDE OF SATURATOR TANK)	MIN	15	R309-535-5(4)(b)
TF37	FL DISSOLUTION WATER NOT TREATED TO HARDNESS LESS THAN 75 MG/L	MIN	15	R309-535-5(4)(e)(i)
TF39	FL DRY FEED FACILITY LACKS EXHAUST FAN AND DUST FILTER FOR TRANSFER OF DRY CHEMICALS	MIN	15	R309-535-5(5)(c)(ii)
TF47	FL DRY FEED SOLUTION TANK LACKS MECHANICAL MIXER	MIN	15	R309-535-5(5)(a) and (b)
TF40	FL DRY FEED FACILITY DISCHARGES EXHAUST AIR TO ATMOSPHERE WITHOUT THROUGH DUST FILTER	MIN	15	R309-535-5(5)(c)(iii)
TI05	POLYPHOSPHATE SEQUESTRATION USED FOR IRON MANGANESE CONTROL WHEN IRON OR MANGANESE OR COMBINATION EXCEEDS 1 MG/L	MIN	15	R309-535-11(5)
TQ06	TOTAL PHOSPHATE APPLIED EXCEEDS 10 MG/L AS PO4 FOR IRON MANGANESE CONTROL	MIN	15	R309-535-11(5)
TQ08	LACKS CHLORINE RESIDUAL IN DISTRIBUTION SYSTEM WHEN USING POLYPHOSPHATE SEQUESTRATION FOR IRON MANGANESE CONTROL	MIN	15	R309-535-11(5)
TQ04	APPLY POLYPHOSPHATE PRIOR TO IRON MANGANESE TREATMENT OR AFTER AERATION, OXIDATION OR DISINFECTION	MIN	15	R309-535-11(5)(c)
Pump Stations				
PS13	PUMP STATION BUILDING FLOOR ELEVATION NOT PROTECTED FROM FLOODING OR LESS THAN 6 INCHES ABOVE FINISH GRADE	MIN	15	R309-540-5(1)(a)(ii), R309-540-5(2)(a)(iii)
PS01	PUMP FACILITY NOT PROTECTED FROM FLOODING OR SURFACE RUNOFF	MIN	15	R309-540-5(1)(a)(ii) and (iv)
PS33	PUMP FACILITY NOT PROTECTED FROM VANDALISM OR UNAUTHORIZED ENTRY	MIN	15	R309-540-5(1)(a)(v)
PS18	IN-LINE BOOSTER PUMP STATION LACKS REDUNDANCY TO MEET PEAK DEMAND WITH ONE PUMP OUT OF SERVICE	SIG	25	R309-540-5(4)(b)
PS19	PUMP FACILITY LACKS CAPACITY TO MEET DEMAND	SIG	25	R309-540-3(a)
PS07	PUMP ELECTRICAL CONTROLS NOT PROTECTED AGAINST FLOODING	SIG	25	R309-540-5(6)(e)
PS05	PUMP FACILITY LACKS SHUTOFF VALVES FOR O&M AND REPAIR	MIN	15	R309-540-5(6)(a)
PS14	PUMP STATION BUILDING NOT PROPERLY HEATED, LIGHTED OR VENTILATED	MIN	5	R309-540-5(2)(e), (f) and (g)
PS06	PUMP STATION BUILDING INTERIOR FLOOR NOT DRAINED OR NOT SLOPED TO DRAIN	MIN	15	R309-540-5(2)(a)(v)
PS03	PUMP FACILITY LACKS PRESSURE GAUGE ON DISCHARGE LINE	MIN	15	R309-540-5(6)(c)(i)
PS34	COM SYSTEM RELIES ON DIAPHRAGM OR AIR PRESSURE TANKS FOR FINISHED WATER STORAGE OR FIRE PROTECTION	MIN	15	R309-540-6(1)
PT14	HYDROPNEUMATIC TANK NOT PROTECTED FROM FLOODING	MIN	15	R309-540-6(2)
PT08	HYDROPNEUMATIC TANK LACKS PRESSURE GAUGE	MIN	15	R309-540-6(3)

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
PT13	PUMP STATION/HYDROPNEUMATIC TANK AND CONTROLS NOT PROTECTED AGAINST HAZARD	SIG	25	R309-540-5(1)(a)(i)
PS31	IMPROPER LUBRICATION OIL USED FOR DRINKING WATER PUMP FACILITY	SIG	25	R309-105-10(7)
PS15	PUMP FACILITY HAS CROSS CONNECTION OR SUBJECT TO CONTAMINATION	SIG	50	R309-105-12(1)
PS12	PUMP STATION OR HYDROPNEUMATIC TANK A/V VALVE RELIEF PIPING NOT DOWNTURNED	SIG	25	R309-550-6(6)(b), R309-540-6(2)
PS10	PUMP STATION OR HYDROPNEUMATIC TANK A/V VALVE RELIEF PIPING LACKS NO. 14 SCREEN			
PS11	A/V VALVE RELIEF PIPING OF PUMP STATION OR HYDROPNEUMATIC TANK NOT PROTECTED FROM CONTAMINATION OR NOT AT LEAST 6 INCHES ABOVE FLOOR			
Drinking Water Storage Tanks				
V025	STORAGE TANK WITHIN 50 FEET OF SEWERS OR CONTAMINATION SOURCES	SIG	25	R309-545-7(3)
V001	STORAGE TANK SURROUNDING AREA NOT GRADED TO PREVENT STANDING WATER WITHIN 50 FEET OF THE TANK	SIG	25	R309-545-7(4)
V026	NO MEANS TO ISOLATE STORAGE TANK FOR O&M	SIG	25	R309-545-7(5)
V021	STORAGE TANK ROOF OR SIDEWALLS SHOW SIGNS OF MILD OR MODERATE DETERIORATION	MIN	15	R309-545-6(1) and 545-9(1)
V022	STORAGE TANK ROOF OR SIDEWALLS SHOW SIGNS OF SEVERE DETERIORATION	SIG	50	R309-545-6(1) and 545-9(1)
V017	STORAGE TANK SUBJECT TO CONTAMINATION DUE TO UNSEALED OPENINGS ON TANK ROOF OR SIDEWALLS	SIG	100	R309-545-6(1) and 545-9(1)
V027	DRINKING WATER STORAGE TANK SEPARATED FROM WASTEWATER COMPARTMENT BY A SINGLE WALL	SIG	50	R309-545-9(3)
V003	WATER PONDING ON STORAGE TANK ROOF OR TANK ROOF NOT SLOPED TO DRAIN	MIN	15	R309-545-9(4)
V028	SYSTEM RUNS OUT OF WATER DUE TO STORAGE TANK LACKING LEVEL CONTROL MECHANISM	SIG	25	R309-545-17
V042	NO MEANS TO DRAIN A STORAGE TANK FOR O&M	SIG	25	R309-545-10(1)
V036	TANK DRAIN IS CONNECTED TO OR DISCHARGES TO SANITARY SEWER	SIG	50	R309-545-10(1)(c)
V016	END OF TANK DRAIN LINE LACKS A CLEARANCE OF AT LEAST 12 INCHES	SIG	25	R309-545-10(1)(d)
V037	STORAGE TANK INTERNAL CATWALKS NOT DESIGNED WITH A SOLID FLOOR AND RAISED EDGES	SIG	25	R309-545-10(2)
VL01	STORAGE TANK LACKS AN OVERFLOW	SIG	25	R309-545-13
V011	END OF STORAGE TANK OVERFLOW LACKS A CLEARANCE OF BETWEEN 12 AND 24 INCHES FROM GROUND SURFACE	SIG	25	R309-545-13
V038	STORAGE TANK OVERFLOW DISCHARGE ARE NOT DIRECTED AWAY FROM TANK TO PROTECT TANK FOUNDATION			R309-545-13
V012	END OF STORAGE TANK OVERFLOW PIPE LACKS NO. 4 SCREEN			R309-545-13(3)
V013	STORAGE TANK OVERFLOW PIPE IS CONNECTED TO OR DISCHARGES TO SANITARY SEWER	SIG	50	R309-545-13(5)
VL03	STORAGE TANK LACKS AN ACCESS OPENING LOCATED ABOVE THE LEVEL OF THE OVERFLOW FOR TANK O&M	MIN	15	R309-545-14 and 14(1)
V008	TANK ACCESS HEIGHT LESS THAN 4 INCHES ABOVE TANK ROOF OR LESS THAN 18 INCHES ABOVE EARTHEN COVER	MIN	15	R309-545-14(1)
V039	STORAGE TANK ACCESS NOT WATERTIGHT OR NOT SEALED TO PREVENT CONTAMINATION	SIG	50	R309-545-14(1) and (2)
VL02	STORAGE TANK LACKS AN AIR VENT	SIG	25	R309-545-15
VL05	STORAGE TANK VENT INADEQUATELY SIZED	SIG	25	R309-545-15

Deficiency Code	Deficiency Description (Proposed)	Deficiency Type (Proposed)	Points (Proposed)	Rule Reference
V010	STORAGE TANK LID NOT SHOEBOX STYLE	SIG	25	R309-545-14(2)
V009	STORAGE TANK LID LACKS A FUNCTIONING GASKET BETWEEN THE LID AND FRAME			R309-545-14(2)
V029	STORAGE TANK ACCESS OPENING LACKS A LOCK			R309-545-14(3)
V040	STORAGE TANK VENT NOT SIZED OR LOCATED TO PREVENT BLOCKAGE DURING WINTER	MIN	15	R309-545-15(3)
V006	END OF STORAGE TANK VENT LACKS A CLEARANCE OF AT LEAST 24 INCHES FROM EARTHEN COVER	MIN	15	R309-545-15(2)
V005	STORAGE FACILITY VENT NOT DOWNTURNED AT LEAST 2 INCHES BELOW ANY OPENING	SIG	25	R309-545-15(1)
V007	STORAGE TANK VENT LACKS NO. 14 SCREEN			R309-545-15(4)
V035	STORAGE TANK VENT LARGER THAN 6 INCHES IN DIAMETER LACKS PROTECTIVE SCREEN	MIN	5	R309-545-15(5)
V004	STORAGE TANK LADDERS IN EXCESS OF 20 FEET LACK SAFETY FEATURE SUCH AS SAFE CAGE, HARNESS OR PLATFORM	MIN	15	R309-545-18(2)
V041	ELEVATED STORAGE TANK LACKS RAILINGS OR HANDHOLDS	SIG	25	R309-545-18(3)
V014	STORAGE TANK INTERIOR COATINGS LACK ANSI NSF 61 CERTIFICATION	SIG	25	R309-545-21(2)
Transmission and Distribution Pipelines				
D019	UNDERSIZED WATER MAIN SERVING FIRE HYDRANTS	MIN	15	R309-550-5(4) & (5)
D009	WATER MAINS SUSCEPTIBLE TO NEARBY CONTAMINATION SOURCES	SIG	50	R309-550-5(11)
R003	ASBESTOS CEMENT PIPE IN USE, MONITORING REQUIRED, REPLACEMENT RECOMMENDED	REC	0	R30-550-6(2)(a)
D014	DIST PIPING AND FITTINGS INSTALLED AFTER JAN 2014 NOT LEAD FREE OR NOT ANSI NSF 372 OR 61G CERTIFIED	MIN	15	R30-550-6(2)(b)
D001	DIST PIPING, FITTINGS OR MATERIAL NOT ANSI NSF 61 CERTIFIED	SIG	25	R309-550-6(1) & R309-550-6(3)
D002	WATER LINES LACK REQUIRED MINIMUM SEPARATION FROM SEWER	SIG	25	R309-550-7
D004	AIR RELIEF VALVE PIPE LACKS NO. 14 SCREEN	SIG	25	R309-550-6(6)(b)
D006	AIR RELIEF VALVE PIPE NOT DOWNTURNED			R309-550-6(6)(b)
D007	AIR RELIEF VALVE OR CHAMBER SUBJECT TO FLOODING			R309-550-6(6)(b) and (7)(b)
D013	DIST BLOWOFFS, FIRE HYDRANT, AIR RELIEF VALVE PIPING OR CHAMBER CONNECTED TO STORM DRAIN OR SANITARY SEWER	SIG	50	R309-550-6(5)(a), R309-550-6(6)(c) and (7)(a)
D011	INADEQUATE PROTECTION FOR DIST LINE CROSSING UNDER A SURFACE WATER BODY	SIG	25	R309-550-8(8)(b)
D018	FAIL TO FOLLOW AWWA C651 FOR WATER LINE DISINFECTION	SIG	25	R309-550-8(10)
D003	DIST SYSTEM UNABLE TO PROVIDE 20 PSI MIN PRESSURE FOR WATER LINES CONSTRUCTED BEFORE JAN 1, 2007	SIG	50	R309-105-9, R309-550-5(1)
D010	DIST SYSTEM UNABLE TO PROVIDE 40 PSI DURING PEAK DAY AND 20 PSI DURING FIRE FLOW FOR WATER LINES INSTALLED AFTER JAN 2017			
D016	DIST WATER LINE CONNECTED TO OR SUBJECT TO CONTAMINATION	SIG	50	R309-550-9(1) and (2), R309-550-13(2)
M011	UNAPPROVED WATER HAULING AS WATER SOURCE FOR COM SYSTEM	SIG	200	R309-550-10(1)
M021	INDIVIDUAL HOME BOOSTER PUMPS CONNECTED TO WATER MAIN DIRECTLY	SIG	50	R309-540-5(4)(c), R309-550-11(3)
Source Protection				
SP02	PER FOR ACTIVE SOURCE NOT UPGRADED TO FULL DWSP	SIG	25	R309-600-13(6) & R309-605-9(3)
SP04	ACTIVE SOURCE LACKS APPROVED UPDATES TO DWSP PLAN	MIN	5	R309-600-7(2)(e) & R309-605-7(c)(v)
SP06	NEW WATER SOURCE LACKS APPROVED PER	SIG	50	R309-600-13 & R309-605-9
SP07	ACTIVE SOURCE LACKS AN APPROVED DWSP PLAN	SIG	25	R309-600-7(2) & R309-605-7(1)(c)
SP09	REDEVELOPED SOURCE LACKS A REVISED DWSP PLAN	MIN	15	R309-600-7(2)(f) & R309-605-7(1)(c)(vi)
SP03	DWSP PLAN NOT IMPLEMENTED ACCORDING TO MANAGEMENT STRATEGIES IN DWSP	SIG	25	R309-600-7(2)(d) & R309-605-7(1)(c)(iv)

Appendix B

Utah Division of Drinking Water R309-400 – IPS Program Violation Points Table

Violation Code (Current)	Violation Description (Current)	Rule-Analyte	Violation Type (Proposed)	Points (Proposed)	Rule Reference
01	MCL, SINGLE SAMPLE	0100 TURBIDITY	Acute	50	R309-205-8, 215-9
01	MCL, SINGLE SAMPLE	ALL OTHER ANALYTES	Acute	50	R309-205, 215
01	MCL, SINGLE SAMPLE	1038 NITRATE-NITRITE	Acute	100	R309-205-5(4)
01	MCL, SINGLE SAMPLE	1040 NITRATE	Acute	100	R309-205-5(4)
01	MCL, SINGLE SAMPLE	1041 NITRITE	Acute	100	R309-205-5(5)
01	MCL, SINGLE SAMPLE	3008 GIARDIA LAMBLIA	Acute	50	R309-215-7, R505-6(2)(a) and (b)
02	MCL, AVERAGE	ALL OTHER ANALYTES	Acute	50	R309-205/215
02	MCL, AVERAGE	1040 NITRATE or 1038 NITRATE-NITRITE or Nitrite 1041	Acute	100	R309-205-5
03	MONITORING, ROUTINE MAJOR	ALL OTHER ANALYTES	Monitoring	25	R309-205 and 215
03	MONITORING, ROUTINE MAJOR	1040 NITRATE or 1038 NITRATE-NITRITE or Nitrite 1041	Monitoring	50	R309-205-5
03	LT24 MAJOR	3014 ECOLI	Monitoring	25	R309-215-15
03	LT24 MINOR	3014 ECOLI	Monitoring	5	R309-215-15
10	OPERATIONS REPORT	0200 SWTR	Reporting	50	R309-215-8
11	MRDL (CHLORINE/CHLORAMINE)	0400 DBP STAGE 1	Chronic	50	R309-215-12
12	QUALIFIED OPERATOR FAILURE	0400 DBP STAGE 1	Acute	50	R309-215
13	MRDL, ACUTE (CHL. DIOXIDE)	1008 Chlorine Dioxide	Acute	50	R309-210
19	MONITOR GWR ASSESSMENT, MAJOR	3014 TCR	Monitoring	5	R309-215-16
1A	MCL, E. COLI, POS E COLI	3014 RTCR	Acute	50	R309-211-9
1A	MCL, E. COLI, POS E COLI	8000 RTCR	Acute	50	R309-211-9
27	MONITORING, ROUTINE (DBP), MAJOR	0999 CHLORINE, 1006, 1008	Reporting	15	R309-215-12
27	MONITORING, ROUTINE (DBP), MAJOR	DBP2	Monitoring	15	R309-215-12
28	SANITARY SURVEY COOPERATION FAILURE	SS	Acute	50	R309-100-6
29	FAILURE TO PRODUCE FILTER ASSESSMENT	0300 IESWTR/LT1	Monitoring	25	R309-215-9
2A	LEVEL 1 ASSESS, MULTIPLE TC POS	8000 RTCR	Chronic	50	R309-211-9
2A	LEVEL 1 ASSESS, TC POS RT NO RPT	8000 RTCR	Chronic	50	R309-211-9
2B	LEVEL 2 ASSESS, MULTIPLE LV1 triggered	8000 RTCR	Acute	100	R309-211
2B	LEVEL 2 ASSESS, CONFIRMED ECOLI	8000 RTCR	Acute	100	R309-211
2C	FAILURE TO TAKE CORRECTIVE ACTION FOR SANITARY DEFECTS	8000 RTCR	Acute	50	R209-215-16
2D	STARTUP PROCEDURES TT	8000 RTCR	Reporting	50	R309-211-9 and 11

Violation Code (Current)	Violation Description (Current)	Rule-Analyte	Violation Type (Proposed)	Points (Proposed)	Rule Reference
34	MONITOR GWR TRIGGERED/ADDITIONAL, MAJOR	0700 GROUNDWATER RULE	Monitoring	25	R309-215-16
35	FAILURE TO SUBMIT OEL REPORT FOR HAA5	2456 HAA5	Reporting	15	309-210-10 (7)
35	FAILURE TO SUBMIT OEL REPORT FOR TTHM	2950 TTHM	Reporting	15	309-210-10 (7)
36	MONITORING, RTN/RPT MAJOR (SWTR-FILTER)	0999 CHLORINE, 1006, 1008	Reporting	15	R309-215-8
37	FAILURE TO PROFILE/CONSULT	TT	Reporting	15	R309-215
3A	MONITORING, ROUTINE, MAJOR	3014 RTCR	Monitoring	25	R309-211-9
3A	MONITORING, ROUTINE, MINOR	3014 RTCR	Monitoring	15	R309-211-9
3C	MONITORING, COLIFORM TURBIDITY TRIGGER	3014 RTCR	Monitoring	15	R309-211
40	FAILURE TO PROPERLY RECYCLE (FBR)	0500 FILTER BACKWASH RULE	Acute	50	R309-215
41	MONTHLY COMB. FILTER EFFLUENT (SWTR	0100 TURBIDITY	Acute	100	R309-215-9
41	MONTHLY COMB. FILTER EFFLUENT (SWTR	0200 SWTR	Acute	100	R309-215-10
41	RES DISINFECT CONCENTRATION (SWTR)	0999 CHLORINE	Acute	100	R309-215-10
42	FAILURE TO FILTER (SWTR)	0200 SWTR	Chronic	100	R309-215-7
43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	0300 IESWTR	Acute	100	R309-215-9
44	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	0300 IESWTR	Acute	100	R309-215-9
45	FAILURE ADDRESS DEFICIENCY (GWR)	0700 GROUNDWATER RULE	Chronic	50	R209-215-16
45	FAILURE ADDRESS DEFICIENCY (IESWTR)	0300 IESWTR/LT1	Chronic	50	R209-215-16
45	FAILURE ADDRESS DEFICIENCY (EPA SURVEY)	0800 LT2ESWTR	Chronic	50	R209-215-16
46	INADEQUATE DBP PRECURSOR REMOVAL	2920 DBP Stage 1	Chronic	50	R309-215-12
4A	REPORTING, ASSESSMENT FORMS	8000 RTCR	Reporting	15	R309-211-11
4B	REPORT SAMPLE RESULT/FAIL MONITOR	8000 RTCR	Reporting	5	R309-211-9
4C	REPORT STARTUP PROCEDURES CERT FORM	8000 RTCR	Reporting	15	R309-211-11
4D	NOTIFICATION, E COLI POSITIVE	8000 RTCR	Reporting	25	R309-211-11
51	INITIAL TAP SAMPLING (LCR)	5000 LEAD & COPPER RULE	Monitoring	25	R309-210-6
52	FOLLOW-UP OR ROUTINE TAP M/R (LCR)	5000 LEAD & COPPER RULE	Monitoring	25	R309-210-6
53	WATER QUALITY PARAMETER M/R	5000 LEAD & COPPER RULE	Monitoring	25	R309-210-6
57	OCCT/SOWT RECOMMENDATION/STUDY (LCR)	5000 LEAD & COPPER RULE	Chronic	50	R309-210-6
5A	SAMPLE SITING PLAN ERRORS	8000 RTCR	Reporting	5	R309-211-9
64	LEAD SERVICE LINE REPLACEMENT (LCR)	5000 LEAD & COPPER RULE	Chronic	50	R309-210-6
65	PUBLIC EDUCATION (LCR)	5000 LEAD & COPPER RULE	Chronic	50	R309-210-6
66	LEAD CONSUMER NOTIFICATION	5000 LEAD & COPPER RULE	Reporting	15	R309-210-6
71	CCR REPORT	7000 CONSUMER CONFIDENCE RULE	Reporting	25	R309-225-4
72	CCR ADEQUACY/AVAILABILITY/CONTENT	7000 CONSUMER CONFIDENCE RULE	Reporting	25	R309-225-7
73	FAILURE TO NOTIFY OTHER PWS	0700 GROUNDWATER RULE	Reporting	15	R309-220-4
75	PUBLIC NOTICE RULE LINKED TO VIOLATION	ALL ANALYTES TIER 3	Reporting	5	R309-220
75	PUBLIC NOTICE RULE LINKED TO VIOLATION	ALL ANALYTES TIER 2	Reporting	50	R309-220
75	PUBLIC NOTICE RULE LINKED TO VIOLATION	ALL ANALYTES TIER 1	Reporting	100	R309-220
76	OTHER NON-NPDWR POTENTIAL HEALTH RISKS	7500 PUBLIC NOTICE	Reporting	50	R309-220
MR	STATE MONITORING AND REPORTING	ALL ANALYTES	Reporting	5	R309-215-6
PN	FAILURE TO NOTIFY PUBLIC ENFORCEMENT	9700 PUBLIC NOTICE FOR IPS	Reporting	5	R309-220

Response to Comments for Proposed IPS Program Document

Division of Drinking Water Utah Department of Environmental Quality

Comment Period: June 12, 2019, through July 12, 2019
Public Hearing: There was no public hearing

Five people submitted comments to the Division of Drinking Water (DDW) concerning proposed IPS Program during the 30-day comment period. The comments are summarized below along with the DDW's responses.

I. Four Comments by Jesse Stewart, Salt Lake City Department of Public Utilities Water System

Comment 1: *Salt Lake City supports public health as the driver of the point system. However, the proposed point framework is problematic as it does not acknowledge nor address the large degree of differences in public water systems, such as size and number of connections. We are concerned that Salt Lake City's very large system with thousands of inspect-able components leaves us vulnerable to reach some of the "on-notice" level criteria when the numbering system is based on a flat scale. We appreciate there are tools in place to allow systems time to leeway to resolving issues. However, we recommend trigger criteria based on a percentage of possible points or a tiered system.*

Response: The presence of multiple deficiencies presents a higher risk to the public. The DDW's mission is to protect the public health and drinking water quality within the State of Utah. The DDW cannot reasonably fulfill this mission by allowing a tank feeding one neighborhood to remain in disrepair, while another tank feeding a separate subdivision within the same water system is repaired and provided water meeting the safe drinking water standards. There is also a risk that applying a system wide compliance score to a drinking water system, rather than assigning points by facilities environmental justice communities may be at a greater risk. Research has shown that within community water systems there can be disparity in water quality and often disproportionality impacting low income populations (Greco et al.).

Comment 2: *Per the proposed IPS, credits for exceeding standards will be eliminated. Although we understand the reasoning to mitigate the potential to mask serious deficiencies, by eliminating the possibility of credits, it may discourage Public Water Systems from "going above and beyond" to protect public health and diminishes the incentive to exceed standards. Therefore, we encourage incentivizing and providing credits for voluntarily exceeding standards to better protect public health. Although the IPS Program may not be*

the appropriate place to provide such an incentive, we would be happy to participate in a committee or focus group to identify such a framework.

Response: Credit points mask underlying issues that are critical to public health or drinking water quality. Encouraging improvement is something we are committed to through continued technical assistance, on site trainings, and webinars. The existence of credit points presents a risk that may compromise the DDW's core mission of protecting public health.

Comment 3: *Deficiency Code M016: At SLCDPU, we take customer concerns and complaints very seriously. We pride ourselves in responding to and addressing complaints as quickly as possible. We have personnel who respond to customer complaints available around the clock, 24/7. We have received praise from customers for our quick response to their concerns. In addition, we track customer service calls in which we can monitor the calls in both tabular and geospatial format. We appreciate the deficiency points are for a "History of Verified Customer Complaints" thus the complaint is thoroughly investigated and confirmed. Also, we would appreciate that should a customer come to DDW with a concern, that SLCDPU is notified immediately. Salt Lake City is a large municipal government, with many Departments, Divisions, and Public Officials. Also, we provide water to other municipalities including Millcreek, Holladay, and cottonwood Heights. Thus, we want to ensure that we are aware of and receive all customer concerns. Should DDW form a committee or focus group to discuss a "Customer Complaint Program" we would like to be involved. We look forward to providing input as well as receiving feedback on how we can better provide excellent customer service.*

Response: Current and future procedure is to have the resident contact their water system. The deficiency is for gross negligence at responding to legitimate customer complaints.

Comment 4: *Violation Code 75: Deficiency Code 75: Public Notice Rule Linked to Violation is listed three times. Two times it is listed with five (5) assigned points (proposed) and the third time it is listed with 25 assigned points (proposed). Please provide clarification on the difference between the three (3) Violation Code 75.*

Response: The three different violation type 75 codes are for the different tiers of public notice. We have updated them to all be different points: tier 1 will be 100, tier 2 will be 50 and tier 3 will be 5 points.

II. One Comment by Kathy Zamba, U.S. Forest Service, Intermountain Region

Comment: *The proposed IPS program will significantly increase the assessed points for many deficiencies. It will take time for our operators to correct deficiencies or request extensions or exceptions where needed. We could better react to the proposed changes if the implementation date were changed from January 1, 2020 to April 1, 2020.*

Response: Seasonal systems will have 120 days from the day they open to correct any new significant deficiency. Water systems may also apply for a Corrective Action Plan to address any significant deficiencies requiring more than 120 days to correct.

III. One Comment by Jim Quitter, Fremont Indian State Park Water System Comment:

As you may know I am a certified public water system operator and have been for 15 years. Here at Fremont we have two different water systems. Both systems are in good standing with no deficiencies or violations.

I have reviewed the proposed point system and compared it with the current point system and values that are common to our operations. Some values have gone up, some have gone down and some have remained the same. The cap of 100 points is what we have always worked with, so that is no different. The point values are changing based on the severity of the violation.

My opinion as to why they are changing the points is that some systems have violations and "carry them" rather than correcting them. Keep in mind that our systems are transient non community and our requirements are not as much as community systems.

Overall, I think with the points change it will not hurt us to [sic] much as long as we continue to do what is needed and keep up with sampling, monitoring and reports, we should be okay.

All systems, no matter the classification, are required to meet the rules. It seems to me that the systems that are doing what is expected are being effected by the systems that are not meeting the rules. Why not just deal with those systems that are in violation and be stricter with them rather than drag the systems that are doing good into it.

I think this is also a result of other systems throughout the state and country that have had bad things happen as seen in the news. DEQ is tightening the reins on everyone regardless [sic] of their good standing. I don't know if this helps any, just my opinion and thoughts.

Response: We are committed to continuously improving the drinking water program in Utah and this is an important next step to bring our program in better alignment with federal primacy requirements. The DDW maintains a robust enforcement program to address any systems that do not meet safe drinking water standards and exceed the IPS thresholds.

IV. ne Comments by Gardner Reid, Reid Ranch Water System

Comment: *Don't make it any harder than it is. I'm a Small System for a seasonal camping ground. I know that if my water was bad I would lose customers and when I'm only open from June 1st to the middle of August [sic] each summer I would not last very long if I lost customers. So for the last 3+ years I have done all that the DDW has asked of me. It has cost me thousand's of dollars to upgrade from a system that was put in place in 1983. And we never had any problems at all. But I have complied with everything the DDW has asked.*

Don't make it harder then [sic] it is. You will drive business out of business. When the government local and national want to have job for works [sic]. Don't increase the deficiency points

Why is it that new management gets in that they think they have to change things. If something is working right leave it alone

Every time I have ever received a deficiency letter it is as if I'm about to be carted away to jail. Why not help the system improve and not threaten them.

Response: We are committed to continuously improving the drinking water program in Utah and this is an important next step to bring our program in better alignment with the federal primacy requirements. Changes in national policy as well as increased scientific understanding of water infrastructure and chemistry require rule changes in order to ensure the continued success of the Safe Drinking Water Act. We are also committed to providing balanced regulation and have worked to expand our outreach and support to water systems including the creation of a technical assistance section to help with the transition. The DDW shares the commitment to ensure safe drinking with its regulated community.

Citations

Greco FP, Lawson AB, Cocchi D, Temples T. Some interpolation estimators in environmental risk assessment for spatially misaligned health data. *Environ Ecol Stat.* 2005;12(4):379–395

Agenda Item

7(A)(ii)

Proposed Substantive Changes for R309-400

PROPOSAL:

We propose to make the following changes to R309-400, *Water System Rating Criteria (Improvement Priority System)*:

- Repeal the existing rule and reenact the new rule in its place.
- Removed the individual violations and deficiencies from the rule to be a separate Improvement Priority System (IPS) Program. The IPS program requires a separate approval from the Drinking Water Board for substantive revisions.

HISTORY/CONTEXT:

The IPS rule was first finalized in 1996 as a tool for water systems to track compliance with violations and physical deficiencies. It helps systems understand the severity of any issues and maintain compliance. Since its inception in 1996, the IPS rule has had only minor changes. The purpose of this proposed rule revision is to emphasize the importance of significant deficiencies, align better with federal regulations, and ensure that risk to public health is the driving force behind the rule.

DIVISION STAFF/DIRECTOR RECOMMENDATION:

Division staff recommends that the Board authorize it to begin rulemaking to amend R309-400 and to file the proposed rule repeal and reenactment with the Office of Administrative Rules for publication in the Utah State Bulletin.

IMPLEMENTATION SCHEDULE:

The Division anticipates making the repeal and reenactment effective November 15, 2019 with an implementation start date of January 1, 2020. The schedule for starting the rulemaking process is as follows:

1. Drinking Water Board Authorizes Rulemaking to Amend Rule – August 27, 2019
2. File Proposed Rule Amendment with Office of Administrative Rules – August 30, 2019
3. Begin 30-Day Comment Period (Utah State Bulletin Publication) – September 15, 2019
4. End 30-Day Comment Period – October 15, 2019
5. Return to Drinking Water Board for final Rule adoption – November 8, 2019

COST ESTIMATE:

The new R309-400 rule does not add any new requirements to the existing rules in R309. It only enforces them. The proposed amendment to R309-400 is not expected to result in costs or savings to the state budget, local governments, or small businesses.

R309-400. Improvement Priority System and Public Water System Ratings.

R309-400-1. Purpose.

The purpose of this rule is to establish the Improvement Priority System used by the division to assign compliance ratings to public water systems and to prioritize enforcement action based on points assessed for noncompliance with drinking water rules.

R309-400-2. Authority.

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104, of the Utah Code and in accordance with 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-400-3. Definitions.

“Improvement Priority System (IPS)” is a point system used by the division to evaluate a public water system’s performance and compliance with the drinking water rules in Title 309, *Environmental Quality, Drinking Water*.

“Public Water System Rating” is assigned to a public water system by the director to characterize the water system’s compliance with drinking water rules and overall operation and performance.

R309-400-4. Improvement Priority System – Assessment of Points.

1. The division shall:
 - a. maintain and make public an improvement priority system (IPS) program that includes:
 - i. a table specifying the number of points associated with each instance of noncompliance with a drinking water rule requirement and noncompliance with a directive or order issued by the director, and
 - ii. the point thresholds for assigning an Approved or Not Approved rating to each type of public water system; and
 - b. obtain approval from the Drinking Water Board for substantive revisions to the IPS program.
2. The division incorporates by reference the IPS program dated August 27, 2019.

3. Implementation of the IPS program approved by Drinking Water Board starts on January 1, 2020.
4. The director may assess points to a public water system and take enforcement action in accordance with the implementation policy and the table of points based on:
 - a. noncompliance with Title R309 of the Utah Administrative Code;
 - b. noncompliance with a directive or order issued by the director; or
 - c. operational practices or performance that may result in a threat to public health.

R309-400-5. Public Water System Ratings.

1. The director may assign a rating to a public water system of:
 - a. Approved based on the total number of points assessed for noncompliance;
 - b. Not Approved based on:
 - i. the total number of points assessed for noncompliance, or
 - ii. an immediate public health threat; or
 - c. Corrective Action based on a current, written agreement with the division to resolve underlying noncompliance according to a compliance schedule.
2. A public water system shall maintain an Approved rating.
3. A public water system with a Not Approved rating shall:
 - a. take immediate action to resolve the noncompliance that resulted in the Not Approved rating; or
 - b. enter into a written agreement with the division to resolve the noncompliance that resulted in the Not Approved rating according to a compliance schedule.

R309-400-6. Administrative Appeals.

1. The assessment of points does not constitute a permit order per R305-7-102(1)(l) and may not be appealed pursuant to R305-7.
2. The assignment of a rating to a public water system constitutes an initial order per R305-7-102(1)(g) and may be appealed by submitting, filing, and serving a written Request for Agency Action pursuant to R305-7-303 within 30 days of the date of the order issued by the director.

KEY: drinking water, environmental protection, penalties

Date of Enactment or Last Substantive Amendment:

Notice of Continuation: March 22, 2010

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

R309. Environmental Quality, Drinking Water.

R309-400. ~~[Water System Rating Criteria]~~ Improvement Priority System and Public Water System Ratings.

~~[R309-400-1. Authority.~~

~~Under authority of Utah Code Annotated, Section 19-4-104, the Drinking Water Board adopts this rule in order to evaluate a public water system's standard of operation and service delivered in compliance with R309-100 through R309-705 hereinafter referred to as Rules.~~

~~R309-400-2. Extent of Coverage.~~

~~This rule shall apply to all public water systems as defined in R309-100.~~

~~R309-400-3. Definitions.~~

~~Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.~~

~~Corrective Action Plan - an agreement between the Division of Drinking Water and a public drinking water system establishing conditions and timelines for addressing significant deficiencies or E. coli contamination of a drinking water source.~~

~~Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.~~

~~Treatment Technique Violation - failure to correct significant deficiencies, address E. coli positive source contamination or adhere to specific terms of a Corrective Action Plan.~~

~~R309-400-4. Water System Ratings.~~

~~(1) The Director shall assign a rating to each public water system in order to provide a concise indication of its condition and performance. This rating shall be assigned based on the evaluation of the operation and performance of the water system in accordance with the requirements of the Rules. Points shall be assessed to water systems for each violation of these requirements (R309-100 through R309-705) as the requirements apply to each individual water system. The number of points that shall be assessed is outlined in the following sections of this rule. The number of points represents the threat to the quality of the water and thereby public health.~~

~~(2) Points are assessed in the following categories: Quality, Monitoring and Public Notification; Physical Deficiencies; Operator Certification; Cross Connection Control; Drinking Water Source Protection; Administrative Issues; and, Reporting and Record Maintenance.~~

~~(3) Based upon the accumulation of points, the public water system shall be assigned one of the following ratings:~~

~~(a) Approved - In order to qualify for an Approved rating, the public water system must maintain a point total less than the following:~~

~~(i) Community water system - 150 points;~~

~~(ii) Non-Transient Non-Community water system - 120 points;
and~~

~~(iii) Non-Community water system - 100 points.~~

~~(b) Not Approved - In order for a public water system to receive a Not Approved rating the accumulation of points for the water system must exceed the totals listed above.~~

~~(c) Corrective Action - In order to qualify for a Corrective Action rating the public water system must submit the following:~~

~~(i) A written agreement to the Director stating a willingness to comply with the requirements set forth in the Rules; and,~~

~~(ii) A compliance schedule and time table agreed upon by the Director outlining the necessary construction or changes to correct any physical deficiencies or monitoring failures; and,~~

~~(iii) Proof of the financial ability of the water system or that the financial arrangements are in place to correct the water system deficiencies.~~

~~(iv) The Corrective Action rating shall continue until the total project is completed or until a suitable construction inspection or sanitary survey is conducted to determine the effectiveness of the improvements or the accumulation of points drops below the threshold for a not approved rating whichever is later.~~

~~(4) The water system point accumulation shall be adjusted on a quarterly basis or as current information is available to the Director. The appropriate water system rating shall then be adjusted to reflect the current point total.~~

~~(5) The Director may at any time rate a water system Not Approved, if an immediate threat to public health exists. This rating shall remain in place until such time as the threat is alleviated and the cause is corrected.~~

~~(6) Any water system may appeal its assigned rating or assessed points as provided in R305-7.~~

~~R309-400-5. Quality, Monitoring and Public Notification Violations.~~

~~(1) Total Coliform Rule: All points assessed to public water systems via this subsection are based on violations of the quality standards in R309-200-5(6); or the monitoring requirements in R309-210-5; and the associated public notification requirements in R309-220. The bacteriological points assessed shall be updated on a monthly basis with the total number of points reflecting the most recent twelve month period or the most recent 4 quarters for those water systems that collect bacteriological samples quarterly, unless otherwise noted.~~

~~(a) For each major bacteriological routine monitoring violation, 35 points shall be assessed. For each failure to perform the associated public notification 5 points shall be assessed.~~

~~(b) For each minor bacteriological routine monitoring violation, 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be assessed.~~

~~(c) For each major bacteriological repeat monitoring violation, 40 points shall be assessed. For each failure to perform the associated public notification 5 points shall be assessed.~~

~~(d) For each minor bacteriological repeat monitoring violation, 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be assessed.~~

~~(e) For each additional monitoring violation (R309-210-5(2)(e)), 10 points shall be assessed. For each failure to perform the associated public notification 2 points shall be~~

~~assessed.~~

~~(f) For each non-acute bacteriological MCL violation (R309-200-5(6)(a)), 40 points shall be assessed. For each failure to perform the associated public notification 10 points shall be assessed.~~

~~(g) For each acute bacteriological MCL violation (R309-200-5(6)(b)), 50 points shall be assessed. For each failure to perform the associated public notification 10 points shall be assessed.~~

~~(2) Ground Water Rule: All points assessed to public water systems via this subsection are based on violations of the standards in R309-215-16. Points assessed for any significant deficiency shall be deleted as the deficiencies are corrected and are reported to the Director. The bacteriological points assessed shall be updated on a monthly basis with the total number of points reflecting the most recent 12-month period or the most recent four quarters for those water systems that collect bacteriological samples quarterly, unless otherwise noted.~~

~~(a) For failure to collect triggered source samples in violation of R309-215-16(2)(a)(i)(A) and (a)(i)(B), 40 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.~~

~~(b) For failure to collect assessment source samples in violation of R309-215-16(2)(b)(i), 5 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.~~

~~(c) For failure to correct a significant deficiency in violation of R309-215-16(4)(a)(i) and (ii), R309-215-16(4)(c) or R309-215-16(4)(d), 35 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.~~

~~(d) For an Escherichia coli. in violation of R309-215-16(4)(b)(i) and (ii), 40 points shall be assessed. For each failure to perform the associated public notification, 2 points shall be assessed.~~

~~(3) Chemical: All points assessed to public water systems via this subsection are based on violations of the quality standards in R309-200-5; or the monitoring requirements in R309-205, 210 and 215; and the associated public notification requirements in R309-220. The chemical assessments shall be updated on a quarterly basis with the total number of points reflecting the most recent compliance period unless otherwise specified. Points for any chemical MCL violation shall remain on record until the quality issue is resolved. Points for any monitoring violation shall be deleted as the required chemical samples are taken and the analytical results are reported to the Director.~~

~~(a) Inorganic and Metal Contaminants:~~

~~(i) For each major chemical monitoring violation for inorganic and metal contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~(ii) For each minor chemical monitoring violation for inorganic and metal contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be~~

~~assessed.~~

~~(iii) For each MCL exceedance for inorganic and metal contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(b) Sulfate (for non-community water systems only):~~

~~(i) For each major chemical monitoring violation for sulfate, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~(ii) For each minor chemical monitoring violation for sulfate, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~(iii) For each MCL exceedance for sulfate, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(c) Radiologic Contaminants:~~

~~(i) For each major chemical monitoring violation for radiological contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~(ii) For each minor chemical monitoring violation for radiological contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~(iii) For each MCL exceedance for radiological contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(d) Asbestos Contaminants:~~

~~(i) For each major chemical monitoring violation for source water or distribution system asbestos, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~(ii) For each minor chemical monitoring violation for source water or distribution system asbestos, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~(iii) For each MCL exceedance for source water or distribution system asbestos, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(e) Nitrate:~~

~~(i) For each routine chemical monitoring violation for nitrate, 50 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(ii) For each MCL exceedance of nitrate, 60 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.~~

~~(f) Nitrite:~~

~~(i) For each routine chemical monitoring violation for nitrite, 35 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~(ii) For each MCL exceedance of nitrite, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.~~

~~_____ (g) Volatile Organic Chemicals:~~

~~_____ (i) For each major chemical monitoring violation for volatile organic chemical contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~_____ (ii) For each minor chemical monitoring violation for volatile organic chemical contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (iii) For each MCL exceedance for volatile organic chemical contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (h) Pesticides/PCBs/SOCs~~

~~_____ (i) For each major chemical monitoring violation for pesticide/PCB/SOC contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~_____ (ii) For each minor chemical monitoring violation for pesticide/PCB/SOC contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (iii) For each MCL exceedance for pesticide/PCB/SOC contaminants, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (i) Disinfection Byproducts:~~

~~_____ (i) Total Trihalomethanes:~~

~~_____ (A) For each routine chemical monitoring violation for total trihalomethanes, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for total trihalomethanes, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (ii) Haloacetic Acids (HAA5):~~

~~_____ (A) For each routine chemical monitoring violation for HAA5, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for HAA5, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (iii) Bromate:~~

~~_____ (A) For each routine chemical monitoring violation for bromate, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for bromate, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (iv) Chlorite:~~

~~_____ (A) For each routine chemical monitoring violation for chlorite, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for chlorite, 30 points shall be assessed. For each failure to perform the associated public~~

notification, 5 points shall be assessed.

~~_____ (j) Disinfectant Residuals:~~

~~_____ (i) Chlorine:~~

~~_____ (A) For each routine chemical monitoring violation for chlorine, 10 points shall be assessed. R309-210-8(3)(a). For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for chlorine, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (C) For a disinfected system that does not maintain a trace residual at all points of the distribution system, 2 points shall be assessed. R309-105-10(1) and R309-200-5(7).~~

~~_____ (D) For a disinfected system that lacks an adequate number of disinfection residual sample sites, 2 points shall be assessed. R309-210-8(3)(a)(i)(z15).~~

~~_____ (ii) Chloramines:~~

~~_____ (A) For each routine chemical monitoring violation for chloramines, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each MCL exceedance for chloramines, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (iii) Chlorine Dioxide:~~

~~_____ (A) For each routine monitoring violation for chlorine dioxide, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (B) For each non-acute chlorine dioxide MCL violation, 30 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (C) For each acute chlorine dioxide MCL violation, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.~~

~~_____ (iv) Ground Water Rule, where a water system has received a 4-Log exemption from triggered source water monitoring:~~

~~_____ (A) For a ground water treatment facility serving greater than 3300 population lacking equipment to measure chlorine residuals continuously entering the distribution system, 20 points shall be assessed. R309-215-10(1).~~

~~_____ (B) For a ground water system serving greater than 3300 people failing to continuously monitor the residual disinfectant concentrations, 10 points shall be assessed. R309-215-16(3)(b)(iii)(A)(I).~~

~~_____ (C) For a ground water system serving less than 3300 people failing to collect a daily grab sample during peak demand to monitor the residual disinfectant concentrations, 10 points shall be assessed. R309-215-16(3)(b)(iii)(A)(II).~~

~~_____ (D) For a ground water system that during the past year, the disinfection process was not operated uninterrupted while water was being produced, points will be assessed based on monthly and quarterly treatment reports. R309-200-5(7).~~

~~_____ (E) For a ground water system that is required to provide continuous disinfection but fails to do so, 10 points shall be assessed for each month the failure continues. R309-520-6(1).~~

~~_____ (k) Lead and Copper:~~

~~_____ (i) For each major chemical monitoring violation for lead and copper contaminants, 20 points shall be assessed. For each failure to perform the associated public notification, 3 points shall be assessed.~~

~~_____ (ii) For each minor chemical monitoring violation for lead and copper contaminants, 10 points shall be assessed. For each failure to perform the associated public notification, 1 point shall be assessed.~~

~~_____ (iii) A system that fails to install, by the designated deadline, optimal corrosion control if the lead or copper action level has been exceeded shall be assessed 35 points. For each failure to perform the associated public notification, 10 point shall be assessed.~~

~~_____ (iv) A system that fails to install source water treatment if the source waters exceed the lead or copper action level shall be assessed 35 points. For each failure to perform the associated public notification, 10 points shall be assessed.~~

~~_____ (v) A system that fails to complete public notification/education if the lead/copper action levels have been exceeded shall be assessed 10 points for each calendar quarter that the system fails to provide public notification/education.~~

~~_____ (vi) A system that still exceeds the lead action level and is not on schedule for lead line replacement shall be assessed 5 points annually. For each failure to perform the associated public notification, 2 point shall be assessed.~~

~~_____ (vii) A system that fails to notify its customers of their lead and copper sample results, 5 points shall be assessed.~~

~~_____ (viii) A system that fails to send the lead and copper certification notice to the Division, 5 points shall be assessed.~~

~~_____ (l) Groundwater Turbidity:~~

~~_____ (i) For each monitoring violation for turbidity, 35 points shall be assessed. For each failure to perform the associated public notification, 5 points shall be assessed.~~

~~_____ (ii) For each confirmed MCL exceedance of turbidity, 50 points shall be assessed. For each failure to perform the associated public notification, 10 points shall be assessed.~~

~~_____ (m) Surface Water Treatment:~~

~~_____ (i) For water systems having sources, which are classified as under direct influence from surface water and which fail to abandon, retrofit or provide conventional complete treatment or its equivalent within 18 months of notification shall be assessed 150 points. For the associated failure to perform public notification 10 points shall be assessed. The points shall be assessed as the failure occurs and shall remain on record until adequate treatment is provided or the source is physically disconnected.~~

~~_____ (ii) Quality and Monitoring: The surface water treatment assessments shall be updated on a monthly basis with the total number of points reflecting the most recent 12-month period.~~

~~_____ (A) Turbidity:~~

~~_____ (I) For each turbidity exceedance that requires tier 1 notification under R309-220-5(1)(e) or (f), 50 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.~~

~~(II) For each turbidity exceedance that requires tier 2 notification under R309-220-5(1)(e) or (f), 35 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.~~

~~(III) For each month where the percentage of turbidity interpretations meeting the treatment plant limit is less than 95 percent, 25 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.~~

~~(IV) For any period of time that exceeds 4 hours where the system fails to continuously measure (or perform grab samples) the combined filter effluent turbidity, 50 points shall be assessed. For the associated failure to perform public notification, 10 points shall be assessed.~~

~~(V) For a water system whose failure to repair continuous turbidity monitoring equipment within 5 working days, 50 points shall be assessed.~~

~~(B) Disinfection:~~

~~(I) For each instance where the disinfectant level in water entering the distribution system is less than 0.2 milligrams per liter for more than 4 hours, 25 points shall be assessed. For the associated failure to perform public notification, 5 points shall be assessed.~~

~~(II) For each instance where there is insufficient disinfectant contact time, 35 points shall be assessed. For the associated failure to perform public notification, 5 points shall be assessed.~~

~~(iii) Treatment Process Control:~~

~~(A) For each instance a treatment facility exceeds the assigned filter rates, 30 points shall be assessed.~~

~~(B) For each month a water system fails to verify calibration of the plant turbidimeters, 5 points shall be assessed.~~

~~(C) For each month a water system fails to submit a water treatment plant report, 50 points shall be assessed.~~

~~R309-400-6. Physical Facilities.~~

~~All points assessed to public water systems via this subsection are based upon violation of R309-500 through R309-705 unless otherwise noted. These points shall be assessed and updated upon notification of the Director and shall remain until the violation or deficiency no longer exists.~~

~~(1) New Source Approval:~~

~~(a) Use of an unapproved source shall be assessed 200 points.~~

~~(2) Surface Water Diversion Structures and Impoundments:~~

~~(a) For each surface water intake structure that does not allow for withdrawal of water from more than one level if quality significantly varies with depth, 2 points shall be assessed. R309-515-5(5)(a).~~

~~(b) Where diversion facilities are not capable of keeping large quantities of fish or debris from entering the intake, 2 points shall be assessed. R309-515-5(5)(e).~~

~~(c) Where impoundment reservoirs have not had brush and trees removed to the high water level, 2 points shall be assessed. R309-515-5(6)(a).~~

~~(d) Where reservoir watershed management has not provided adequate precautions to limit nutrient loading, 10 points shall be assessed. R309-515-5(6)(d).~~

~~(3) Well Sources~~

~~(a) For each well that is not equipped with a sanitary seal, or has any unsealed opening into the well casing, 50 points shall be assessed. R309-515-6(6)(i).~~

~~(b) For each well that does not utilize food grade mineral oil for pump lubrication, 25 points shall be assessed. R309-515-8(2).~~

~~(c) For each well casing that does not terminate at least 12 inches above the well house floor, 18 inches above the final ground surface, or shows evidence of being subject to flooding, 20 points shall be assessed. R309-515-6(6)(b)(vi) and R309-515-6(13)(a) and (d).~~

~~(d) For each well fitted with a pitless adaptor that does not maintain a water tight seal throughout, 50 points shall be assessed. R309-515-6(12)(c)(x).~~

~~(e) For each wellhead that is not properly secured to protect the quality of the well water, 20 points shall be assessed. R309-515-6(13)(f).~~

~~(f) For each well that is equipped with a pump to waste line that does not discharge with a minimum of 12-inch clearance to the flood rim, 20 points shall be assessed. R309-515-6(12)(d)(ix).~~

~~(g) For each well that is equipped with a pump to waste line without a downturned discharge end covered with a No. 4 mesh screen, 5 points shall be assessed. R309-515-6(12)(d)(ix).~~

~~(h) For each well that is equipped with a pump to waste line that discharges to a receptacle without local authorization, 2 points shall be assessed.~~

~~(i) For each well that does not have a means to permit periodic measurement of water levels, 2 points shall be assessed. R309-515-6(12)(e)(i) and (ii).~~

~~(j) For each well casing vent that is not covered with a No. 14 or finer mesh screen, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b).~~

~~(k) For each well casing vent that is not downturned, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b). Also Division of Water Rights Rule R655-4-11.7.11.~~

~~(l) For each well casing vent that does not have adequate clearance to prevent the contaminants from entering the well, 2 points shall be assessed. R309-515-6(12)(d)(iii) and R309-550-6(6)(b).~~

~~(m) For each well (excluding the naturally flowing wells) that has discharge piping that is not equipped with 1) a smooth nosed sampling tap 2) check valve 3) pressure gauge 4) means of measuring flow, and 5) shut-off valve, 1 point shall be assessed for each component not present. R309-515-6(12)(d)(iv).~~

~~(n) For each well that pumps directly into a distribution system and does not have a means to release trapped air from the discharge piping (for example, release air through an air release vacuum relief valve, through a pump to waste line or pumps directly to a tank), 5 points shall be assessed. R309-515-6(12)(d)(v).~~

~~(o) For each well house that is not at least 6 inches above the final ground level, is not sloped to drain, or shows evidence of being subject to flooding, 5 points shall be assessed. R309-515-6(13)(b).~~

~~(p) For each well that has a cross connection present in the discharge piping, 20 points shall be assessed. R309-105-12(1) and~~

~~R309-515-6(12)(d)(iii).~~

~~_____ (q) For each well with an air vacuum relief valve on the well discharge piping that is not screened, 2 points shall be assessed.~~

~~_____ R309-515-6(12)(d)(v).~~

~~_____ (r) For each well with an air vacuum relief valve on the well discharge piping that is not downturned, 2 points shall be assessed.~~

~~_____ R309-515-6(12)(d)(v).~~

~~_____ (s) For each well with an air vacuum relief valve on the well discharging piping that does not have a 6-inch clearance to prevent contaminants from entering the piping, 2 points shall be assessed.~~

~~_____ R309-515-6(12)(d)(v).~~

~~_____ (t) For each well that has rotating and electrical equipment that is not provided with protective guards, 2 points shall be assessed.~~

~~_____ (4) Spring Sources:~~

~~_____ (a) For each spring source that allows surface water to stand or pond upon the spring collection area (within 50 feet from collection devices), 10 or 20 points shall be assessed. The number of points shall be based upon the size and extent of the ponding; the possible source (rainfall or incomplete collection); or the presence of moss or other indicators of long term presence of standing water.~~

~~_____ R309-515-7 (7)(i).~~

~~_____ (b) For each spring area that does not have a minimum of ten feet of relative impervious soil or an acceptable alternate design with liner, or the spring collection area shows evidence of damaged liner or impervious soil cover, 10 points shall be assessed.~~

~~_____ R309-515-7(7)(a) and (b).~~

~~_____ (c) For each spring area that has deep-rooted vegetation within the fenced collection area, 10 points shall be assessed.~~

~~_____ R309-515-7(7)(f).~~

~~_____ (d) For each spring area that has deep rooted vegetation interfering with the spring collection, 10 points shall be assessed.~~

~~_____ R309-515-7(7)(f).~~

~~_____ (e) For each spring with a spring collection/junction box that does not have a proper shoebox lid, 5 points shall be assessed.~~

~~_____ R309-515-7(7)(d) and R309-545-14(2).~~

~~_____ (f) For each spring with a spring collection/junction box that does not have a proper gasket on the lid, 5 points shall be assessed.~~

~~_____ R309-515-7(7)(d) and R309-545-14(2).~~

~~_____ (g) For each spring with a spring collection/junction box that lacks an adequate air vent, 5 points shall be assessed.~~

~~_____ R309-515-7(7)(d) and R309-545-15.~~

~~_____ (h) For each spring with a spring collection/junction box with a vent that is not screened with No. 14 mesh screen, 2 points shall be assessed. R309-515-7(7)(d) and R309-545-15.~~

~~_____ (i) For each spring with a spring collection/junction box with a vent that is not down-turned or inverted, 2 points shall be assessed.~~

~~_____ R309-515-7(7)(d) and R309-545-15(1).~~

~~_____ (j) For each spring with a spring collection/junction box with a vent that does not have sufficient clearance to prevent ice blockage, or is not at least 24 inches above the earthen cover, 2 points shall be assessed. R309-515-7(7)(d) and R309-545-15(2).~~

~~_____ (k) For each spring with a spring collection/junction box that lacks a raised access entry, at least 4 inches above the spring box~~

~~or 18 inches above the earthen cover, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-14(1).~~

~~(l) For each spring with a spring collection/junction box that is not secured against unauthorized access, 20 points shall be assessed. R309-515-7(7)(d) and R309-545-14(3).~~

~~(m) For each spring collection area without a proper fence, 10 points shall be assessed. R309-515-7(7)(e).~~

~~(n) For each spring collection area that does not have a diversion channel, or berm capable of diverting surface water away from the collection area, 5 points shall be assessed. R309-515-7(7)(g).~~

~~(o) For each spring system that does not have a permanent flow measuring device, 5 points shall be assessed. R309-515-7(7)(h).~~

~~(p) For each spring area with an overflow or a combined overflow/drain discharge that is not screened with a No. 4 mesh screen, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-13.~~

~~(q) For each spring collection/junction box overflow that does not have a freefall of 12 to 24 inches between the bottom of the discharge pipe and the surrounding ground, 5 points shall be assessed. R309-515-7(7)(d) and R309-545-13.~~

~~(r) For each spring collection/junction box that has any unsealed opening(s) resulting in public health risk, 50 points shall be assessed. R309-515-7(7)(d) and R309-545-9(1).~~

~~(5) Pump Stations.~~

~~(a) For a pumping facility that does not have a standard pressure gauge on the discharge line, 1 point shall be assessed. R309-540-5(6)(c)(i).~~

~~(b) For a pumping facility building without adequate drainage or showing evidence of flooding, 5 points shall be assessed. R309-540-5(2)(a)(v) and (vi).~~

~~(c) For a pumping facility where the discharge line from the air release valve is not screened with number 14 non-corrodible mesh screen, 2 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)(b).~~

~~(d) For an air release valve located within a building, if the discharge line terminates less than six inches above the floor, 2 points shall be assessed. R309-515-6(12)(d)(v) and R309-540-5(6)(b)(ii).~~

~~(e) For an air release valve located in a chamber, if the air release valve discharge piping terminates less than 12 inches above grade, or less than one foot above the top of the pipe where the chamber is not subject to flooding, 10 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)(b).~~

~~(f) For a pumping facility where the discharge line from the air release valve is not down-turned, 2 points shall be assessed. R309-540-5(6)(b)(ii) and R309-550-6(6)(b).~~

~~(g) For a pumping facility where there is inadequate heating, lighting or ventilation, 5 points shall be assessed. R309-540-5(2)(e), (f) and (g).~~

~~(h) For a pumping facility where there are cross connections present, 20 points shall be assessed. R309-105-12(1).~~

~~(i) For an inline booster pumping facility designed to provide pressure directly to the distribution system, which does not have at least two pumping units such that with any one pump out of service~~

the remaining pump or pumps are capable of meeting the peak day demand of the specific portion of the system served, 20 points shall be assessed. R309-540-5(4)(b).

(j) For a pumping facility which does not have protective guards on rotating and electrical equipment, 2 points shall be assessed. R309-525-21.

(k) For a pumping facility which is not secured against unauthorized access shall be assessed, 5 points. R309-540-5(1)(a)(v).

(6) Hydropneumatic pressure tanks.

(a) For diaphragm or air tanks located below ground without adequate provisions for drainage, maintenance and flood protection, 10 points shall be assessed. R309-540-6(2).

(b) For a pressure tank with a pump cycle that cycles more frequently than once every 4 minutes, 5 points shall be assessed. R309-540-6(5).

(7) Storage:

(a) A water system with uncovered finished water storage shall immediately be assessed a rating of not approved, 200 points shall be assessed. R309-545-9(1) and (2).

(b) For each storage tank roof showing evidence of water ponding with deterioration, 10 points shall be assessed. R309-545-9(4).

(c) For each storage tank that does not have an access to the interior for cleaning and maintenance, 9 points shall be assessed. R309-545-14.

(d) For each storage tank access that does not have a shoebox type lid with a minimum of a 2-inch overlap, 3 points shall be assessed. R309-545-14(2).

(e) For each storage tank access that lacks a proper gasket between the lid and frame, 3 points shall be assessed. R309-545-14(2).

(f) For each storage tank access that lacks a minimum rise of 4 inches above the tank roof or a minimum of 18 inches above an earthen cover, 3 points shall be assessed. R309-545-14(1).

(g) For each storage tank that is not vented, 6 points shall be assessed. R309-545-15.

(h) For each finished water storage tank vent that is not downturned or covered from rain and dust, 2 points shall be assessed. R309-545-15(1).

(i) For each storage tank vent that does not terminate a minimum of 24 inches above the surface of the storage tank roof if the tank is a buried structure, 2 points shall be assessed. R309-545-15(2).

(j) For each storage tank vent that is not screened with number 14 non-corrodible mesh screen, 2 points shall be assessed. R309-545-15(4).

(k) For each storage tank that lacks an overflow, 15 points shall be assessed. R309-545-13.

(l) For each storage tank overflow that does not terminated 12 to 24 inches above the ground, 5 points shall be assessed. R309-545-13.

(m) For each storage tank overflow that is not screened with number 4 non-corrodible mesh screen, 5 points shall be assessed. R309-545-13(3).

(n) For each storage tank overflow that is connected to a sewer

~~system without an adequate air gap, 5 points shall be assessed. R309-545-13(5).~~

~~(o) For each storage tank with a drain that does not discharge through a physical airgap of at least 2 pipe diameters, 5 points shall be assessed. R309-545-10(1).~~

~~(p) For each storage tank with inadequate or improper means of site drainage or showing evidence of standing surface water within 50 feet of the tank, 5 points shall be assessed. R309-545-7(4).~~

~~(q) For each storage tank with any unsealed roof or wall penetrations, 50 points shall be assessed. R309-545-9(2).~~

~~(r) For each storage tank where the roof and sidewalls show signs of deterioration, 10 to 50 points shall be assessed based upon the size and number of cracks, the loss of structural integrity, and the access of contamination to the drinking water. R309-545-9(1).~~

~~(s) For each storage tank without a safe access (such as ladders for tanks in excess of 20 feet, ladder guards, or railings) or safely located entrance hatches, 2 points shall be assessed. R309-545-19(1), (2) and (3).~~

~~(t) For each storage tank with internal coatings not in compliance with ANSI/NSF standard 61, 30 points shall be assessed. R309-545-11.~~

~~(u) For a storage facility that is not secured against unauthorized access, 20 points shall be assessed. R309-545-14(3).~~

~~(8) Distribution System:~~

~~(a) A water system that fails to provide the minimum water pressures as required in R309-105-9 at all times and at all locations within the distribution system, 50 points shall be assessed. R309-105-9 and R309-550-5(1).~~

~~(b) A water system using pipe and materials not meeting the ANSI/NSF 61 standard shall be assessed 30 points. R309-550-6.~~

~~(c) A water system with pipelines installed without adequate separation distance from the sanitary sewer lines shall be assessed 30 points. R309-550-7.~~

~~(d) A new water system constructed after January 1, 2007 or an existing water system modification without adequate pressure as defined in R309-105-9(2) shall be assessed 50 points.~~

~~(e) A water system which has a distribution line that crosses under a surface water body without adequate protection as outlined in R309-550-8(8)(b) shall be assessed 50 points.~~

~~(f) A water system which has distribution system flushing devices, blow-offs or air relief valves, which are directly connected to a sewer or do not have a proper air gap, shall be assessed 20 points. R309-550-6 and R309-550-9.~~

~~(g) For a water system that does not properly follow the AWWA disinfection standards 10 points shall be assessed. R309-550-8(10).~~

~~(h) For a water system that is required by the local fire authority to provide fire protection or has fire hydrants connected with water mains less than 8 inches in diameter, 5 points shall be assessed. These points will only be assessed for water mains installed after 1995. R309-550-5(4) and (5).~~

~~(i) For each air relief valve vent piping, which is not screened with a No. 14 mesh and downturned, 10 points shall be assessed. R309-550-6(6)(b).~~

~~(j) For an air release valve located in a chamber, if the air~~

~~release valve discharge piping terminates less than 12 inches above grade or less than one foot above the top of the pipe where the chamber is not subject to flooding, 10 points shall be assessed. R309-550-6(6)(b).~~

~~(k) For each air relief valve located in a chamber without a drain or adequate sump, or showing evidence of being subject to flooding, 30 points shall be assessed. R309-550-7.~~

~~(l) For each air vacuum release valve chamber that is flooded at the time of inspection, 50 points shall be assessed.~~

~~(m) For an unprotected cross-connection in the distribution system as required in R309-550-9, 50 points shall be assessed.~~

~~(9) Quantity requirements~~

~~(a) A water system without sufficient source capacity to meet peak day and average yearly flow requirements, from 10 to 50 points shall be assessed. The number of points shall be based upon the severity of the shortage, including the number of times and duration of water outages or low pressure. R309-510-7.~~

~~(b) A water system without sufficient storage capacity to meet average day demand, plus the required fire suppression volume if applicable, 10 to 50 points shall be assessed. The number of points shall be based upon the severity of the shortage including the number of times and duration of water outages. R309-510-8.~~

~~R309-400-7. Treatment Processes.~~

~~(1) General Treatment.~~

~~(a) For a treatment facility without anti-siphon control to assure that liquid chemical solutions cannot be siphoned through solution feeders into the process units, 2 points shall be assessed. R309-525-11(9)(b)(ii) and (c).~~

~~(b) For a treatment facility with a process tank that is not properly labeled to designate the chemical contained, 2 points shall be assessed. R309-525-11(8)(c)(vii).~~

~~(c) For a treatment facility with chemicals not stored in covered or unopened shipping containers, unless the chemical is transferred into a covered storage unit, 2 points shall be assessed. R309-525-11(6)(a)(iii).~~

~~(d) For a treatment facility with no cross connection control provided to assure that no direct connections exist between any sewer and the drain or overflow from the feeder, solution chamber, or tank by providing that all pipes terminate at least six inches or two pipe diameters, whichever is greater, above the overflow rim of a receiving sump, conduit, or waste receptacle, 10 points shall be assessed. R309-525-11(9)(b)(iii).~~

~~(e) For a treatment facility with no spare parts available for all feeders to replace parts that are subject to wear and damage, 2 points shall be assessed. R309-525-11(7)(b)(v).~~

~~(f) For a treatment facility where incompatible chemicals are fed, stored or handled together, 2 points shall be assessed. R309-525-11(7)(a)(iv).~~

~~(g) For a treatment facility where daily operating records do not reflect chemical dosages and total quantities used, 2 points shall be assessed. R309-105-14(3).~~

~~(h) For a water system that fails to maintain and properly calibrate all instrumentation needed to verify the treatment process,~~

~~2 points shall be assessed. R309-525-25(4).~~

~~(i) For a treatment facility without the means to accurately measure the quantities of chemicals used, 20 points shall be assessed. R309-525-11(7)(a)(i) and R309-525-11(6)(b)(iii).~~

~~(j) A water system that does not keep acids and caustics in closed corrosion-resistant shipping containers or storage units, 2 points shall be assessed. R309-525-11(11)(a)(i).~~

~~(k) For a treatment facility that does not have the vent hose from the feeder to discharge to the outside atmosphere above grade or have the end covered with #14 non-corrodible mesh screen, 2 points shall be assessed. R309-520-7(2)(f).~~

~~(l) For a treatment facility that uses any chemical that is added to water being treated for use in a public water system for human consumption that does not comply with ANSI/NSF Standard 60, 25 points shall be assessed. R309-525-11(5).~~

~~(m) For a treatment facility that does not have a finished water sampling tap(s), 2 points shall be assessed. R309-525-18.~~

~~(n) For a treatment facility that is not performing adequate process control testing consistent with the specific treatment process, 30 points shall be assessed. R309-525-19.~~

~~(o) For a surface water treatment facility that does not have continuous residual disinfection equipment to measure the residual in mg/L entering the distribution system, 20 points shall be assessed. R309-215-10(1).~~

~~(p) For a treatment facility without provisions for disposing of empty bags, drums or barrels by an acceptable procedure that will minimize operator exposure to dusts, 2 points shall be assessed. R309-525-11(6)(b) and (c).~~

~~(q) For a treatment facility that does not provide cross connection control on the make-up waterlines discharging to solution tanks, 10 points shall be assessed. R309-525-11(9)(b)(i).~~

~~(r) For a treatment facility with solution tank overflow pipes that do not have a free fall discharge or are not located where noticeable, 2 points shall be assessed. R309-525-11(8)(b)(v).~~

~~(s) For a treatment facility without adequate spill containment provisions, 2 points shall be assessed. R309-525-11(6)(a)(iv)(B).~~

~~(t) For a treatment facility with acid storage tanks that are not vented to the outside atmosphere with separate screened vents, 2 points shall be assessed. R309-525-11(8)(b)(vi).~~

~~(u) For a treatment facility without provisions for the proper disposal of water treatment plant waste (such as sanitary, laboratory, sludge, and filter backwash water), 5 points shall be assessed. R309-525-23.~~

~~(v) For a treatment facility where cross connection control is not provided on the feed lines to the solution tanks, 10 points shall be assessed. R309-525-11(9)(b) and (c).~~

~~(w) For a treatment facility that does not have a means to measure water flow rate, 10 points shall be assessed.~~

~~(x) For a surface water treatment facility where the piping is not labeled and color coded to identify the direction of flow and the contained liquid, 2 points shall be assessed. R309-525-8.~~

~~(y) Treatment facilities not secured against unauthorized access, 20 points shall be assessed.~~

~~(z) For a treatment facility using expired chemical reagents~~

for process control, 5 points shall be assessed.

~~(aa) For a treatment facility with no access to lab or test kits for process testing, 2 points shall be assessed. R309-525-17(1).~~

~~(bb) For a treatment facility lacking cross connection control for the in-plant water supply, 10 points shall be assessed. R309-525-11(9)(b)~~

~~(2) Disinfection.~~

~~(a) General.~~

~~(i) For a chlorination facility which is not heated, lighted or ventilated as necessary to assure proper operation or the equipment and serviceability, 2 points shall be assessed. R309-520-7(1)(l).~~

~~(ii) For a disinfection facility without cross connection control on the solution feeders into the process units as required in R309-525-11(9)(c), 10 points shall be assessed. R309-525-11(9)(b)(ii).~~

~~(iii) For a chlorination facility where there is no standby disinfection equipment of sufficient capacity available to replace the largest unit, 10 points shall be assessed. R309-520-7(1)(k).~~

~~(iv) For a disinfection facility where the correct reagent is not used for testing free disinfectant residual, 2 points shall be assessed.~~

~~(v) For a treatment facility where the pre- and post-chlorination processes are not independent of each other, to prevent possible siphoning of partially treated water into the clear well, 50 points shall be assessed. R309-525-11(9)(b)(iv).~~

~~(vi) For a disinfection facility where chemical solution tanks are not kept covered, 2 points shall be assessed. R309-525-11(8)(b)(iii).~~

~~(vii) For a disinfection facility without disinfectant residual test equipment, 2 points shall be assessed. R309-520-7(1)(j).~~

~~(viii) For a disinfection facility where there is no means to measure the volume of water treated, 2 points shall be assessed. R309-520-7(1)(i).~~

~~(b) Gas chlorination.~~

~~(i) For a gas chlorination facility without an automatic switch over of chlorine cylinders to assure continuous disinfection, 2 points shall be assessed. R309-520-7(2)(a).~~

~~(ii) For a gas chlorination facility without scales for weighing cylinders, 2 points shall be assessed. R309-520-7(2)(k).~~

~~(iii) For a gas chlorination facility without a leak repair kit, 15 points shall be assessed. R309-520-7(2)(p).~~

~~(iv) For a gas chlorination facility without respiratory equipment available and stored at a convenient location, 5 points shall be assessed. R309-520-7(2)(o).~~

~~(v) For a gas chlorination facility housed in a water treatment plant building where the chlorine gas feed and storage area is not enclosed and separated from other operating areas, 2 points shall be assessed. R309-520-7(2)(h).~~

~~(vi) For a gas chlorination facility where the chlorination equipment rooms are not vented such that the ventilating fan(s) take suction near the floor, as far as practical from the door and air inlet, with the point of discharge so located as not to contaminate air inlets of any rooms or structures, 5 points shall be assessed. R309-520-7(2)(e)(ii).~~

~~_____ (vii) For a gas chlorination facility where the chlorination equipment rooms are not vented such that air inlets are through louvers near the ceiling, 2 points shall be assessed. R309-520-7(2)(e)(iii).~~

~~_____ (viii) For a gas chlorination facility where the chlorination equipment rooms are not vented such that separate switches for the fans and lights are outside of the chlorine room, at the entrance to the chlorination equipment room and protected from vandalism, 2 points shall be assessed. R309-520-7(2)(e)(v).~~

~~_____ (ix) For a gas chlorination facility where the vent hose from the feeder to discharge to the outside atmosphere is not above grade or does not have the end covered with #14 non-corrodible mesh screen, 2 points shall be assessed. R309-520-7(2)(f).~~

~~_____ (x) For a gas chlorination facility without a bottle of ammonium hydroxide (56%) available for leak detection, 2 points shall be assessed. R309-520-7(2)(p).~~

~~_____ (xi) For a gas chlorination facility where full and empty cylinders of chlorine gas are not restrained in position to prevent upset, 2 points shall be assessed. R309-520-7(2)(i)(ii).~~

~~_____ (xii) For a gas chlorination facility with full and empty cylinders of chlorine gas stored in areas in direct sunlight or exposed to excessive heat, 2 points shall be assessed. R309-520-7(2)(i)(iii).~~

~~_____ (xiii) For a gas chlorination facility in a water treatment plant building where the chlorine room is constructed in a manner that any openings between the chlorine room and the remainder of the plant are not sealed, 2 points shall be assessed. R309-520-7(2)(h)(ii).~~

~~_____ (xiv) For a gas chlorination facility housed in a water treatment plant building that lacks outward-opening doors with panic bars, 2 points shall be assessed. R309-520-7(2)(h)(iii).~~

~~_____ (xv) For a gas chlorination facility housed in a water treatment plant building with floor drains that do not discharge to the outside of the building and are not connected to other internal or external drain systems, 5 points shall be assessed. R309-520-7(2)(h)(iv).~~

~~_____ (xvi) For a gas chlorination facility without a means of chlorine leak detection, such as a bottle of ammonia hydroxide solution or chlorine leak detection equipment, 15 points shall be assessed. R309-520-7(2)(p).~~

~~_____ (c) Chlorine dioxide.~~

~~_____ (i) For a chlorine dioxide disinfection facility where provisions are not made for proper storage of sodium chlorite to eliminate any danger of explosion 2 points shall be assessed. R309-520-10(3)(b) and R309-525-11(11)(b)(i).~~

~~_____ (ii) For a chlorine dioxide disinfection facility where sodium chlorite is not stored by itself in a separate room and away from organic materials that would react violently with sodium chlorite, 2 points shall be assessed. R309-520-10(5)(a) and R309-525-11(11)(b)(i)(A).~~

~~_____ (iii) For a chlorine dioxide disinfection facility where sodium chlorite storage structures are not constructed of noncombustible materials, 2 points shall be assessed. R309-520-10(3)(b)(iv) and R309-525-11(11)(b)(i)(B).~~

~~_____ (iv) For a chlorine dioxide disinfection facility where a sodium chlorite storage structure is not located in an area where a fire~~

may occur, water should be available to keep the sodium chlorite area sufficiently cool to prevent decomposition from heat and resultant potential explosive conditions. 2 points shall be assessed if this is not the case. R309-520-10(4)(d) and R309-525-11(11)(b)(i)(C).

~~(v) For a chlorine dioxide disinfection facility that stores combustible or reactive materials in the operating area, 2 points shall be assessed. R309-520-10(5)(a).~~

~~(vi) For a chlorine dioxide disinfection facility that does not store personal protective equipment nearby, 5 points shall be assessed. R309-520-10(5)(c).~~

~~(vii) For a chlorine dioxide disinfection facility that does not have an emergency eyewash and shower immediately outside the operating area, 2 points shall be assessed. R309-520-10(3)(b)(viii).~~

~~(viii) For a chlorine dioxide disinfection facility that lacks an emergency shutoff for flows to the chlorine dioxide generator, 2 points shall be assessed. R309-520-10(3)(b)(ix).~~

~~(ix) For a chlorine dioxide disinfection facility that lacks a distinguishable alarm triggered by an ambient air chlorine dioxide sensor, 2 points shall be assessed. R309-520-10(3)(b)(v).~~

~~(x) For a chlorine dioxide disinfection facility that lacks wash down water available in the operating area, 2 points shall be assessed. R309-520-10(3)(b)(xvi).~~

~~(xi) For a chlorine dioxide disinfection facility that does not maintain the temperature of the chlorine dioxide operating area between 60 and 100°F, 2 points shall be assessed. R309-520-10(5)(d).~~

~~(xii) For a chlorine dioxide disinfection facility that lacks an Operation and Maintenance Manual including safety and emergency response procedures, 2 points shall be assessed. R309-520-10(5)(f).~~

~~(d) Ultraviolet (UV)~~

~~(i) For a UV disinfection facility that lacks an operating procedure in place to handle UV lamp breakage, power supply interruption, response to alarms, 2 points shall be assessed. R309-520-8(4)(b).~~

~~(ii) For a UV disinfection facility that does not calibrate and operate UV intensity sensors per manufacturer's instruction, 2 points shall be assessed R309-520-8(4).~~

~~(iii) For a UV disinfection facility that does not use ANSI/NSF Standard 60 chemicals in the cleaning of the UV, 25 points shall be assessed. R309-520-8(3)(j).~~

~~(iv) For a UV disinfection facility that can't isolate the UV disinfection system or each UV reactor for maintenance, 2 points shall be assessed. R309-520-8(3)(g).~~

~~(v) For a UV disinfection facility that lacks a backup power source for the UV disinfection system, 2 points shall be assessed. R309-520-8(3)(l).~~

~~(vi) For a UV disinfection facility that lacks a redundant primary disinfection mechanism, 5 points shall be assessed. R309-520-8(3)(m).~~

~~(e) Ozone~~

~~(i) For an ozone disinfection facility without a minimum of two ozone aqueous residual analyzers, 2 points shall be assessed. R309-520-9(7)(c).~~

~~(ii) For an ozone disinfection facility using chemicals that~~

do not meet ANSI/NSF Standard 60 quench the residual ozone, 25 points shall be assessed. R309-520-9(4)(h)

~~(iii) For an ozone disinfection facility lacking properly functioning ozone off-gas blowers from the contactor, 2 points shall be assessed. R309-520-9(5)(b)~~

~~(iv) For an ozone disinfection facility that lacks a system for treating the final off-gas from each ozone contactor, 2 points shall be assessed. R309-520-9(5)(a)~~

~~(v) For an ozone disinfection facility discharging an ozone concentration in the gas discharge exceeding 0.1 ppm by volume, 2 points shall be assessed. R309-520-9(5)(d)~~

~~(3) Fluoridation.~~

~~(a) General~~

~~(i) For a fluoridation facility that does not calculate fluoride concentrations, including chemical dosages and total water quantities daily, 2 points shall be assessed. R309-105-14(3).~~

~~(ii) For a fluoridation facility without a fail-safe device incorporated in the fluoride feed control system to prevent overfeeding fluoride, 30 points shall be assessed. R309-535-5(3).~~

~~(iii) For a fluoridation facility that uses fluoride chemicals that do not conform to the applicable AWWA standards or with ANSI/NSF Standard 60, 25 points shall be assessed. R309-535-5.~~

~~(iv) For a fluoridation facility without scales, loss-of-weight recorders or liquid level indicators, as appropriate, 2 points shall be assessed. R309-535-5(2)(a).~~

~~(v) For a fluoridation facility without proper personal protective equipment as required in R309-525-11(10) for operators handling fluoride compounds, 10 points shall be assessed. R309-535-5(4).~~

~~(vi) For a fluoridation facility lacking a sampling location for measuring the final fluoride level, 2 points shall be assessed. R309-525-18.~~

~~(vii) For a fluoridation facility that does not have a means to measure the flow of water to be treated, 2 points shall be assessed. R309-535-5(2)(g).~~

~~(viii) For a fluoridation facility without fluoride testing equipment not properly verified or calibrated, 2 points shall be assessed. R309-525-25(4).~~

~~(ix) For a fluoride facility adding fluoride compound before lime-soda softening, 2 points shall be assessed. R309-535-5(2)(c).~~

~~(x) For a Fluoridation facility lacking cross connection control so that no direct connections exist between any sewer and a drain or overflow from the feeder, solution chamber or tank, 10 points shall be assessed. R309-525-11(9)(b)(iii).~~

~~(xi) For a fluoridation facility storing incompatible chemicals in the fluoride storage or injection areas, 10 points shall be assessed. R309-525-11(7)(a)(iv).~~

~~(xii) For a fluoridation facility lacking a floor drain to facilitate the washdown of floors, 2 points shall be assessed. R309-535-5(5)(b)~~

~~(b) Acid~~

~~(i) For a fluoridation facility without deluge showers and eye wash devices, 10 points shall be assessed. R309-535-5(4).~~

~~(ii) For a fluoridation facility lacking adequate spill~~

~~containment provisions, 2 points shall be assessed R309-525-11(6)(a)(iv)(B).~~

~~(iii) For a fluoridation facility lacking a vent in the fluorosilicic acid storage units that vents to the atmosphere, 2 points shall be assessed. R309-525-11(8)(b)(vi).~~

~~(c) Dry~~

~~(i) For a fluoridation facility where the make-up water used for sodium fluoride dissolution is not treated to reduce hardness to less than 75 mg/l as calcium carbonate, 2 points shall be assessed. R309-535-5(2)(i).~~

~~(ii) For a fluoridation facility without a spring opposed diaphragm type anti-siphon device for all fluoride feed lines and dilution water lines, 10 points shall be assessed. R309-535-5(2)(f).~~

~~(iii) For a fluoridation facility with saturators that do not have a flow meter on the inlet or outlet line, 2 points shall be assessed. R309-535-5(2)(l).~~

~~(iv) For a fluoridation facility without an adequate level of fluoride crystals in the saturator, 2 points shall be assessed. R309-525-11(8)(b)(i).~~

~~(v) For a fluoridation facility without a NIOSH/MSHA certified dust respirator approved for fluoride dust removal as required in R309-525-11(10) for operators handling dry fluoride compounds, 10 points shall be assessed. R309-535-5(4).~~

~~(vi) For a fluoridation facility where an overflow from the day tank will not drain by gravity back into the bulk storage tank or a containment system, 10 points shall be assessed. R309-525-11(8)(c)(v).~~

~~(vii) For a fluoridation facility using the sodium fluoride dry chemical where the saturators are not of the up-flow type, 2 points shall be assessed. R309-535-5(2)(l).~~

~~(viii) For a fluoride facility where fluoride chemicals stored in uncovered or opened shipping containers and are stored inside a building on pallets, 2 points shall be assessed. R309-535-5(1).~~

~~(ix) For a fluoride feed pump that is not tied directly to the well pump or service pump, 30 points shall be assessed. R309-535-5(2)(k).~~

~~(x) For a fluoridation facility lacking a vent in the dry chemical storage areas that vents to the atmosphere outside the building, 2 points shall be assessed. R309-535-5(5)(a).~~

~~(xi) For a fluoridation facility using sodium fluoride dry chemical and lacking a hopper equipped with an exhaust fan and dust filter and under a negative pressure during transfer of dry fluoride compounds, 10 points shall be assessed. R309-535-5(5)(a).~~

~~(xii) For a fluoridation facility that does not vent air from fluoride handling equipment through a dust filter to the outside atmosphere of the building for dust control during transfer of dry fluoride compounds, 10 points shall be assessed. R309-535-5(5)(a).~~

~~(xiii) For a fluoridation facility using sodium fluoride dry chemical and lacking a means of disposing of empty bags, drums or barrels handled in a manner that minimizes operators' exposure to fluoride dusts shall be assessed, 10 points. R309-535-5(5)(b).~~

~~(4) Filtration Treatment.~~

~~(a) For a filtration facility that does not have equipment for each individual filter to continuously monitor the effluent turbidity,~~

~~30 points shall be assessed.~~

~~(b) For a surface water filtration facility that does not have at least two filter units, each capable of meeting the plant design capacity, 20 points shall be assessed. R309-525-15(3).~~

~~(c) For a conventional surface water filtration facility that does not have the ability to filter to waste (to allow a filter to ripen before introduction finished water into the clearwell), 20 points shall be assessed.~~

~~(d) For a filtration facility where instrumentation and controls are inoperable, 2 points shall be assessed.~~

~~(e) For a filtration facility where a backwash tank is not provided with finished drinking water, 20 points shall be assessed. R309-525-15(7)(a)(ix).~~

~~(f) For a conventional surface water filtration facility where the backwash waste water is not settled prior to being recycled to the head of the treatment plant, 2 points shall be assessed. R309-525-15(7)(a).~~

~~(g) For a membrane filtration facility where automatic membrane integrity tests are not performed at least daily, 2 points shall be assessed. R309-530-8(3)(b).~~

~~(h) For a membrane filtration facility not using ANSI/NSF 60 approved chemicals, 25 points shall be assessed. R309-525-11(5)(b).~~

~~(i) For a membrane filtration facility lacking cross-connection control protection for the treatment process, 10 points shall be assessed.~~

~~(5) Ion Exchange~~

~~(a) For an ion exchange facility without a depth of the exchange resin at least 3 feet, 2 points shall be assessed. R309-535-8(1)(b)(iii).~~

~~(b) For an ion exchange facility using a salt for the brine solution not having an ANSI/NSF 60 certification, 25 points shall be assessed. R309-525-11(5)(b).~~

~~(c) For an ion exchange facility make-up water inlet that lacks protection from back-siphonage, 2 points shall be assessed.~~

~~(d) For an ion exchange facility where the overflow discharge piping is not protected with a corrosion resistant screen or is not terminated with a downturned bend with adequate clearance to prevent cross connection, 10 points shall be assessed. R309-525-11(9)(b).~~

~~(e) For an ion exchange facility that lacks a brine measuring tank or means of metering provided to obtain proper dilution, 2 points shall be assessed. R309-525-11(8)(b)(i).~~

~~(6) Sequestration~~

~~(a) For a polyphosphate sequestration facility that uses chemicals not meeting ANSI/NSF 60 certification, 25 points shall be assessed. R309-535-11(5)(d).~~

~~(b) For a sequestration facility using phosphate chemicals where total phosphate applied exceed 10 milligrams per liter as PO₄, 2 points shall be assessed. R309-535-11(5)(b).~~

~~(c) For a sequestration facility that lacks sample taps located on each raw water source, each treatment unit influent and each treatment unit effluent, 2 points shall be assessed. R309-535-11(5)(d).~~

~~(d) For a sequestration facility that lacks the testing equipment for accurately measuring the phosphate dosage, 2 points~~

shall be assessed. R309-535-11(5).

~~R309-400-8. Operator Certification.~~

~~(1) A water system that is required to have a certified operator and does not, 30 points shall be assessed.~~

~~(2) A water system where the operator is not certified at the appropriate level, 10 points shall be assessed.~~

~~(3) A grade 3 or 4 water system that does not have all direct responsible charge operators (as specified in R309-300-5(5)) certified at the level of the system, 5 to 15 points shall be assessed. The number of points shall be based on the percentage of time that the water system is operated by operators not certified at the required level.~~

~~(4) A water system where the certified operator does not live within a one hour response time, 20 points shall be assessed.~~

~~(5) A water system may be credited up to a maximum of 20 points, which shall remain on record for as long as the conditions apply. The following items are eligible for credit:~~

~~(a) A water system that is not required to have a certified operator and does shall be credited 10 points.~~

~~(b) A water system that has operators that are certified at a higher level than required shall be credited 10 points.~~

~~(c) A water system that has operators certified in other areas that are not required by that water system, such as treatment shall be credited 10 points.~~

~~R309-400-9. Cross Connection Control Program.~~

~~(1) A water system, which does not have any of the below listed components of a cross connection control program in place, 50 points shall be assessed.~~

~~(2) A water system, which only has some of the components of a cross connection control program in place, shall be assessed the following number of points:~~

~~(a) A water system which does not have local authority to enforce a cross connection control program (e.g., ordinance, bylaw or policy), 10 points shall be assessed.~~

~~(b) A water system that does not provided public education or awareness material or presentations on an annual basis, 10 points shall be assessed.~~

~~(c) A water system that does not have an operator with training in the area of cross connection control or backflow prevention, 10 points shall be assessed.~~

~~(d) A water system with no written records of cross connection control activities, such as, backflow assembly inventory and test history, 10 points shall be assessed.~~

~~(e) A water system that does not have on-going enforcement activities (hazard assessments and enforcement actions), 10 points shall be assessed.~~

~~R309-400-10. Drinking Water Source Protection.~~

~~Drinking water source protection (for ground water and surface water sources): Points shall be assessed for each source after a system fails to complete source protection requirements according to schedules or deadlines specified in R309-600 and R309-605, unless~~

~~extensions have been requested from and granted by the Director. The points shall remain until such time as the violation or deficiency is corrected or resolved.~~

~~_____ (1) For a water system that has not appointed a designated person for source protection and notified the Division, 5 points shall be assessed.~~

~~_____ (2) For a water system that has not upgraded a Preliminary Evaluation Report to a Drinking Water Source Protection plan, 30 points shall be assessed.~~

~~_____ (3) For a water system that has not submitted an updated Drinking Water Source Protection plan, 10 points shall be assessed.~~

~~_____ (4) For a water system with any new (see R309-110) sources for which a Preliminary Evaluation Report has not been submitted, 150 points shall be assessed. These points shall be included with the points for an unapproved source, not added to them.~~

~~_____ (5) For a water system that has any existing (see R309-110) sources that have come into use for which a source protection plan has not been submitted, 30 points shall be assessed.~~

~~_____ (6) For a water system that has reconstructed or redeveloped a water source and has not submitted a revised source protection plan, 20 points shall be assessed.~~

~~_____ (7) For a water system that has a disapproved plan, update or Preliminary Evaluation Report, 20 points shall be assessed.~~

~~R309-400-11. Administrative Issues.~~

~~_____ Points in this area shall be assessed at the time that the failure occurs or upon notification of the Director, and shall remain until the issue is resolved unless otherwise specified.~~

~~_____ (1) Administrative Data -~~

~~_____ (a) A water system, that has not designated a person or organizational official responsible for the system including a current address and phone number, 10 points shall be assessed.~~

~~_____ (b) A water system project constructed without proper plan approval, 50 to 200 points shall be assessed based on an evaluation of the project which shall include the structural or engineering integrity of the project; whether the plans and specifications were prepared and stamped by a licensed professional engineer; the adequacy of the materials used and the impact on the operation of the water system (good or bad).~~

~~_____ (2) A water system with a current written Emergency Response Program shall be credited 10 points that shall remain on record as long as the Program remains current.~~

~~_____ (3) A water system with a written Financial Management Plan including an appropriate rate structure, infra-structure replacement fund, and master plan shall be credited 10 points that shall remain on record as long as the Plan is current.~~

~~_____ (4) Sampling Site Plans:~~

~~_____ (a) A water system, which does not have an adequate bacteriological sampling site plan, 5 points shall be assessed.~~

~~_____ (b) A water system, which does not have a lead/copper sampling site plan, 10 points shall be assessed.~~

~~_____ (5) Customer Complaint:~~

~~_____ (a) 25 to 100 points may be assessed for valid and documented customer complaints. The customer complaints include but are not~~

limited to the following:

- ~~_____ (i) Turbidity;~~
- ~~_____ (ii) Pressure;~~
- ~~_____ (iii) Taste and Odor;~~
- ~~_____ (iv) Sickness (water suspected); and~~
- ~~_____ (v) Waterborne Disease Outbreak (R309-104-9).~~
- ~~_____ (vi) Periods of Water Outage~~

~~_____ (b) The number of points shall be based upon the extent and documentation of the problem and the potential impact to public health. The documentation shall consist of an investigation by Department of Environmental Quality, Department of Health or Local Health Department personnel and may include an epidemiological study linking the drinking water to reported outbreaks of illness where appropriate.~~

~~_____ (c) In the case of a documented waterborne disease outbreak, the water system shall automatically be rated Not Approved for at least the duration of the threat to the quality of the drinking water and as long as it takes the water system to correct any deficiency that caused the outbreak.~~

~~_____ (d) Points shall only be assessed once per issue and shall not be additive based on the number of calls per issue. These points shall be assessed and updated upon verification of the complaint by the Director and shall remain on record until the issue or deficiency no longer exists. Points may have already been assessed in other areas as appropriate.~~

~~_____ (6)(a) The Director may issue directives to a water system that include, but are not limited to the following:~~

- ~~_____ (i) Administrative Orders;~~
- ~~_____ (ii) Rule defined action;~~
- ~~_____ (iii) Rule defined compliance schedule;~~
- ~~_____ (iv) Variance/Exemption requirements;~~
- ~~_____ (v) Bilateral Compliance Agreement;~~
- ~~_____ (vi) Notice of Violation and Compliance Order; and~~
- ~~_____ (vii) Compliance Action/Enforcement Order.~~

~~_____ (b) If the water system does not comply with the directive, the Director may assess 25 to 200 points to the water system. Points shall be assessed based upon the severity of the non-compliance, the threat to public health and the underlying basis for the original directive.~~

~~_____ (7) Data Falsification - The Director may assess a water system points for data falsification. The water system may be assessed 25 to 200 points for each occurrence based upon:~~

- ~~_____ (a) the severity of the falsification;~~
- ~~_____ (b) the threat to public health;~~
- ~~_____ (c) the intent of the water system personnel; and,~~
- ~~_____ (d) the type of falsification.~~
- ~~_____ (i) Reports only good data~~
- ~~_____ (ii) Doctored results from the laboratory~~
- ~~_____ (iii) Non-valid sample~~

~~_____ Data reported to the Director includes but is not limited to Water Treatment Plant Reports, Disinfection Reports, bacteriological and chemical analyses, and Annual Reports. This assessment of points shall be in addition to any other penalty provided by law.~~

~~_____ (8) Water Hauling:~~

- ~~_____ (a) For a community water system that is hauling water as a~~

~~permanent method of culinary water distribution, 150 points shall be assessed. R309-550-10(1).~~

~~(b) For a non-community system that is hauling water as a permanent method of culinary water distribution without approval from the director, 150 points shall be assessed. R309-550-10(2).~~

~~(c) For a water system, which has been granted an exception to haul water, if any part of the water hauling guidelines is not followed, 50 points shall be assessed. R309-550-10.~~

~~R309-400-12. Reporting and Record Maintenance Issues.~~

~~Points may be assessed for failure to provide required reports to the Director by the reporting deadline. The points shall be assigned as the failure occurs and shall remain on record for a period of one year.~~

~~(1) Monthly Reports:~~

~~(a) For each failure to report the monthly water treatment plant report, 100 points shall be assessed.~~

~~(2) Quarterly Reports:~~

~~(a) For each failure to report the quarterly disinfection report, 50 points shall be assessed.~~

~~(3) Annual and Other Reports:~~

~~(a) A public water system that fails to submit water use data required by a state agency or fails to verify the accuracy of the data by including a certification by a certified operator or a professional engineer performing the duties of a certified operator shall be assessed 50 points.~~

~~(b) Community water systems that fail to send a certification to the Division stating how the consumer confidence report was distributed to its customers as required in R309-225-7(3), 10 points shall be assessed.~~

~~(c) Community water systems that fail to mail a copy of the consumer confidence report to the Division as required in R309-225-7(3), 10 points shall be assessed.~~

~~(d) A public water system that fails to submit operational reports or other reports required by the Division shall be assessed 20 points.]~~

R309-400-1. Purpose.

The purpose of this rule is to establish the Improvement Priority System used by the division to assign compliance ratings to public water systems and to prioritize enforcement action based on points assessed for noncompliance with drinking water rules.

R309-400-2. Authority.

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104, of the Utah Code and in accordance with 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

R309-400-3. Definitions.

"Improvement Priority System (IPS)" is a point system used by the division to evaluate a public water system's performance and compliance with the drinking water rules in Title 309, *Environmental Quality, Drinking Water*.

"Public Water System Rating" is assigned to a public water system by the director to characterize the water system's compliance with drinking water rules and overall operation and performance.

R309-400-4. Improvement Priority System - Assessment of Points.

The division shall:

maintain and make public an improvement priority system (IPS) program that includes:

a table specifying the number of points associated with each instance of noncompliance with a drinking water rule requirement and noncompliance with a directive or order issued by the director, and the point thresholds for assigning an Approved or Not Approved rating to each type of public water system; and

obtain approval from the Drinking Water Board for substantive revisions to the IPS program.

The division incorporates by reference the IPS program dated August 27, 2019.

Implementation of the IPS program approved by Drinking Water Board starts on January 1, 2020.

The director may assess points to a public water system and take enforcement action in accordance with the implementation policy and the table of points based on:

noncompliance with Title R309 of the Utah Administrative Code; noncompliance with a directive or order issued by the director; or operational practices or performance that may result in a threat to public health.

R309-400-5. Public Water System Ratings.

The director may assign a rating to a public water system of: Approved based on the total number of points assessed for noncompliance;

Not Approved based on:

the total number of points assessed for noncompliance, or an immediate public health threat; or

Corrective Action based on a current, written agreement with the division to resolve underlying noncompliance according to a compliance schedule.

A public water system shall maintain an Approved rating.

A public water system with a Not Approved rating shall:

take immediate action to resolve the noncompliance that resulted in the Not Approved rating; or

enter into a written agreement with the division to resolve the noncompliance that resulted in the Not Approved rating according to a compliance schedule.

R309-400-6. Administrative Appeals.

The assessment of points does not constitute a permit order per R305-7-102(1)(1) and may not be appealed pursuant to R305-7.

The assignment of a rating to a public water system constitutes an initial order per R305-7-102(1)(g) and may be appealed by submitting, filing, and serving a written Request for Agency Action pursuant to R305-7-303 within 30 days of the date of the order issued by the director.

KEY: drinking water, environmental protection, penalties
Date of Enactment or Last Substantive Amendment:
Notice of Continuation: March 22, 2010
Authorizing, and Implemented or Interpreted Law: 19-4-104

Agenda Item

8

DRINKING WATER BOARD PACKET
Rural Water Association Report

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Rural Water Association of Utah

Drinking Water Board Report, Activities Overview

Employee/Position: Terry Smith - Management Technician

Report Date Range: 5/18/2019 - 7/31/2019

May -

Onsite:

22nd: Met with Church Wells board president to go over resolutions that they have adopted in the past, to help them determine what was still valid, as far as their current policies, by-laws and operations are concerned.

29th: Attended and presented at our Training Needs workshop.

30th: Attended Security Defence training related to cyber-security.

Offsite:

Church Wells - having been given copies of their resolutions, I evaluated them and compared to by-laws & actual practices, in order to determine what they should keep, modify, etc.

Milford City - creating a water rate model and usage analysis to determine what rates need to be set at in order to bring in sufficient revenue to fund debt service for anticipated RD loan.

June -

Onsite:

3rd: Willard City - met with administration and elected officials to discuss funding, rate structure and the possibility of me helping them restructure their rates based upon an analysis of expenses, etc. It was decided to wait until after the fiscal year in order to evaluate the usage and revenue.

7th: Milford City - met with the city manager and clerk to discuss financials, including anticipated debt service obligation. I went over the draft rate model I had put together to familiarize them with how to use it, adjust numbers, etc.

19th: Church Wells - attended board meeting in which the water rate changes were on the agenda. After a heated discussion, it was decided that I should create a rate/usage analysis to guide them in setting the rates based upon usage, peak demand, etc.

27th: Milford City - follow-up meeting to go over the latest version of the spreadsheet; audit some usages that seemed to be out of line, customer rate categories, etc.

Offsite:

Milford City, water rate/usage spreadsheet development

Richfield City, water rate/usage spreadsheet development

July -

Onsite:

3rd: Cedar Fort - their new operator had contacted me asking if someone could come by and give him a tutorial on how their gas chlorinator O&M. Since I was in the area the following week, and was the quickest option we had to reasonably get someone onsite, I met with him and went over the chlorinator operation/reports, as well as a quick overview on their pressure reducing valves. I later assigned one of our staff to go back and work with him in setting up and evaluating these valves as per distribution flows/demands.

10th: Staff retreat/Annual Conference planning, Torrey Town.

30th: Angell Springs - I assisted their operator in the calculations and blending of their water samples from the sources in order to evaluate, through laboratory analysis, what their radiological numbers would be, as per planned source blending ratios.

Offsite:

Richfield City - finished water rate/usage analysis and sent spreadsheet to city financial officer.

Church Wells - created a water rate/usage model to help them not only determine what they needed to set rates at in order to meet financial obligations, but to assist them in calculating the commercial vs residential ERC's in order to justify rates for the different categories (they were looking at a legal challenge from one customer, since they had arbitrarily set his rate).

Dutch John Town - I had a request from their new operator/manager, Trevor Brooksby, to revise the rate model I had created for them last year, to have the amount of water usage/revenue calculated in each tier by rate category (commercial and residential). They currently only have a base rate and one tier, and he wanted to evaluate whether water usage justified additional tiers/rates.

Rural Water Association of Utah

Drinking Water Board Report - Activities Overview

Employee/Position: BRIAN PATTEE, Compliance Circuit Rider/Training Supervisor

Report Date Range: May 24 2019—August 1st 2019

May 24th thru June 30th

Onsite:

- Pleasant View – Cross Connection Control Program Assistance & Hazard Assessment Instruction.
- Skoots Creek – Compliance Review of entire System, Cross Connection Control Hazard Assessment of entire System.
- Turn about Ranch – IPS compliance, Cross Connection control
- Bryce canyon Pines- Compliance, Cross Connection Control
- Tropic- IPS Compliance.
- Shooting Star RV - Operations, Source Sampling

Offsite or Direct Contact w/ Operator:

- Rubys Inn - IPS , Cross Connection Control
- Henriville – Cross Connection Program Assistance
- Scofield Mtn. Homes – Cross Connection Program Assistance

DDW- Cross Connection Control Certification Program Rule Change, Training Planning & Preparation.

Groundwater/source protection workshop Assistance, 17 Systems

Security Defense Forum Assistance, 37 Systems

Training Needs Workshop –Facilitation and Moderating

July 1st thru August 1st

Onsite:

- Hollow Mtn. – Cross Connection Program Instruction & Assistance
- Cottonwood Coves (Murray) – New System Compliance/Sampling/ Reporting
- Hanksville- arsenic treatment plant ,IPS
- Bryce Canyon Pines- Cross connection Program assistance
- Bear Paw Lakeview Resort- IPS , complete system assessment & survey
- Wasatch Wing & Clay- Bac t sample collecting and reporting Instruction, system survey
- Shooters Soccer Club- Bac t sample collecting and reporting Instruction, system survey

Brian Pattee

July 1st thru August 1st

Offsite: or direct Contact with Operator:

- Daniels Summit – DDW request for IPS correction Pictures
- Little Deer Creek Camp – IPS violation issues DDW
- Lila Canyon Mine – question, water use report
- Cottonwood Coves (Murray) – New System Compliance/Sampling/ Reporting
- Bryce canyon Park – Bac T sample question
- Upper whittemore- source protection update
- Spanish fork City – IPS Violation assistance

DDW- Cross Connection Control Certification Program Rule Change, Training Planning
& Preparation. DDW CCC Committee Work
IPS 2020 Training Cedar City – 33 systems. Assisted
IPS 2020 Training Mt. Pleasant – 24 systems assisted

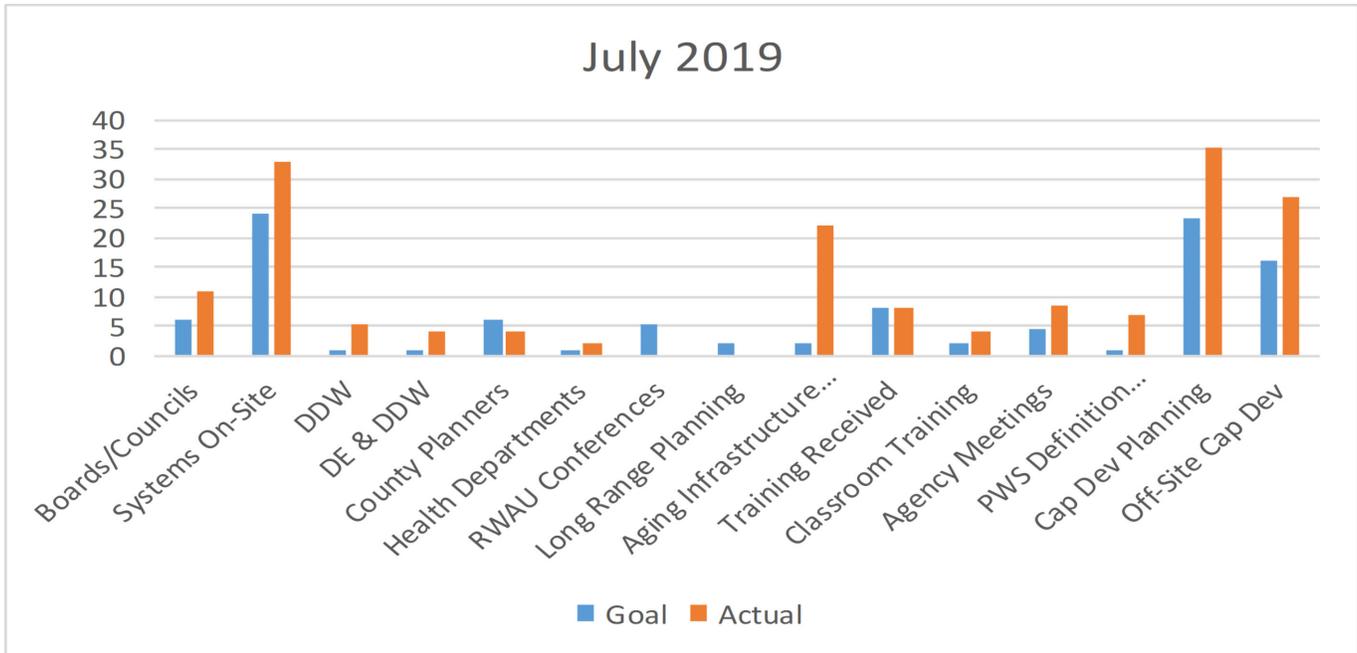


RURAL WATER ASSOCIATION OF UTAH

76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756

Drinking Water Board Report Development Contract June 2018 – May 2023

RWAU Employee: Curtis Ludvigson



<u>Work Performed</u>	<u>Goal</u>	<u>Actual</u>
Boards/Councils	6	11
Systems On-Site	24	33
DDW	1	5.5
DE & DDW	1	4
County Planners	6	4
Health Departments	1	2
RWAU Conferences	5.33	0
Long Range Planning	2	0
Aging Infrastructure Planning	2	22
Training Received	8	8
Classroom Training	2	4
Agency Meetings	4.5	8.5
PWS Definition Training	1	7
Cap Dev Planning	23.5	35.5
Off-Site Cap Dev	16	27
Total	103.33	171.5

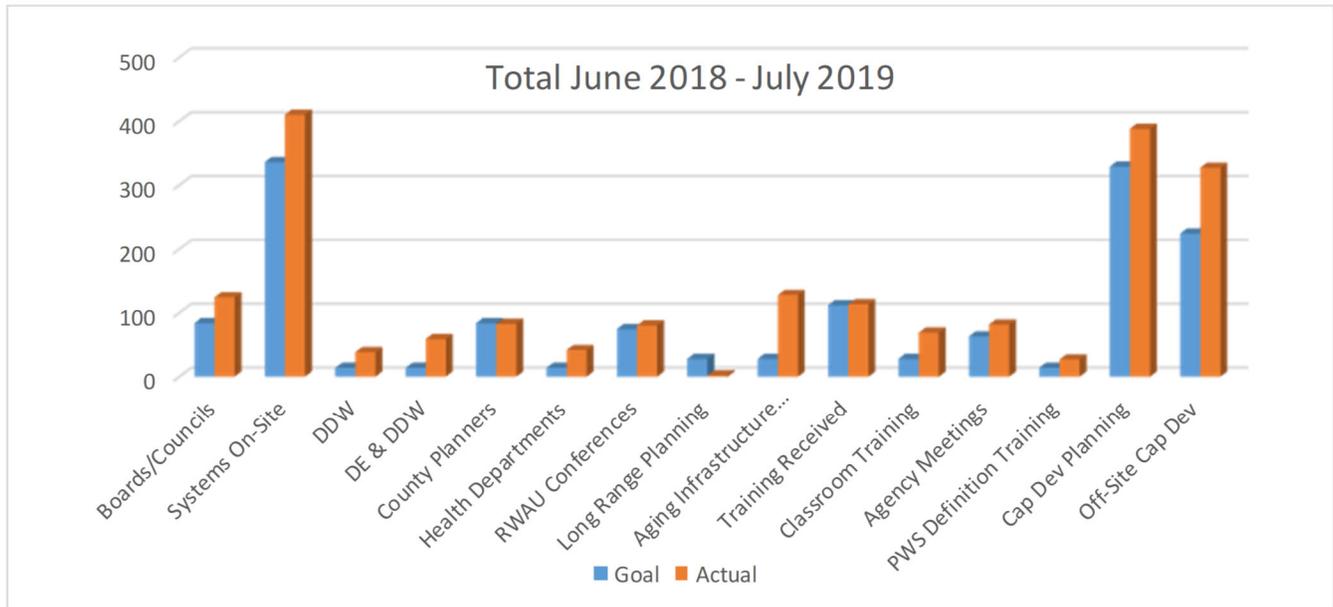


RURAL WATER ASSOCIATION OF UTAH

76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756

Drinking Water Board Report Development Contract June 2018 – May 2023

RWAU Employee: Curtis Ludvigson



Work Performed	Goal	Actual
Boards/Councils	84	124.5
Systems On-Site	336	410.25
DDW	14	38.5
DE & DDW	14	59
County Planners	84	82.75
Health Departments	14	41.75
RWAU Conferences	74.62	80.33
Long Range Planning	28	2
Aging Infrastructure Planning	28	128
Training Received	112	113.5
Classroom Training	28	69
Agency Meetings	63	81.75
PWS Definition Training	14	27
Cap Dev Planning	329	388.25
Off-Site Cap Dev	224	327.25
Total	1446.62	1973.8



RURAL WATER ASSOCIATION OF UTAH

76 Red Pine Drive • Alpine, UT 84004 • Phone: 801-756-5123 • Fax: 801-756

On-Site Assistance & Work Performed

Jensen	Training on MAGI and MHI, Rate Proposals, Project Funding
Vernal	New Water Meter and Aging Infrastructure Training
Maeser	Training on new IPS2020 Rules and Cross Connection Admin. Requirements
Ashley Valley SSD	Training on new IPS2020 Rules and Cross Connection Admin. Requirements
Neola	Training on Project Funding, Explanation of IPS2020 and Cross Conn. Admin. Rules
Duchesne	Training on IPS2020 and Cross Connection Admin. Rules and Drafting a rates Resolution
Genola	Discussion on project progress and funding agency requirements
Tabiona	Training on IPS2020 and Cross Connection requirements
Summit Co. #3	Discussion on Water Rates proposal and annexation process
Summit County	Training on Non-Public Water System rule Proposal
Fayette	Training on Elected Officials Responsibilities
Loa	Drafting of a new Water Rates Resolution and discussion on new metering options
Bicknell	Follow up on progress being made on their spring development project
Fremont	Training on Aging Infrastructure and the PWS Definition
Torrey	Training on Aging Infrastructure and the PWS Definition
Myton	Training on new metering options and project funding requirements
Fairview	Training Council on Aging Infrastructure and project Construction Standards
Spring City	Training on Rate Structuring and prepared a Resolution for new Water Rates
Wales	Project review and discussion of ECWAG Grant approval from Rural Development
Centerfield	Training on the IPS2020 and Cross Connection Administration rules

Agency & Other Meetings

Entity	Hours
Rural Development	2.0
DDW	2.5
Division of Water Rights	1.5
Division of Water Resources	2.5

Agenda Item

10(B)

Processed Enforcement Actions August 8, 2019

PWS ID	PWS Name	PWS Type	Pop Served	IPS Pts	Rating	Rating Date
Finalized AO						
UTAH07039	Camper World Lakeside Park	Non-Community	28	110	Not Approved	11/03/2016
UTAH09034	Bear Paw Lakeview Resort	Non-Community	80	241	Not Approved	03/31/2016
UTAH11043	Old Meadows	Community	48	294	Not Approved	04/18/2017
UTAH10033	Sorrel River Ranch	NTNC	260	10	Not Approved	07/26/2017
UTAH18028	Sandy City	Community	99750	117	Approved	03/11/1980
UTAH25124	Alpine Cove SSD	Community	230	100	Not Approved	3/4/2019
UTAH09069	Paradise Park	Non-Community	120	256	Not Approved	6/14/2018
Corrective Action Systems						
UTAH25013	GOSHEN TOWN WATER SYSTEM	Community	925	146	Corrective Action	3/8/2016
UTAH21050	LIZARD BENCH WATER	Community	63	30	Corrective Action	11/8/2018
UTAH25077	RIVERBEND GROVE, INC.	Non-Community	25	548	Corrective Action	12/13/2016
UTAH15038	TAGGARTS GRILL	Non-Community	60	66	Corrective Action	2/6/2018
UTAH09077	BRISTLECONE	Non-Community	180	1	Corrective Action	1/1/2019
UTAH25179	RIGTRUP EGG FARM	Non-Transient	35	319	Corrective Action	8/21/2018
UTAH26049	SWISS ALPINE	Community	300	75	Corrective Action	4/14/2016
UTAH12020	YOUNG LIVING FARMS	NTNC	250	25	Corrective Action	4/10/2019
UTAH23028	DELLE AUTO TRUCK STOP	Non-Community	138	14	Corrective Action	5/30/2019
UTAH22009	WEBER MEADOWVIEW	Non-Community	65	190	Corrective Action	5/30/2019
UTAH27077	MOUNTAIN SPRINGS WATER	Community	660	-10	Corrective Action	6/18/2019
UTAH02051	CEDAR RIDGE	Community	100	91	Corrective Action	6/11/2019
UTAH26026	BRYANTS FORK SUMMER HOMES	Non-Community	50	25	Corrective Action	6/11/2019
UTAH02078	M & J TRAILER HOME COMMUNITY	Community	27	525	Not Approved*	8/20/2018
Not Approved Systems						
UTAH07061	VALLE DEL PADRES SUBDIV	Non-Transient	98	217	Not Approved	6/10/1999
UTAH09084	JNB MARINE	Non-Community	36	56	Not Approved	9/17/2002
UTAH11091	SUMMIT CHATEAU IN BRIAN HEAD	Community	80	100	Not Approved	3/1/2008
UTAH09053	SKOOTS CREEK SUBDIVISION	Non-Community	69	341	Not Approved	12/15/2004
UTAH26073	DIAMOND HILLS ASSOCIATION	Non-Community	125	295	Not Approved	1/14/2010
UTAH02069	SUNSET PARK WATER CO.	Community	44	65	Not Approved	5/29/2013
UTAH22019	WANSHIP COTTAGES	Community	79	205	Not Approved	4/11/2019
UTAH26074	SOAPSTONE SUMMER HOMES	Non-Community	110	38	Not Approved	4/3/2014
UTAH15001	CROYDON PIPELINE CORPORATION	Community	92	10	Not Approved	7/7/2015
UTAH12004	EUREKA TOWN	Community	760	-7	Not Approved	3/31/2016
UTAH06008	WEBER BASIN JOB CORPS	Community	230	45	Not Approved	6/15/2016
UTAH03076	SHERWOOD HILLS RESORT	Non-Transient	50	443	Not Approved	11/3/2016
UTAH10034	SUN ARCHVIEW LLC	Non-Community	506	0	Not Approved	4/18/2017
UTAH26042	LITTLE DEER CREEK CAMP	Non-Community	60	90	Not Approved	11/1/2017
UTAH13032	BRYCE-ZION CAMPGROUND	Non-Community	170	55	Not Approved	3/15/2018
UTAH26061	CAMP ROGER YMCA	Non-Community	210	65	Not Approved	3/15/2018
UTAH28026	HOLLOW MOUNTAIN	Non-Community	102	1	Not Approved	3/15/2018
UTAH09074	LAKE FRONT ESTATES	Non-Community	25	46	Not Approved	3/15/2018
UTAH25035	WILDWOOD SUBDIVISION	Non-Community	162	152	Not Approved	3/15/2018
UTAH13039	ZION FRONTIER RESORT	Non-Community	25	57	Not Approved	6/4/2018
UTAH25023	BRICKERHAVEN SUBDIVISION	Non-Community	150	131	Not Approved	9/5/2018
UTAH03005	CORNISH TOWN WATER SYSTEM	Community	270	51	Not Approved	9/27/2018
UTAH22072	ECHO RESORT	Non-Community	915	72	Not Approved	9/27/2018
UTAH25133	JEHOVAHS WITNESS CHURCH	Non-Community	100	143	Not Approved	9/27/2018
UTAH07055	UPPER STILLWATER CAMPGROUND	Non-Community	320	145	Not Approved	9/27/2018
UTAH19037	WIND WHISTLE CAMPGROUND	Non-Community	39	60	Not Approved	9/27/2018
UTAH07023	YELLOWSTONE CAMPGROUND	Non-Community	25	230	Not Approved	9/27/2018

UTAH09078	BARKER REC	Non-Community	30	105	Not Approved	3/18/2019
UTAH22036	BRIDGER LAKE CG	Non-Community	65	98	Not Approved	3/18/2019
UTAH07067	SOUTH DUCHESNE	Community	128	65	Not Approved	4/24/2019
*The system entered into a compliance agreement, but because the system is still under a Do Not Use Order the rating remains Not Approved						

Agenda Item

10(C)

FY 2021 Fee Schedule

Summary:

DDW plans to add cost recovery fees to the DEQ FY 2021 Fee Schedule for additional staff time resulting from non-compliance monitoring, reporting, deficiency situations and preparation and tracking of enforcement orders. The proposed fees provide partial cost recovery of the extra work associated with these events by shifting the cost to the users that incur the services. These fees encourage desired behavior and discourage compliance delays. Public health will be better protected by compliance with DDW standards.

History/Context:

Non-compliance situations create a disproportional drain on DDW resources to manage. Historically, DDW has encouraged water system compliance with implementation of the following changes:

- Aligning state tracking program (IPS) with EPA tracking program (ETT)
- Developed ability to monitor duration of non-compliance
- Implemented electronic compliance data submission to reduce transcription errors
- Standardized the determination of violations with internal written procedures
- Tightened documentation of deficiencies during inspections
- Increased transparency of IPS score and details for each system
- Changed internal process to streamline removal of deficiencies when fixed by system

Implementation Schedule:

FY 2021 fee schedule will be implemented starting July 1, 2020.

Cost Estimate:

Currently, DDW resources are being expensed in the range of \$470,000 to \$1,000,000, based on FY 2019 expenses. Implementation of the cost recovery fee is needed to fund the additional staff required to address non-compliant behavior. Based on 2019 statistics, \$673,000 would be recovered from the proposed fees in FY2021. It's possible the cost recovery fees may change water system behavior resulting in a lower amount being collected than originally projected.

DEQ FY 2021 Fee Schedule

	Current Fee FY 2020	Proposed Changes FY 2021	Fee Change	Quantity FY2020	Quantity FY2021	Rev Change
6821 Drinking Water						
6822 Special Surveys:	Actual cost					0
6823 File Searches	Actual cost					0
6824 Well Sealing Inspection (per hour)	100.00					0
6825 Special Consulting /Technical Assistance (per hour)	100.00					0
6826 Operator Certification Program						
6827 Examination: online	120.00					0
6828 Any level						
6829 Examination: paper	200.00					0
6830 Any level						
6831 Renewal of certification	150.00					0
6832 Every 3 years if applied for during designated period						
6833 Reinstatement of lapsed certificate	300.00					0
6834 Certificate of reciprocity with another state	150.00					0
6835 Cross Connection Control Program						
6836 Certification and Renewal						
6837 Program Administrator: online testing	175.00					0
6838 Program Administrator: paper testing	225.00					0
6839 Program Administrator: renewal	125.00					0
6840 Assembly Tester and Class III: initial certification and renewal	225.00					0
6841 Certificate of reciprocity with another state	225.00					0
6842 Replacement Certificate	25.00					0
6843 Cost Recovery - Construction without Prior Approval	1,000.00	(1,000.00)				0
6843 After-the-Fact Review - Construction without Approval (per project)		1,000.00	-	10	10	0
After-the-Fact Review - Unapproved Facility in Use (per project)	-	1,000.00	1,000.00	0	20	20,000.00
Additional Followup - Monitoring Compliance (per violation)	-	300.00	300.00	0	400	120,000.00
Additional Followup - Reporting Compliance (per violation; reassessed every compliance period)	-	200.00	200.00	0	450	90,000.00
Additional Followup - CCR Compliance (per violation; reassessed quarterly)		500.00	500.00	0	450	225,000.00
Additional Followup - Public Notice Compliance (per violation; reassessed every compliance period)		500.00	500.00	0	100	50,000.00
Additional Followup - Unresolved Significant Deficiencies (per citation; reassessed quarterly)		1,000.00	1,000.00	0	25	25,000.00
Additional Followup - Compliance Inspections and Assessments		1,000.00	1,000.00	0	25	25,000.00
Preparation, Issuance and Oversight of Enforcement Orders						
Administrative Orders		6,000.00	6,000.00	0	6	36,000.00
Stipulated Enforcement Orders		2,000.00	2,000.00	0	16	32,000.00
Other orders resulting from non-compliance or public health risks		1,000.00	1,000.00	0	50	50,000.00

Current News

DRINKING WATER BOARD PACKET
Current News

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Semi rolls into Deer Creek Reservoir, contaminates water

by Cristina Flores Tuesday, May 28th 2019

<https://kutv.com/news/local/semi-rolls-into-deer-creek-reservoir-contaminates-water>

Firefighters from Wasatch County pulled up to the semi on a boat and placed containment booms around it to absorb leaking diesel fuel.

The butane tanks on the truck did not leak, but traffic on Highway 189 was stopped while crews emptied the butane tanks before trying to pull the semi out of the water.

About four hours after the truck rolled, the Department of Environmental Quality said the contamination posed a low risk to human health, drinking water and the environment.

Winds blew north of the downed semi, meaning the spill went the opposite direction of the dam and nearby Provo River, which is a source of drinking water.

Utah Highway Patrol Sgt. Nick Street said it appeared the driver was going too fast for the size of the load on the truck.

The driver got out of the truck safely after it went in the water and was taken to the hospital as a precaution to be checked out, said Janet Carson, spokesperson for the Wasatch County Fire District.

The area where the truck rolled is a slope where people often fish. On this day, there were no fishermen. Nobody was hurt, police said.

The clean up will be expensive. Street said if the driver was found to be negligent, he and his employer could be held responsible for clean-up costs.

See where PFAS pollution has been confirmed in the American West

Western states lag behind in both monitoring and regulating the class of ‘forever chemicals.’

Paige Blankenbuehler May 30, 2019

<https://www.hcn.org/articles/public-health-see-where-pfas-contamination-has-been-confirmed-in-the-west>

Polyfluoroalkyl chemicals exist in furniture, waterproof makeup and clothing, nonstick cookware, popcorn bags, the foam used to extinguish petroleum fires (which is different from the slurry used across the West to fight wildfires), and countless other items. Known collectively as PFAS, this class of chemicals contains more than 5,000 different compounds that are often called “forever chemicals” because they take so long to break down in the environment. PFAS chemicals are an omnipresent, if largely invisible, part of daily life.

Yet numerous studies have linked exposure to them to cancer, thyroid disease, weakened childhood immunity and other health problems, according to the Centers for Disease Control and Prevention. A 2007 study published in the journal *Environmental Health Perspectives* estimated that PFAS are in the blood of 98% of Americans.

Because the Environmental Protection Agency does not regulate PFAS chemicals, states are left not only to research and track them, but also to develop regulations to clean up already dangerous levels of pollution. And, according to recent data from the Social Science Environmental Health Research Institute at Northeastern University and the Environmental Working Group, the West isn’t doing a great job.

Bill Walker, with the Environmental Working Group, a nonprofit environmental advocacy organization, says that, by and large, Western states are lagging far behind, not only in PFAS regulations, but also in monitoring. “The scope of this problem is growing — not because our exposure to PFAS chemicals is growing, but because we’re finally becoming aware of the persistence of these compounds in our lives,” said Walker. “Because there is so little action from the EPA on this, addressing this crisis falls to the states.”

People can be exposed to PFAS chemicals through household cooking items, or simply by eating popcorn out of the bag after microwaving it. But the greatest source of concern involves military bases, fire departments and airports, where the chemicals are used for extinguishing petroleum fires. That leaves high levels of PFAS chemicals in close proximity to public drinking-water sources. According to recent data compiled by EWG and the Social Science Environmental Health Research Institute at Northeastern University, 610 areas in 43 states have confirmed

PFAS contamination. The researchers estimate that the drinking water of approximately 19 million people is tainted.

In the West, PFAS contamination has been confirmed in water supplies in Alaska, Arizona, California, Colorado, Idaho, New Mexico, Oregon, Utah, Washington and Wyoming. But only Colorado, California, Oregon and Washington regulate the chemicals, and among those, only California requires that public water systems monitor their levels.

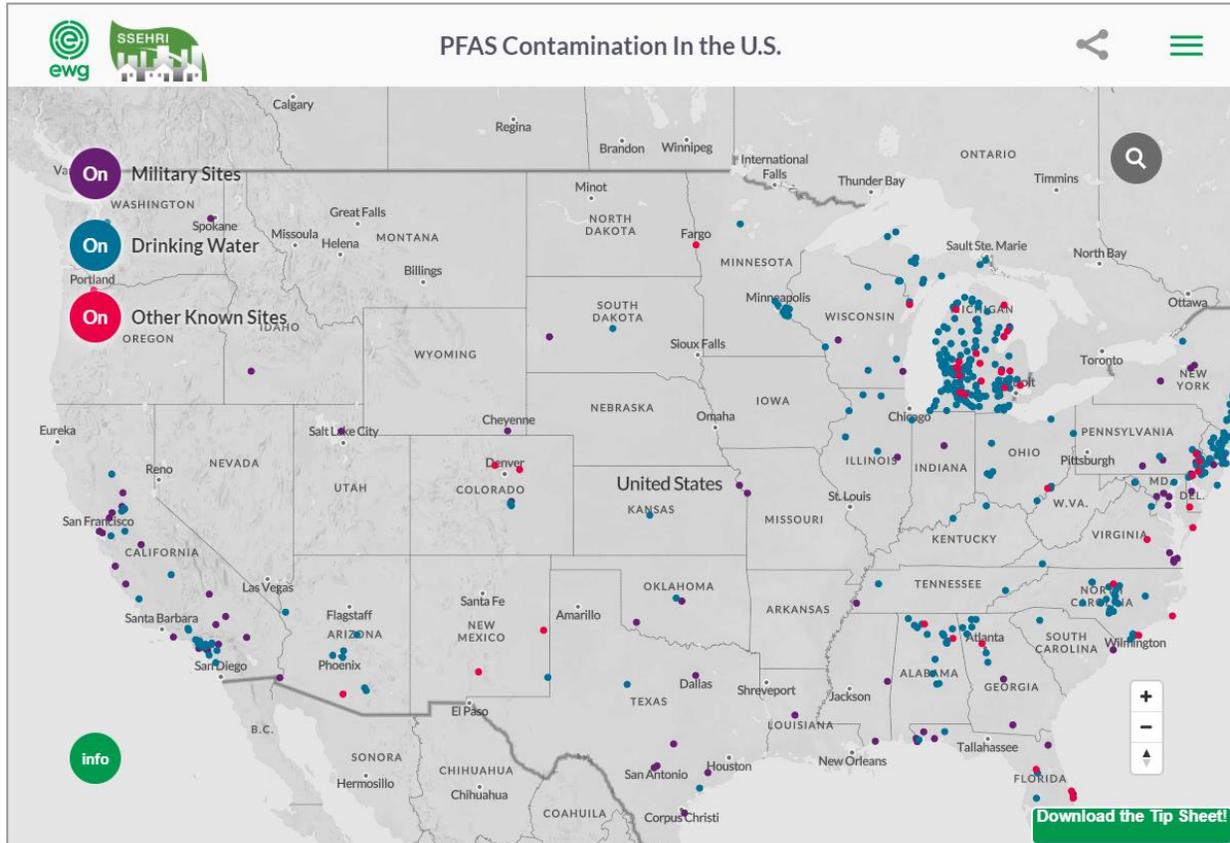
Most Western states are already facing the consequences of contamination: Municipal water managers are scrambling to address high PFAS levels in drinking water, even as communities experience their health impacts, such as higher rates of kidney and testicular cancers. Still, very few have passed laws that track or regulate dangerous PFAS levels. “Northeastern states are ahead of most other states in monitoring and tracking this contamination,” said Phil Brown, the project director of Northeastern University’s PFAS monitoring project. “But in reality, if you look for it, you’ll find it most everywhere.”

Industry representatives say that while they support more oversight, a “one-size-fits-all” regulation for the class of chemicals goes too far. On May 22, the Senate Committee on Environment and Public works held a hearing to discuss appropriate legislation for addressing PFAS contamination. PFAS “play a central role in American life and not all are dangerous to public health,” said Kimberly Wise White, a toxicologist for the American Chemistry Council, an industry trade group that advocates for manufacturers of PFAS chemicals. “All PFAS are different; they have different hazard profiles. Some are not water-soluble, for example. It is not scientifically appropriate to regulate as one class.”

Advocates for stronger regulations, however, say that the EPA isn’t doing nearly enough to monitor the problem. And many disagree with White’s suggestion that the chemicals should be regulated on an individual basis, which would allow manufacturers to continue to make money from potentially dangerous chemicals. “The EPA’s current guidelines do not include a commitment to set a drinking water standard, even for a subset of PFAS chemicals that even manufacturers agree are dangerous,” said Suzanne Novak, an attorney for Earthjustice, an environmental advocacy organization.

Meanwhile, ever more Western communities are discovering troubling levels of PFAS in their water. Last month, the water district for the town of Security, Colorado, and the local Pikes Peak Community Foundation filed a \$17 million lawsuit against the U.S. Department of Defense for PFAS contamination from Peterson Air Force Base, near Colorado Springs, Colorado. Shortly after that, the Centers for Disease Control identified the area as part of an upcoming study on the impacts of long-term exposure to high levels of PFAS in drinking water, with research due to begin this fall. New Mexico’s attorney general, too, has sued the U.S. Air Force after confirming PFAS contamination at Lake Holloman, on the westernmost edge of White Sands National Monument.

“PFAS chemicals are one of the most complex groups of pollutants out there,” said Chris Higgins, a professor at the Colorado School of Mines, who is researching the effects of exposure in El Paso County. “Once they are in the groundwater, it’s really hard to stop the spread, and treating them is even more difficult.”



'We overdosed them': Outside investigation details Sandy City missteps in dealing with water crisis

By Taylor Stevens

<https://www.sltrib.com/news/politics/2019/05/30/outside-investigation/>

When a Sandy City employee realized that a fluoridation pump had malfunctioned, contaminating a portion of the municipality's drinking water, she frantically sent a text to her boss.

"OMG," she wrote. "We overdosed them."

It would be another week before the city widely notified residents that they could be drinking possibly tainted water

These are but a few of the details outlined in a new investigative report released Thursday into Sandy City's response to the water crisis. The 103-page report — which provides a day-by-day account of the decisions made by city officials and the miscommunications that kept residents in the dark — concludes the city violated technical notice rules and should have warned affected households sooner.

"A notice not to drink the water until residents had completely flushed their home systems delivered to a larger notification area at an earlier time would have alleviated many of the harmful impacts," the report found. "The stated rationale that City employees wanted to avoid a 'panic' was not warranted."

While experts say fluoride is beneficial in small doses, unsafe levels can cause a number of health issues. Several residents said they had to take time off work, some for as long as a week, after experiencing gastrointestinal problems and stomach pains from the contaminated water.

The city released the report in a news release on Thursday, noting that although investigators had "found many areas of improvement," they had deemed Sandy's operational response "generally within normal industry standards" and found officials "did not hide information from the public."

"While it is a painful exercise to go through an independent investigation, it is absolutely vital to make improvements in the future," Mayor Kurt Bradburn said Thursday in a statement accompanying the report. "During an emergency it's difficult to understand all of the moving parts that led to how decisions were made. This report provides a clear outline of what exactly happened and when."

The report, dated May 23, was conducted by the Parsons Behle & Latimer law firm and investigated the city's operational and regulatory response to the fluoride event from Feb. 5, when the pump malfunctioned, to Feb. 20, when Public Utilities Director Tom Ward was placed on paid administrative leave.

The city produced thousands of documents and text messages as part of the investigation, as well as lab reports, public notices, maps and other documents. Investigators also reviewed social media posts and news conferences related to the event.

Following the release of the report, Bradburn announced Thursday that he had reinstated Ward.

“The report clearly states that mistakes in communication were made but his department’s prompt response to the fluoride overfeed mitigated the impact on residents,” Bradburn wrote of Ward. “It is easy to look back at an event with hindsight and want to make different decisions but I believe Tom made the best choices with the information he had at the time. The report confirms to me that public health and transparency were at the foremost of his decision-making process.”

Ward said in a statement that he was “looking forward” to getting back to work and had learned “a lot of lessons” as a result of the event.

The report states that the day after discovering the fluoride event on Feb. 7, Ward went backcountry skiing — a decision the investigators questioned, despite their finding that it had not impacted his response to the events.

“We do not fault a public employee for taking time off for personal recreation, particularly one who apparently works well beyond a ‘nine-to-five’ workday on a regular basis,” investigators wrote. “Nonetheless, we think it showed bad judgment on the part of Ward to go skiing when faced with a potential ‘super major disaster,’ the scope of which was yet to be determined.”

Sandy also misstepped in its timing getting notifications out to the affected households for a “Do Not Ingest warning,” the report states.

Once those notifications did go out — to a smaller area than was likely affected — Sandy officials removed the “Drinking Water Warning” and “Do Not Ingest Warning” language in favor of a header that read “Notice of Recent Drinking Water Quality Event.” Furthermore, no personal contact was made at 17 homes where the notice was left at the door.

The report states that backing up notifications with a widespread media announcement would have been the most effective way to ensure residents were not drinking contaminated water and could have dispelled concerns about a lack of transparency. But such notification appears to have been stymied by concern such a move would trigger “panic beyond the impacted area.”

“In sum, concerns about an overreaction by the public to a media announcement likely did not outweigh the importance, from both a public health and communications standpoint, of assuring

all relevant information about the water contamination event was provided to the public as soon as practical via a media announcement,” the report concludes.

Early into the incident, Ward was contacted by a KSL reporter who asked about going to the pump station, the report states. Ward checked with city administration for approval, but by the time he responded, the journalist had lost interest in touring the station.

“My delay worked out, the [sic] moved to a prop 3 story and said they’re not running our story now and would call if they change mind,” Ward wrote in a text message exchange between he, Bradburn and others soon afterward.

“Well done!” Bradburn responded.

Ward explained to investigators that he wasn’t delaying on purpose and would not “do tongue-in-cheek” in texts anymore.

The report provides several recommendations to Sandy for dealing with future emergencies, including involving media in a public notification earlier on; establishing a comprehensive public notification system; centralizing reporting of water, taste, odor or illness complaints; and updating the public utilities emergency response plan to include more specific direction about notice of a water contamination event and communications related to noncompliance issues.

Report: Sandy limiting notice of water contamination to avoid 'panic' was 'not warranted'

Investigation finds 'the city may have either underestimated or downplayed this event'

By Ashley Imlay : @ashley_imaly, Published: May 30, 2019 4:11 pm

<https://www.deseretnews.com/article/900073147/utah-drinking-water-contamination-sandy-director-reinstated.html>

SANDY — While contaminated water made 239 people sick in February, Sandy took too long figuring out who was impacted by the fluoride overfeed and too long to inform them, according to a new report.

"A notice not to drink the water until residents had completely flushed their home systems delivered to a larger notification area at an earlier time would have alleviated many of the harmful impacts. The stated rationale that city employees wanted to avoid a 'panic' was not warranted," the state-mandated report says.

The findings of law firm Parsons, Behle and Latimer, which were released by the city Thursday, also say that despite the disorganization and miscommunication, the city didn't actually hide information from the public.

Additionally, the man most visibly caught in the fallout from the incident, Sandy public utilities director Tom Ward, was reinstated Thursday following more than three months of paid leave after the outside investigation found that the city's response to the fluoride overfeed "was within industry standards."

The report highlights confusion and miscommunication in discussions among city officials that led to many affected residents not being notified until two days after the city learned a large area was contaminated.

On Feb. 7, two days after the contamination occurred and after some residents first reported bad-tasting water, a Sandy employee discovered a pump at a non-operating well had been switched on during a heavy snow storm, sending undiluted fluoride into the water. That employee immediately texted another worker, "I just came to check it. It was the only thing that made sense (sic)" and "We overdosed them," the report states.

On Feb. 13, eight days after the contamination happened, Ward learned that the area affected was much larger than originally believed. According to the report, Ward then wanted to send out a

press release but "because of concerns about creating additional news stories or causing panic outside the affected area, a decision was made not to do a press release," the report states.

"Ward's understanding was the matter was decided by Deputy Mayor (Evelyn) Everton. But, Deputy Mayor Everton reported that she only indicated she did not see the need for a press release if those affected were being notified," according to the report.

Everton told the Deseret News Thursday the delay in the press release was a result of a "miscommunication" between her and Ward.

"In hindsight, I wish that we would've taken the time to discuss releasing the press release. And I think my big takeaway from this event is something that I will improve in the future, is that we'll make sure to take advantage of the media to get that information out earlier," Everton said.

She added that public utilities workers "were really just more focused on flushing the system to remove more of the fluoride. That was their No. 1 goal, to restore clean drinking water," she added.

The Feb. 5 incident, which sent undiluted hydrofluorosilicic acid into part of the city's drinking water system, affected 1,500 households, schools and businesses, and sickened 239 people, according to a report by the law firm in April. The concentrate in its undiluted form is classified as a hazardous, poisonous material that, while it contains fluoride, also contains arsenic, lead, copper, manganese, iron and aluminum. It is a byproduct from phosphate mining operations.

The latest report notes that Sandy officials began warning just 24 homes initially, then 90 homes, and confusion over how many homes were impacted ensued when the size of the affected zone "tripled."

"Because no record was kept of the households notified during the initial notification on Feb. 7, an exact number was not known and there was confusion about how many homes were visited, with estimates from one dozen, to two dozen, and up to around 60," according to the report.

After discovering the problem, public utilities workers flushed the water system and went about notifying residents in the area affected. Utilities workers who were interviewed for the report indicated they were focused on flushing the system as quickly as possible. Workers also went door to door, talked to residents and posted flyers at homes in the affected area. But some residents weren't home, and many didn't answer their phones, the report states.

After the city learned a much larger area was affected, it waited two days to hold a press conference and distribute a news release, and did so "at the behest of the state," the report states.

"Had Sandy made a media announcement after the initial high level of fluoride was discovered, it could have avoided some of the issues discovered in the wake of the event," the report concluded.

"In addition to the city's technical non-compliance with regulatory requirements, the totality of the circumstances revealed by this investigation suggest that the city may have either underestimated or downplayed this event," according to the report.

After the incident, Sandy was hit with three drinking water violations by the Utah Division of Drinking Water on March 4.

Attorneys in the report recommended that the city:

- Involve news media early on in an event of that kind
- Establish a "comprehensive public notification system"
- Create a public notice template that's pre-approved with the Division of Drinking Water
- Centralize reporting of water complaints
- Update its public utilities emergency response plan

As for the newly reinstated public utilities director, the report says he "generally conveyed thoughtfulness" during the debacle and has "accepted responsibility" for his department's response

"We are glad to have Tom Ward back directing the Public Utilities Department," Mayor Kurt Bradburn said in a statement Thursday. "It is easy to look back at an event with hindsight and want to make different decisions, but I believe Tom made the best choices with the information he had at the time."

Other Sandy employees interviewed by the firm, including the mayor and deputy mayor, also "conveyed a sense of commitment to serving Sandy residents and concern that they were making correct decisions and taking appropriate actions to best serve those residents," the report concludes.

Report: Sandy didn't comply with notice requirements during water debacle

By Jacob Klopfenstein, KSL.com | Updated - May 30th, 2019 @ 4:26pm | Posted - May 30th, 2019 @ 2:33pm

<https://www.ksl.com/article/46563499/report-sandy-didnt-comply-with-notice-requirements-during-water-debacle>

SANDY — Sandy City did not comply with notice requirements — but did not hide information from the public — during a water contamination debacle earlier this year, an independent investigation concluded.

Tom Ward, the city's public utilities director who was placed on leave following the incident, has been reinstated as of Thursday, according to a news release from the city.

The report concluded that the city's response to the Feb. 5 incident was "generally within normal industry standards," but that city officials could have communicated to the public more quickly and effectively.

Sandy Mayor Kurt Bradburn said in a news release that the report will help city officials determine what went well during the incident, and what can be improved moving forward.

"I made the commitment to residents that this would be a very transparent process," he said. "While it is a painful exercise to go through an independent investigation, it is absolutely vital to make improvements in the future. During an emergency, it's difficult to understand all of the moving parts that led to how decisions were made"

The incident came to light on Feb. 15 when state officials revealed that high levels of lead and copper had leaked into Sandy's water system, affecting hundreds of households in the city.

On Feb. 5, a winter storm caused a fluoride pump in the city's water system to malfunction. That caused a large amount of the chemical to seep into the pipes, corroding the infrastructure and releasing the metal into the water.

The 103-page report, dated May 23, was compiled by the law firm of Parsons Behle and Latimer, which conducted the investigation. It focuses solely on the actions of Sandy City between February 5, when the fluoride pump malfunctioned, and February 20, when Ward was placed on leave.

It notes that investigators discovered "several miscommunications or misunderstandings" that took place during the incident, which in part caused residents to be dissatisfied with the city's communication.

"Sandy could have and should have identified, with more specificity and speed, who was impacted by the fluoride overfeed," the report states. "Sandy could have and should have communicated more information to impacted residents earlier in the event."

The investigation included interviews with nine Sandy City officials, including Ward, according to the report. The law firm also reviewed thousands of documents, social media posts and news articles, the report states.

The report did not include interviews with Marie Owens, the director of the Division of Drinking Water within Utah's Department of Environmental Quality. Efforts to interview her were unsuccessful, according to the report.

Owens was involved in monitoring Sandy's response to the fluoride release, and her department issued a violation notice to the city, according to the report.

Efforts to interview the person who first reported a problem with his drinking water also were unsuccessful, the report states.

In the week following the Feb. 5 fluoride pump malfunction, Division of Drinking Water officials urged Sandy City to speed up water sample testing that would reveal the extent of the copper and lead contamination.

About 24 homes were notified of the fluoride overfeed on Feb. 7, the report notes. But it wasn't until Feb. 15 that the state revealed the copper and lead contamination to the public.

City officials could have told more residents in a larger area not to drink the water until their home systems had been completely flushed, the report states. If that had been done, it "would have alleviated many of the harmful impacts," according to the report.

Some unspecified city employees reported that their rationale for not reporting the fluoride issue was to avoid a "panic," but that was not warranted, the report concludes.

Ward pushed for a media announcement on Feb. 13, when he learned that the impacted area was larger than previously believed, according to the report. However, several other city officials pushed back, and ultimately the city did not put out a release, the report states.

Ward did not activate the proper protocol outlined in Sandy's emergency response policy that is required for this type of incident, according to the report.

However, it notes that investigators believe Ward did his best to serve the residents of Sandy, and that he "generally conveyed thoughtfulness about his decisions, provided reasoning for those decisions and accepted responsibility for (the actions of the public utilities department)."

“Ward candidly acknowledged that, in hindsight, some decisions could have been made differently and better,” the report states. “Our investigation did not reveal that Ward hid information from the public or that he acted in any way in bad faith.”

In Sandy City’s news release Thursday, Ward said he was eager to return to his position.

“I am looking forward to getting back to work and serving the residents of Sandy,” he said. “There were a lot of lessons learned from this event but I am committed to applying all of those lessons to improving the department services and our communication with residents.”

In the release, Bradburn said he believes the report reveals that protecting the health of Sandy residents, and providing transparency to them, was of utmost importance for Ward throughout his decision-making process.

“We are glad to have Tom Ward back directing the Public Utilities Department,” Bradburn said. “The report clearly states that mistakes in communication were made but his department’s prompt response to the fluoride overfeed mitigated the impact on residents. It is easy to look back at an event with hindsight and want to make different decisions but I believe Tom made the best choices with the information he had at the time.”

Sandy public utilities director reinstated following investigation into city's water troubles

by: SIMONE FRANCIS Posted: May 30, 2019 / 03:00 PM MDT / Updated: May 30, 2019 / 03:14 PM MDT

<https://www.abc4.com/news/local-news/sandy-public-utilities-director-reinstated-following-investigation-into-citys-water-troubles/2040002477>

SANDY, Utah (ABC4 News) – Mayor Kurt Bradburn announced Thursday Sandy City Public Utilities Director Tom Ward would be reinstated following the completion of an independent investigation into the city’s recent water troubles.

The law firm Parsons Behle & Latimer was tasked with investigating the technical aspects, health effects, communication from city officials to the public and emergency response after drinking water developed elevated levels of lead, copper, and fluoride due to a pump malfunction in February.

It was announced a short time later Ward would step aside for the duration of the investigation.

The report included review of thousands of documents, media responses, social media posts, and in-person interviews found that “Sandy’s operational response to the fluoride overfeed was generally within normal industry standards. Once Public Utilities employees were aware of the multiple water complaints in the same area, including complaints of illness, they responded promptly and worked diligently to follow-up on those complaints.”

The report also determined that the “city did not hide information from the public.”

Investigators also concluded that Tom Ward “generally conveyed thoughtfulness about his decisions, provided reasoning for those decisions and accepted responsibility for Public Utilities’ actions. Ward conveyed a sense of commitment to serving Sandy residents and concern that he was making correct decisions based on the information available to him at the time and taking appropriate actions to best serve residents.”

“It is easy to look back at an event with hindsight and want to make different decisions but I believe Tom made the best choices with the information he had at the time,” said Bradburn in a statement.

However, the report identified mistakes that were made, and stated that Sandy could have and should have “identified with more specificity and speed, who as impacted by the fluoride overfeed” and “communicated more information to impacted residents earlier in the event.”

“Had the City followed its emergency response plan more closely, Public Utilities’ operational and technical response would have been more organized and may have resulted in a more timely public notification.”

Ward said, “I am looking forward to getting back to work and serving the residents of Sandy. There were a lot of lessons learned from this event but I am committed to applying all of those lessons to improving the department services and our communication with residents.”

Investigation says Sandy City failed to give public notice about water contamination

POSTED 3:41 PM, MAY 30, 2019, BY JOSHUA ELLIS AND ELLE THOMAS, UPDATED AT 06:09PM, MAY 30, 2019

<https://fox13now.com/2019/05/30/sandy-public-utility-director-reinstated-investigation-says-city-failed-to-comply-with-notice-requirements/>

SANDY, Utah — Sandy's Public Utility Director Tom Ward was reinstated after an investigation into Sandy City's response to water contamination in February found the city did not hide information from the public but failed "to comply with technical regulatory notice requirements" and should have "communicated more information to impacted residents earlier in the event."

The independent investigation, conducted by law firm Parsons Behle & Latimer, concluded the city could have organized its response better by following the city's emergency response plan but the response was generally within normal industry standards.

Mayor Kurt Bradburn announced Ward's reinstatement Thursday afternoon.

"I am looking forward to getting back to work and serving the residents of Sandy," Ward said. "There were a lot of lessons learned from this event but I am committed to applying all of those lessons to improving the department services and our communication with residents."

The city received complaint calls beginning Thursday, February 7, and said it discovered a malfunctioning fluoride pump that was affected by power issues after a snowstorm and began sampling water in the affected area.

From there, the investigation said the city should have warned residents and a public notice was changed before being published on February 8, removing "Drinking Water Warning" and "Do Not Ingest Warning" language.

"It is a concern that there was delay in getting notification out to the affected households for a 'Do Not Ingest' warning, particularly when there were confirmed reports of the acute illnesses resulting from the fluoride overfeed," the investigation said. "No reverse 911 calls were made in the initial response and the 'Do Not Ingest' warning was removed from the initial public notice."

The investigation also found miscommunications led to no information about possible lead, copper or other secondary metals contamination in that notice and the door-to-door distribution of that notice did not reach all affected residents.

A press release could have been released on February 13, two days before the actual release was sent out, and Ward reported supporting releasing it on February 13.

However, a final decision was made not to publish a media announcement and the investigation said while Ward could have pushed harder for a press release, "it does not appear he was attempting to withhold information from the public."

Statements from other city employees supported Ward's claimed position while communications from Deputy Mayor Evelyn Everton opposed a release.

Everton said in the investigation she did not know at the time if it was an emergency situation and, "in hindsight, would have asked many more questions before making a decision."

A door-to-door effort was made to alert more residents on February 13 but a media release would have helped the city reach more residents, the investigation said.

A press conference was finally held on February 15 and the city said about 600 homes were affected, from 10600 South to 11400 South and 2000 East to 700 East. The city said residents in the affected area were informed within 24 hours and told to flush their systems.

The city also said the water has been tested and they believe it is safe to drink once again.

According to the investigation, Utah Department of Environmental Quality executive director Alan Matheson sent a text message to Ward on Saturday, February 16, expressing concern that no tests had been performed confirming the water was safe to drink.

"After changes in the water chemistry, such as occurred when the fluoride spiked, heavy metals can remain elevated for some time. The overriding consideration now is ensuring members of the public are not exposed to unhealthy water," Matheson said. "Did the information you provided to the 600 homes clearly state that you don't know yet whether the water is safe? If not, and unless you have data confirming lead and copper levels meet drinking water standards, you need to make it clear to affected residents that their water may still not be safe for consumption. If you don't, the state feels an obligation to do so. We stand ready to help in any way."

Sandy City issued an update on February 16 advising residents from 10600 South to 11400 South and 700 East to 2000 East to not drink the water and in a press release, said not to drink or cook with the water until lab results confirm whether or not lead and copper concentration levels are safe.

Samples were taken on February 15 and results from one area showed an elevated level of lead, but not copper, according to the investigation.

Door-to-door delivery of this information was not completed until February 18, three days after the media event and four days after the city learned about lead and copper level violations.

The investigation said Sandy could have avoided complaints and non-compliance issues with an earlier media announcement and trying to avoid causing a "panic" among residents "was not warranted."

The investigation finished by saying improvements to the water system are beyond its scope. However, it did recommend Sandy update its emergency response plan.

Recommendations included involving the media early in an event, establishing a comprehensive public notification system with a preapproved notice template and centralizing water-related complaints.

“I made the commitment to residents that this would be a very transparent process,” said Mayor Bradburn. “While it is a painful exercise to go through an independent investigation, it is absolutely vital to make improvements in the future. During an emergency it’s difficult to understand all of the moving parts that led to how decisions were made. This report provides a clear outline of what exactly happened and when. This will be extremely valuable in assessing our response as a whole to identify where we performed well and where we can improve.”

Sandy City failed to comply with notice requirements of water contamination

by Jennifer Weaver Thursday, May 30th 2019

<https://kutv.com/news/local/sandy-city-failed-to-comply-with-notice-requirements-of-water-contamination>

(KUTV) — Sandy City failed to comply with technical regulatory notice requirements, an investigative report stated about the city's water contamination problem from three months ago.

The investigative report by Parsons, Behle & Latimer was released Thursday. It said that Sandy's operational and regulatory response to the fluoride overfeed and water contamination - which affected 600 homes from Feb. 5, 2019, to February 7, 2019 - was within industry standards but notification to government entities and the public was not. The city was also not faulted for hiding information from the public.

The investigation was conducted in March and focused on the city's operational response to the overfeed. It also probed the actions of the public utility department to "discover, contain, and remediate" its impacts, and the communications with city government and the public regarding the water system problem.

Investigators reviewed thousands of documents and text messages, in addition to interviews with more than a dozen interviews with city personnel.

Though the investigation did not reveal that the city hid information from the public, it was stated in the report that Sandy "could have and should have identified, with more specificity and speed, who was impacted by the fluoride overfeed."

The report also stated:

Sandy could have and should have communicated more information to impacted residents earlier in the event. Had the City followed its emergency response plan more closely, Public Utilities' operational and technical response would have been more organized and may have resulted in a more timely public notification. A notice not to drink the water until residents had completely flushed their home systems delivered to a larger notification area at an earlier time would have alleviated many of the harmful impacts. The stated rationale that city employees wanted to avoid a 'panic' was not warranted.

SUMMARY OF EVENTS

In a summary of events in the report, Sandy was impacted by a winter storm that is suspected of causing a power outage, or power surge, at the Paradise Valley Well located near 1700 East and

11170 South. At the time of the outage, the well was not working and had not been in operation for more than a year.

It is believed that the power issue caused fluoride to be pumped into the water system although the well was inoperable, the report stated. It was later determined that the control for the fluoride pump was left in a manual position rather than an off position. There is no alarm on the system that would've indicated the fluoride dump, according to the report.

The report said fluoride began being pumped into the water system at approximately 6 p.m. on Tuesday, Feb. 5. Despite a city employee claiming the well was checked that day, there was no record of it in the "Well Report Log Sheet."

Another winter storm hit the Sandy area on Wednesday, Feb. 6. Because of the severe weather, Mayor Kurt Bradburn closed City Hall and employees were given the day off. The well was not checked on from this day off given by the mayor, the report said.

The Sandy Fire Department received a call from a resident complaining that the water tasted bad. The public utility department was notified of the complaint by dispatch via a text message to the public utility director, assistant director and distribution supervisor. An additional complaint was made but city water officials said they were not made aware of it.

Thursday morning, public utility employees learned of multiple reports of bad tasting water in the same area as the two prior complaints the day before, in addition to people saying they were getting sick. One resident claimed to have vomited after rinsing their mouth with the water.

The Metropolitan Treatment Plant, which supplies Sandy's water, was first contacted to see if there was a problem with water being supplied but no issues were found.

Water samples were taken from two homes where a child and a dog had reportedly become ill from drinking the city's water. Hydrants were flushed and the Paradise Valley Well checked but showed it had not been turned on. The city distribution specialist said the fluoride pump would not have shown to be running.

The city utility director was sent a text message and after an exchange of text messages, the director contacted the city's engineering department to identify the problem.

A city employee decided to check the Paradise Valley Well again and the report states that as soon as the employee opened the door to the well that she could hear the fluoride pump running. She disabled the pump by pulling the plug and then notified superiors of the fluoride pump malfunction.

The employee's supervisor arrived at the well and also discovered the well was set on manual position when it should have been set in the off position, the report states.

The priority of the city was to flush its water system. The report said:

Backflushing was done to pull the tainted water back out of the system.

Approximately 24 homes were notified of the water problem. However, the city neglected to notify appropriate state agencies of the detected water contamination as required by policy.

The policy requires the city to contact the Division of Environmental Quality and Salt Lake Valley Health Department. While the Salt Lake County Health Department was contacted, DEQ's Division of Drinking Water was not initially contacted, the report said.

By Friday, Feb. 8, no new complaints had been received from the city. It was this day that DEQ was contacted and the city advised to contact the public but the Division of Drinking Water would prepare the public notice. It was determined the fluoride overfeed qualified as a "Tier 1 event, the highest level of notice," which requires a notice to the public within 24 hours of the event.

Miscommunication and confusion over the size of the impacted area caused a notification to residents to be insufficient. The report stated:

“Because no record was kept of the households notified during the initial notification on February 7, an exact number was not known and there was confusion about how many homes were visited, with estimates from one dozen, to two dozen, and up to around 60.

Ultimately, the investigation determined the city’s communications with residents about the incident could have been improved by:

- Complying with all technical regulatory notice requirements,
- Tracking homes that were notified from the start of the incident,
- An earlier and more accurate assessment of the impacted area, which would have led to a broader distribution of the initial public notice, and (4) an earlier media announcement.

Sandy City reinstates utility director following release of final water report

by Jennifer Weaver Thursday, May 30th 2019

<https://kutv.com/news/local/sandy-city-reinstates-utility-director-following-release-of-final-water-report>

(KUTV) — Sandy City announced Thursday that Tom Ward has been reinstated as the city's public utility director following the release of a final investigative report conducted by the law firm Parsons Behle & Latimer.

Sandy experienced a fluoride overfeed from its Paradise Valley Well that impacted 600 homes from Feb. 5, 2019, to February 7, 2019. An independent investigation was conducted following the incident and Ward voluntarily was put on administrative leave, Feb. 20th, after reports surfaced of insufficient notice to state entities and the public.

Ward is reinstated effective immediately from report concluding that he, “generally conveyed thoughtfulness about his decisions, provided reasoning for those decisions and accepted responsibility for Public Utilities’ actions. Ward conveyed a sense of commitment to serving Sandy residents and concern that he was making correct decisions based on the information available to him at the time and taking appropriate actions to best serve residents.”

Mayor Kurt Bradburn said in a prepared statement:

We are glad to have Tom Ward back directing the Public Utilities Department. The report clearly states that mistakes in communication were made but his department’s prompt response to the fluoride overfeed mitigated the impact on residents. It is easy to look back at an event with hindsight and want to make different decisions but I believe Tom made the best choices with the information he had at the time. The report confirms to me that public health and transparency were at the foremost of his decision-making process.

Investigators reviewed thousands of documents, media responses, social media posts, and in-person interviews and determined that Sandy’s operational response to the fluoride overfeed was within industry standards.

However, the investigation did determine the city “failed to comply with technical regulatory notice requirements” but “did not hide information from the public.”

Ward said in a prepared statement in the news release:

I am looking forward to getting back to work and serving the residents of Sandy. There were a lot of lessons learned from this event but I am committed to applying all of those lessons to improving the department services and our communication with residents.

Bradburn reaffirmed his commitment to residents that he would be transparent throughout his term as mayor. He said in the release that the report "provides a clear outline of what exactly happened and when."

Deep snowpack + forecast hot weather could = flooding in northern Utah

By Sara Tabin

<https://www.sltrib.com/news/environment/2019/05/30/deep-snowpack-forecast/>

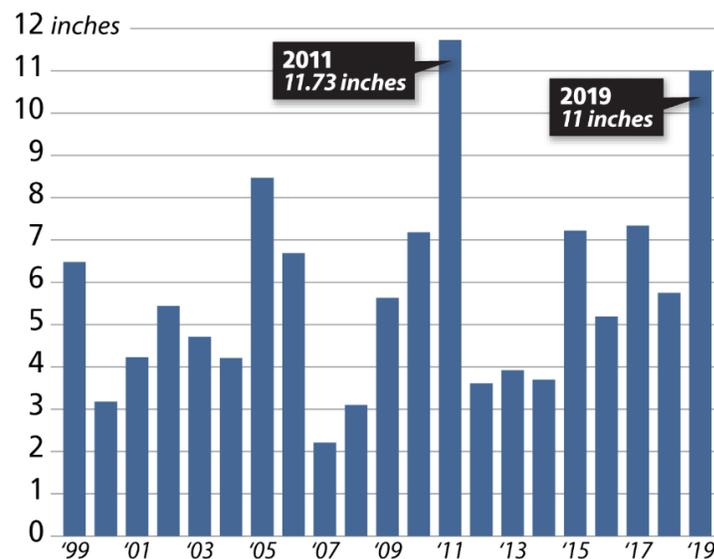
Utah rivers are expected to swell dangerously in the coming weeks as warm weather melts snow into fast flowing, frigid runoff.

Major flooding is not anticipated, but the rise in water levels will be steeper than past years because of an unusually wet and cold spring, according to the National Weather Service. Utahns recreating or working near rivers, especially those fed by high elevation snowmelt, should exercise extra caution in the coming weeks.

This year is the second wettest recorded spring on record in Salt Lake City with 11 inches of precipitation so far, according to the weather service.

Although Salt Lake City had more snowpack volume in 2011, the wettest spring on record, weather remained cool later into the summer causing causing the snowmelt to “peter out” slowly, National Weather Service hydrologist Brian McInerney said in a video released Wednesday. Temperatures in 2019 have remained low through May, preserving much of the snowpack, but are expected to rise into the 80s next week. With a jump in temperatures will come a rapid rise in Utah waterways including the Big and Little Cottonwood canyon rivers, the Provo River and the Weber River.

Spring precipitation in Salt Lake City (1999-2019)



Note: Two days remain unaccounted for the 2019 spring season

Source: NOAA

GRAPHIC BY CHRISTOPHER CHERRINGTON | The Salt Lake Tribune

In an interview with the Tribune, McInerney said the weather service can only forecast daily weather seven days in advance, but current trends suggest the rivers will swell each day for the first two weeks of June, or as long as snow is melting. He expects rivers to begin to decrease in size around the third week of June as Utah runs out of snowmelt.

On Thursday, the Bureau of Reclamation sent out a news release stating that it will increase flows from the Flaming Gorge Dam on the Green River starting on June 3. The Bureau said the decision to increase flows was made based on a number of factors including river and reservoir conditions, projected snowmelt and current weather forecasts. The news release advised caution to anyone working or recreating on the Green River near the dam because the river will be swift and cold.

Rivers flush with snowmelt are especially frigid and can send people into hypothermia within minutes, said McInerney. When this happens, people's ability to use their limbs to swim or pull themselves out is diminished and they become helpless in the strong river currents.

Those enjoying the mountains in the coming weeks should avoid rivers and pay extra attention to pets and children to prevent them from falling in, advised McInerney. He said dogs will sometimes jump into rivers chasing balls or sticks and become caught in the strong currents. If this happens, dog owners should not attempt to enter the river to help their pet as such a rescue attempt can end tragically, said McInerney.

Children are particularly at risk since they do not understand the dangers of rivers and are attracted to water, said Unified Fire Authority spokesman Matthew McFarland. Small children can be swept away in a matter of seconds.

"We implore people to watch pets and children," said McFarland, who cautioned that just 4 inches of fast-moving water can be enough to sweep a person away.

Should a person or animal fall into the water, onlookers should not jump in after them as would-be rescuers often become secondary victims, McFarland said. Instead, one person should try to keep pace with the victim from the riverbank while someone else calls 911.

For anyone being swept away by a river, the best thing to do is to attempt to keep one's feet pointed downstream and above water to avoid getting caught on underwater debris, McFarland said. A person should then attempt to use their arms to guide themselves into shallow water.

The bright side? After experiencing record-breaking dry weather last year, Utah is currently drought free, McInerney said, and should have a good supply of water for the next year.

Salt Lake City water, sewer bills will keep getting more expensive for years to come in proposed plan

By Katie McKellar @KatieMcKellar1 Published: June 2, 2019 5:25 pm

<https://www.deseretnews.com/article/900073500/salt-lake-city-water-sewer-bills-will-keep-getting-more-expensive-for-years-to-come-in-proposed-plan.html>

SALT LAKE CITY — Salt Lake City's water rates have slowly eked upward for the past three years — and they're slated to continue going up for the foreseeable future.

On top of past hikes, some sewer rates are proposed to more than double in the next five years, with a 112 percent total increase by 2024.

That means a "medium-use" household's monthly sewer bill would increase from the current bill of about \$24 a month to nearly \$52 a month by 2024 — or from about \$291 a year to roughly \$620 a year by 2024.

This year alone, the proposed sewer rate increase is about 18 percent, which would bring the current medium-use household rate up by about \$5 a month. The rate is proposed to continue to rise about 18 percent each year for the next few years.

And that's just sewer rates. Department officials are also proposing increases to culinary water and stormwater rates, starting with 5 percent hikes on culinary water and 10 percent hikes on stormwater this year.

However, the culinary water rate hikes would also come with a rate restructure, so while commercial and industrial culinary water prices will increase, most Salt Lake City residents won't see a big impact on their culinary water bills.

As part of the rate restructuring, the city would also lower its minimum-use rates to alleviate pressure on low-income, low-water users.

It's all part of public utility officials' plan to pay for several major infrastructure upgrades — including a new wastewater treatment plant to replace the current decades-old facility — while also integrating a new rate structure to encourage water conservation and stave off impact on budget-strained residents.

The annual proposals — needing approval from the City Council each year — continue to build on past years' rate hikes.

"Our main goal is to make sure we are protecting public health and ensuring we have a reliable water and sewer service now and into the future," Laura Briefer, director of the city's public utilities department, told the Deseret News on Friday. "That's what these budgets are all about."

Salt Lake City's water rates have inched higher and higher since 2016, after the city's public utilities officials began urging city leaders to look ahead to major, looming costs.

The city's sewer treatment plant was built in the 1960s and is approaching the end of its life span, Briefer said. The city is also required to bring the facility in line with upcoming federal and state regulations, as well as be able to accommodate anticipated growth.

The new sewer plant, expected to be completed in 2025, would be financed with the new rate revenue plus bonds and, hopefully, federal grants that could save about \$50 million in debt, Briefer said. The new facility's construction cost estimate is currently at more than \$528 million, according to a department staff report.

There's also a long list of other upgrades planned for the City Creek, Parleys and Big Cottonwood Canyon water treatment plants, as well as a slew of electrical system, water line, water meter and stormwater collection projects needed throughout the city, according to the staff report.

"The infrastructure has given us good service, but we also have a very systematic capital asset program where we are looking at the condition of the infrastructure all the time and identifying where we need to replace or rehabilitate before it fails," Briefer said. "That's our goal. We don't want to be in a situation where critical infrastructure is failing or on the verge of failure."

A second public hearing for this year's rate increases is scheduled for Tuesday at 7 p.m. at the Salt Lake City-County Building, 451 S. State. The City Council will consider the rates during its budget process in the coming weeks.

Briefer said so far officials have received a mixed bag of reaction to the rate proposals. Many residents support the hikes, wanting to "take care of our critical infrastructure," and some even believe the city doesn't charge enough for water out of concern for the environment, Briefer said.

But others are frustrated the city continues to propose the increases.

"There are people across the board who feel the impacts differently, and that's why we want to make sure we understand those impacts to our residents," Briefer said, encouraging more public input.

"The bottom line is we have a duty and an obligation to make sure our critical infrastructure for water and sewer and stormwater are in good condition and can operate now and into the future," Briefer said. "Some of these projects are generational."

More information about the proposed rate increases can be found at slcgov.com.

Water Watch: Landscaping tips Utahns need to know with water conservation in mind

By Janice Terry Weber Basin Water Conservancy District

https://www.standard.net/news/environment/water-watch-landscaping-tips-utahns-need-to-know-with-water/article_cb18ae5e-be00-5ef6-93eb-2d37d16595f6.html

Utah's heritage of pioneering is both noble and unique. Yet when it comes to our collective landscaping choices, many choose to landscape as if they live in New York, Japan or England. The plants chosen to decorate those types of landscapes are usually not well-suited to Utah summers and making them live in our environment costs water, time, effort and money.

When looking at designing a landscape, we should consider the climate which those plants will endure. Many of the famous landscape designers who have influenced Utah's landscaping practice resided in climates more fertile, wet, and mild than our own. Lancelot Brown hailed from England. He is responsible for transitioning landscapes from flat gardens using rigid, formal lines to using the ups and downs of the terrain to create a more natural look. Frederick Law Olmstead resided in New York and was the chief landscape architect for Central Park. He is often considered the father of landscape architecture in America. As homesteaders and pioneers moved West, they brought these traditional landscaping practices and styles with them.

Luckily, we don't have to guess at which plants will thrive during the heat of the summer. Localscapes is a program developed to help homeowners install landscapes that match their local climate. It is a series of classes and workshops focused on moving from a high-maintenance, high-water, landscape designed for wetter climates to low-maintenance, low-water, landscapes specifically designed for Utah. These landscapes celebrate our surroundings and are just as beautiful, if not more so. The tailoring of plants and terrain to suit your surroundings is what Lancelot Brown did for England, and what Localscapes can do for Utah.

Localscapes consists of five basic elements:

Central open shape. The first step is a central open shape that can be made of anything from lawn, to brick, to groundcovers. Central open shapes should be designed with the irrigation system in mind, they shouldn't be less than 8 feet wide, should be unobstructed, and should be irrigated on their own, apart from any other zone. These provide "white space" for the landscape, giving the eye a place to rest as it looks over the landscape as well as providing an organized feel. Lawn is never the default ground cover, it is always designed as a central open shape if it is being used in the landscape.

Gathering areas. Add seating areas for people to gather. Whether it be a large patio off the kitchen for entertaining, a fire pit for the kids, or a reading nook for morning coffee, gathering areas increase the functionality of any landscape.

Activity zones. Add all those fun elements you've always wanted; vegetable gardens, chicken coops, trampolines, play areas, sand boxes, giant chess sets, etc. Give yourself reasons to get out and enjoy your yard.

The more gathering areas and activity zones, the less maintenance you'll have to do. If you want an extremely low-maintenance landscape consider adding more hardscape features such as basketball hoops, RV pads, or increase the size of your entertaining areas.

Paths. Paths connect the different elements of your Localscape making them more useable. Make sure to choose the correct surfacing materials for the correct path. Paths that are going to need to have the snow removed during the winter, such as the path from the driveway to the front door, should be made out of materials that makes shoveling easy such as concrete or brick. Paths that are only used seasonally can be made from whatever material you choose.

Planting beds. Once the first four elements have been installed every remaining area becomes planting beds by default. Planting beds include trees, shrubs, ornamental grasses, and perennials. Select plants that will do well in our area and make sure they are on their own irrigation zone since turf typically requires much more water to thrive. Keep annuals out of perennial beds, as they require much more water. Consider planting annuals in pots and strategically placing them around your gathering areas.

Sixty to 70% of the water used residentially is used on landscape. By installing plants and flowers which thrive in our area, we can save large amounts of water while decreasing maintenance and increasing curb appeal.

For ideas of plants that thrive in our climate, a visit to a Learning Garden, such as that at Weber Basin Water Conservancy District, 2837 E. Highway 193. The gardens can help visualize how these plants look and work together in a landscape. To learn more, visit either localscapes.com or Weberbasin.com/conservation for example designs, or lists of classes in your area.

Janice Terry is the assistant conservation program coordinator at the Weber Basin Water Conservancy District.

Utah's snowpack has grown, many reservoirs across the state are full

By MEGAN OLSEN Standard-Examiner

https://www.heraldextra.com/news/local/utah-s-snowpack-has-grown-many-reservoirs-across-the-state/article_54df982c-2a9e-52c8-bed4-b200f73e9d02.html

Utah might be approaching summer, but the snowpack has actually grown on average statewide.

The increase in snowpack at high elevations pushed the statewide average up by 1.5 inches, according to the Utah Water Supply Outlook Report released by the Natural Resources Conservation Service (NRCS) on June 4.

All watersheds across the state have received higher than average precipitation since October 1.

This has led to a high level of saturation in the soil, “which will cause any additional snowmelt or precipitation to be very efficiently routed downstream from headwaters to valley locations,” the report said.

The organization’s May report predicted that many small to medium-sized reservoirs would fill to capacity, and that the state’s largest reservoirs would likely “gain a significant amount of water.”

Those predictions were right.

The state’s “small to medium-size reservoirs are at or near capacity,” the June report said, and “larger reservoirs have gained substantial amounts of runoff.”

Pineview Reservoir is currently at 101% of its capacity and 13% higher than average. Willard Bay is at 102% capacity and 34% higher than average.

Bear Lake is at 76% capacity and 39% higher than average, compared to 82% of capacity last year and 55% capacity on average.

The organization’s final 2019 water supply forecasts are usually released at the beginning of May each year, but the NRCS released a supplemental June report to “highlight the persistent, anomalously high snowpack levels in several basins” and “publish current reservoir levels for the state.”

“From a basin perspective, several watersheds are near or above the 90th percentile for (snowpack size over the past 30 years) and still have a significant amount of snow,” the report said.

Most of these areas are in central or southern Utah.

The Upper Sevier basin, for example, has a snowpack that is 4.7 times larger than usual for this time of year.

Most other basins “have sufficiently low remaining (snowpack), so flooding should be a minimal concern,” the report said.

Great Salt Lake, other water bodies near capacity from snowmelt

POSTED 6:39 PM, JUNE 10, 2019, BY HAILEY HIGGINS

<https://fox13now.com/2019/06/10/great-salt-lake-other-water-bodies-near-capacity-from-snowmelt/>

SALT LAKE CITY — The Great Salt Lake is becoming "greater" than it's been in a while.

With most reservoirs brimming in northern Utah due to heavy snowmelt, the extra water is being released through rivers and emptying out into the Great Salt Lake.

And there is plenty of snow still to melt in the highest elevations.

According to the latest numbers from the Natural Resources Conservation Service, Willard Bay is at 102 percent capacity. Utah's reservoirs have reached an average of 73 percent capacity. Pineview Dam is at 101 percent and Bear Lake is at 76 percent.

Every day, Mark Messier sets sail onto the largest saltwater lake in the Western Hemisphere.

He is thrilled with this year's high water levels.

"Look how sexy this is," Messier said, pointing to the water. "It's blue. Trust me — it's water. It's warm."

Water in the south arm of the lake is up 2.5 feet since December. The north arm has increased by two feet. This while full reservoirs above the lake are forced to release excess snowmelt.

"You don't want them full because you want to be able to control the water going through the reservoir," said Todd Adams of the Division of Water Resources.

These winds of change come after decades of exceptionally low levels in the Great Salt Lake.

In 2015, levels dipped so low that sailboats couldn't leave the marina.

"A couple years, we weren't able to get out," Messier said. "I would like to see it six feet up or eight, ten feet up. It would open up these little bays and we wouldn't be getting stuck. Antelope would be an island. It's not an island."

Six good months aren't enough to bring the saltwater lake to capacity, but Adams said it's a turn in the right direction.

On Stressed Colorado River, States Test How Many More Diversions Watershed Can Bear

By LUKE RUNYON Originally published on June 7, 2019 6:06 pm

<https://www.kuer.org/post/stressed-colorado-river-states-test-how-many-more-diversions-watershed-can-bear#stream/0>

The Colorado River is short on water. But you wouldn't know it by looking at a slate of proposed water projects in the river's Upper Basin states of Colorado, Utah and Wyoming.

The river and its tributaries provide water for 40 million people in the Southwest. For about the last 20 years, demand for water has outstripped the supply, causing its largest reservoirs to decline.

In the Bureau of Reclamation's 2012 Colorado River Basin Water Supply and Demand Study, you can pinpoint when the lines crossed somewhere around the year 2002. It's a well-documented and widely accepted imbalance.

That harsh reality -- of the river's water promised to too many people -- has prompted all sorts of activity and agreements within the seven Western states that rely on it. That activity includes controversial efforts in some states in the Colorado River's Upper Basin to tap every available drop before things get worse.

"There's nothing that we get from this"

Tyson Long drives his black pickup truck in the foothills outside Boulder, Colorado. The narrow dirt road twists and turns through pine forest, past houses with yard signs that read: "Stop Gross Reservoir Expansion."

We stop at an intersection, near an electrical provider and across the road from a community center. It's a sharp, almost 180 degree turn from the main highway onto the road to Gross Dam.

The utility that owns the reservoir, Denver Water, wants to increase the size of the dam by 131 feet, and fill the human-made lake with more water from the headwaters of the Colorado River via a tunnel that traverses the Continental Divide.

Imagine a tractor trailer hauling dam-building materials making this turn, Long says.

"If they truck all of this material up our canyon, people in our community are gonna get killed by those trucks. Period," Long said. "There's a lot of other issues here but the safety thing should really be a serious priority."

Long and his wife, April Lewandowski, live near the reservoir in a community called Coal Creek Canyon. Like many of her neighbors, Lewandowski commutes from the sparsely populated canyon to her job on the state's dense Front Range. Her daily commute on the canyon's two-lane highway is the same as a haul route for trucks needed to build the dam addition.

Long pulls up to a small parking area that overlooks the dam. It's a deep wall of concrete, stretched between the tree-lined canyon walls of South Boulder Creek.

"I mean you look at how the land splays out, you can see why they want to (build it)," Long said. "It's so much wider all the way around."

If the expansion goes through, the place where we're standing will be submerged in water. The addition to Gross Dam will raise it to 471 feet in height, making it the tallest dam in Colorado.

The project worries Long and Lewandowski. They're concerned about the safety of people who commute down the canyon each day, and will have to compete for road space with massive trucks. They wonder what effect the five years or more of construction could have on the value of their home. They want to know how they'll be able to keep a water agency of appointed officials accountable to promises made.

"We don't vote for them or fund them," Lewandowski said. "There's no way that we can have a voice. There's nothing that we get from this. We don't get the water from it. We've never been told we were gonna get a better road or a wider road."

"This is a project that's needed today"

Denver Water first started taking an expansion of Gross Reservoir seriously after the dry winter of 2002. Exceptional drought conditions took hold across the Mountain West. The utility's CEO, Jim Lochhead, said in the midst of those historic dry conditions, a portion of its service area nearly ran out of water.

"This is a project that's needed today to deal with that imbalance and that vulnerability and to give us more drought resiliency," Lochhead said.

Since then, Denver Water has filed federal permits to start construction, and negotiated an agreement with local governments and environmental groups on the state's Western Slope to mitigate some effects of the additional water being taken from the headwaters.

Before leaving office, former Colorado Democratic governor and current presidential hopeful John Hickenlooper threw his weight behind the project, giving it an endorsement and suggesting other water agencies in the West take notice how Denver Water approached the process.

But despite the political heft behind the project, it faces considerable headwinds.

Environmentalists are suing, arguing the expansion will harm endangered fish. A group of local activists say the additional water will spur unsustainable population growth along the state's

Front Range. In recent months, the utility began sparring with Boulder County officials over whether they were exempt from a certain land use permit.

Building a 131-foot dam addition does come with baggage, Lochhead said. But he argued his agency has done its part to address some of the concerns, like reducing the number of daily tractor trailer trips up Coal Creek Canyon and planning upgrades to the intersection where trucks will turn onto Gross Dam Road.

“It is a major construction project. I don't want to gloss over that. It will have impacts to the local community,” Lochhead said.

Denver Water staff are doing more outreach in the canyon as well, Lochhead said.

“We are committed to the project and seeing it through. We're also committed despite the opposition to working with the local community in doing this the right way,” he said.

“There really isn't unused or excess water out there”

The latest scuffle with Boulder County has brought the Gross Dam expansion squarely back into public view. At a county commissioner's meeting in March, residents criticized Denver Water on all fronts, from specific concerns about the construction itself, to broader concerns about water scarcity in the Colorado River basin.

“No one wakes up in the morning and says, ‘Gee I hope there will be a seven-year dam construction project in my backyard,’” Anna McDermott said at the hearing. McDermott lives near the banks of Gross Reservoir.

“This project represents an effort by Denver Water ... to actually grab water while they can, before federal legislation and management of the Colorado River Basin is imposed,” McDermott said.

What McDermott is referring to is a stark disconnect in the Colorado River watershed. States downstream on the river -- Arizona, Nevada and California -- signed a new agreement in May called the Drought Contingency Plan that keeps them from becoming more reliant on the Colorado River. It requires cutbacks to water deliveries should levels in Lake Mead, the river's largest reservoir, continue to drop.

Meanwhile, upstream in Colorado, Wyoming, Utah and New Mexico, no such agreement was made. Those states wound up agreeing to study the feasibility of a program that would compensate farmers to stop irrigating their cropland if reservoirs dropped, with no solid way to pay for it. They agreed too to better coordinate releases from their biggest reservoirs to aid an ailing Lake Powell. While they figure out how to develop those two concepts, the Upper Basin states keep inching along on their development projects to divert more from the river.

The 1922 Colorado River Compact, the river's foundational governing document, gives Upper Basin states the legal cover to continue developing projects like the Gross Reservoir expansion. In the compact, each basin is allocated 7.5 million acre-feet of the river's water. Over the decades the rapidly growing and intensely farmed Lower Basin has used much more than that. The less populated Upper Basin has never reached its full allotment. Those states have been using roughly 4.5 million acre-feet for the last 13 years, with the rest flowing downstream for the Lower Basin to use as it sees fit.

Proposed water projects like the Gross Reservoir expansion are an attempt to even the score, even if they add some additional pressure to the overallocated resource, says Doug Kenney, an expert on Colorado River policy at the University of Colorado Boulder. (Some of Kenney's work has received funding from the Walton Family Foundation, which also provides funding for KUNC's Colorado River coverage.)

"There really isn't unused or excess water out there and so every new water project we build is undercutting the reliability of every other water project we've already built," Kenney said.

The additional water that will end up in Gross Reservoir -- if the dam expansion goes through -- will have to come from somewhere.

"They might have in the back of their mind this thought that this is something that will make up for elsewhere in the basin through another mechanism," Kenney said. "And if that happens then it all looks very reasonable. But if it doesn't happen then this doesn't look very reasonable."

Water managers are able to look at the entire Colorado River watershed and recognize its fundamental supply and demand imbalance, Kenney said, and still find ways to siphon off new supplies in smaller pockets. It's one of the conundrums of Colorado River governance. No one agency or commission exists to think of and manage the system as a whole.

Conservation programs tend to be less expensive than massive new projects, Kenney said. But additional water supplies stored in reservoirs give more security and reliability. It's why water leaders push for them, even when the economics don't make sense.

"I used to think the limiting factor would be the economic cost to these projects, but currently there is little evidence to suggest that's what stops these things," Kenney said. "It's politics and it's how well-mobilized the political opponents are to these projects."

This story is part of a project covering the Colorado River, produced by KUNC and supported through a Walton Family Foundation grant. KUNC is solely responsible for its editorial content.

To Mark The 150th Anniversary Of The Powell Expedition, UW and USGS Launch Colorado River Trip

By LESLIE FORERO

<https://www.upr.org/post/mark-150th-anniversary-powell-expedition-uw-and-usgs-launch-colorado-river-trip>

John Wesley Powell is one of the iconic explorers of the American West. A teacher, botanist, geologist, and amputee, he is probably best known for his 1869 and 1871 explorations of the Colorado River.

“John Wesley Powell led an exploring expedition in 1869 from Green River, Wyoming, 1000 river miles to the mouth of the Virgin River in what’s now Lake Mead,” said Eleanour Snow, a geologist with the US Geological Survey. “He went with nine other men in four boats. They left Green River May 24 of 1869, and they emerged down at the Virgin River on August 30.”

USGS and University of Wyoming are marking the 150th anniversary of the Powell Expedition with a river trip of their own. The Sesquicentennial Colorado River Exploring Expedition, or SCREE, launched on the Green River on May 24. One of the goals of the expedition is to inspire youth about science on the Colorado River.

“So, the USGS is a partner with SCREE on this expedition. We have USGS scientists and personnel on every leg, changing on and off across the course of the journey. And we’re taking a lot of data and measurements as we go. So, we’re really looking to create educational resources to study the changes that we see along the course the river,” Snow said.

If you want to meet the scientists on the expedition, SCREE will stop in Moab on June 22nd and 23rd for an outreach event. Details on SCREE's outreach events can be found on SCREE's website.

Utah reservoirs are spilling, and that's a good thing. Here's why

By Amy Joi O'Donoghue @amyjoi16

Published: June 11, 2019 3:48 pm

<https://www.deseretnews.com/article/900074888/utah-reservoirs-spilling-weber-ogden-rivers.html>

SALT LAKE CITY — A trio of northern Utah reservoirs fed by the Weber and Ogden rivers are spilling, and most reservoirs in the state will fill over the next few days as more snow comes off the mountains.

"East Canyon and Echo are spilling as is Lost Creek. Causey Reservoir is a question mark," said Gary Henrie, a civil engineer and hydrologist with the U.S. Bureau of Reclamation's Provo-area office.

Pineview lacks a spillway but instead uses gates to release water. Henrie said they will likely crack the gate at Pineview to release water as it sits at 100 percent of capacity.

Some of the reservoirs are in the midst of receiving peak runoff flows, while others are just finishing up, Henrie said.

The bureau and reservoir managers feel they hit a safe space as far as the river flows go so that the reservoirs can be topped off for storage purposes.

"These are the years we really like," said Wayne Pullan, manager of the bureau's Provo-area office. "The system we put together relies on Mother Nature's occasional generosity. We have designed our dams for the most part for carryover storage so we can take a good year and make sure we have enough water for the next few years."

When a dam spills, it is a breathtaking site but can be alarming to some people, spokesman Marlon Duke said.

"People think it is really neat or they get concerned," Duke said. "But it is important people understand that spillways are part of the engineering design of the dam."

Henrie said spillways are safe way to control the elevation of the reservoir. As the water level rises, it crests the lip of the dam and flows over.

"Using the spillway is completely normal part of the operation of the dams," he said.

This year's generous water year will even fill Scofield Reservoir, which had dwindled to 35 percent of capacity by October of last year.

Lake Powell, too, is slowly coming up and will fill some more, added Cory Angeroth, director of the U.S. Geological Survey's Utah Science Center.

The lake sits at an elevation of 3,591.7 feet compared to 3,612 feet this time last year.

East Canyon Reservoir is pictured on Tuesday, June 11, 2019. Utah reservoirs are full or near full for the first time in years.

"Due to the larger snowpack, and cooler spring, the Lake Powell elevation is coming up right now, where last year it was starting to drop," Angeroth said.

The lake has come up 23 feet from its lowest elevation this year, he said. The National Park Service Tuesday cautioned that with the water rising 6 to 15 inches a day, boaters must make sure vehicles or other gear are far enough away from the shore to avoid rising waters while they are on the lake.

Both the bureau and the geological survey recently partnered together for the first ever 3D mapping and 3D LiDar scanning at Lake Powell to chart its bottom and understand its sedimentation deposits.

When the data is released later this year, it will be the first time the water world has a full understanding of the reservoir's true capacity, which covers 162,000 surface acres and is fed by the Colorado River.

The bureau, too, is urging people to exercise caution while they are out on the reservoirs and recreating near the rivers as the summer heats up.

"We just remind people to please be careful. The shorelines are going to be different at the reservoirs," Duke said. "There will be obstacles, rocks. The rivers are still running high and fast."

Dams Could Protect Ranchers From Climate Change's Drought...But Could They Also Contribute To It?

By MELODIE EDWARDS • JUN 11, 2019 Originally published on June 11, 2019 1:04 pm

<https://www.kuer.org/post/dams-could-protect-ranchers-climate-changes-drought-could-they-also-contribute-it#stream/0>

It's late May in Wyoming. It snowed last night, and more snow is predicted. That's why it's good that Big Piney Rancher Chad Espenscheid is behind the wheel of the truck. The roads are sloppy and Middle Piney Creek is running high.

"Speaking of water," he says, laughing.

"Yeah, seems like it's starting to flood," I observe.

"Yeah, it's just wet."

That wetness is nerve-wracking for ranchers like Espenscheid.

"It's been a cold, long winter," he says. "The cows and calves are really needing some sunshine about now. We got quite a bit of sickness going on around the valley."

That sickness could mean he'll lose a lot of newborn calves. There are lots of things to be stressed about in ranching, and one of the big ones is water. Espenscheid says that's why he's glad the state is fixing up the Middle Piney Dam. It's fallen into disrepair at the top where the creek flows into the Green River.

"It would give Middle Piney Creek a little more of a steady flow instead of it all coming out in one shot and everybody really having to hustle around and capture it all at one time," Espenscheid says.

He could really use that water to irrigate his hayfields to feed those calves, he says.

Not only is Espenscheid a rancher, but he's also a water engineer and participates in an experimental water conservation program that pays ranchers to only irrigate when they have to. So in late summer after he's hayed his fields he turns off the spigot. But Espenscheid says, fixing that dam will store a modest 4,200 acre-feet of Colorado River water.

He's not sure what to think about how siphoning that small amount out of the river will affect lower basin states that also rely on the Colorado River. "I don't know, I'm just Wyoming through

and true, so I'm kind of worried about Wyoming, I guess to be honest. So, I think we've got to take care of our own sustainability and make sure we have opportunities for growth."

It's not just the Middle Piney Reservoir that's going to start dipping from the Colorado, though. Jason Mead at Wyoming's Water Development Office adds up all the acre-feet of water storage the state wants to build on the Green River drainage: "4,000 for Middle Piney, 10,000 for West Fork, that's 14,000. Another eight at New Fork, so that's 22,000, another nine between Meek's Cabin, that's 31,000...."

All told, he figures Wyoming could tack on about 50,000 acre-feet on five new or expanded reservoirs, including Big Sandy, West Fork, Meek's Cabin and Stateline. And then there are the 80,000 acre-feet that the Fontanelle Reservoir could eventually add. (The plan there is to complete that project when extreme drought draws it down low enough to finish its foundation.)

At 130,000 acre-feet total that would be enough water to supply a city of a million people, but the population of the entire state of Wyoming is half that.

"Every one of these projects we're talking about really are for irrigation shortages and trying to handle the drought situations that everybody has faced over the years and trying to take water when we have good years and carry it over into years that are drier," says Mead.

And those drier years are expected to worsen. Long-range forecasts say heavy snow packs are expected to melt and flood earlier and earlier, leaving ranchers with less water in the summer.

"If we can't keep those businesses afloat, eventually they're going to have to sell. Do they get developed in the future? We don't know, but if we keep them in ranching, we know we're going to maintain that open space," he says.

Mead says more dams could help ranchers survive the coming droughts, but some scientists say, building more dams might actually worsen climate change. University of Wyoming soil scientist Jay Norton says, dams that manage for flood control, for example, could have a damaging effect.

"They want the water drained out so in the event of a flood they have storage capacity," he explains. "That can cause very low flows downstream that dry up those flood plain wetlands."

Norton says those wetlands store huge amounts of organic carbon.

"There's estimates that if we could raise soil organic carbon by about 0.4 percent per year that we would completely offset human-derived emissions of greenhouse gases."

Think of all the plants growing like a green snake along streams in the otherwise arid Mountain West. Wetlands on undammed waterways can take up as little as two percent of the landscape but hold 15 to 30 percent of the carbon. But if reservoirs hold back all the water those green snakes will dry up and stop holding carbon.

But, Norton says, managed correctly, more dams in the upper basin states could actually create more wetlands and store more carbon.

"Conceivably, it could have a positive effect on downstream wetlands, if water tables are maintained relatively high," says Norton. "Irrigation itself expands wetlands."

Unfortunately, that's not the only effect of dams on climate. One study shows that decomposing organic matter behind dams as the water level drops can produce large amounts of methane, a greenhouse gas that's even more potent than carbon dioxide.

But Rancher and Water Engineer Chad Espenscheid says the positives of building dams outweigh the negatives.

"Most ranchers, they're ranchers because they love their ranch and they love the outdoors and they love the wildlife and everything about it," he says. "So, if you can find a win-win solution then everybody's happy."

The question is: with all the upper basin states investing in more dams, what will the accumulative effect be?

This story is part of "The Final Straw," a series produced by the Colorado River Reporting Project at KUNC, KUER and Wyoming Public Radio.

Elk Ridge water tests positive for coliform, boil advisory still in place

By Lauren Bennett, KSL.com | Updated - Jun 11th, 2019 @ 9:47pm | Posted - Jun 11th, 2019 @ 9:47pm

<https://www.ksl.com/article/46571992/elk-ridge-water-tests-positive-for-coliform-boil-advisory-still-in-place>

ELK RIDGE, Utah County — Residents are advised to continue to boil their water until further notice after Elk Ridge water tested positive for coliform bacteria, according to an update on the city's Facebook page Tuesday.

Fortunately, the post noted, none of the water samples contained E. coli. Three out of nine water samples contained coliform bacteria and the state requires two consecutive tests with no coliform present to deem the water safe, the post stated.

Residents first heard of water troubles last week after a water main break caused dirt and rocks to enter a pipeline Thursday about 9 p.m. David Jean with Elk Ridge City's public work's department told KSL.com the line broke because it was old and worn down.

He also told KSL.com Saturday there hadn't been any reports of residents getting sick from the water.

Officials originally said Friday no tests had come back positive for coliform bacteria, according to an Elk Ridge city Facebook post.

Residents can use bottled water, but the officials reiterated in a Facebook post any water taken from the tap should be boiled before drinking, making ice, brushing teeth, washing dishes and preparing food.

The boil advisory is a precautionary measure and residents should expect the next water update Friday, according to Tuesday's post.



Elk Ridge water boil warning remains in effect until Friday

By Christina Giardinelli Published: June 12, 2019 4:05 pm

<https://www.deseretnews.com/article/900075075/elk-ridge-water-boil-warning-remains-in-effect-until-friday.html>

ELK RIDGE, Utah County — A water boil advisory issued to residents of Elk Ridge late last week is expected to remain in effect until at least this coming Friday, say city officials.

A water main break about 9 p.m. Thursday caused rocks and dirt to enter the city's pipeline, according to a Facebook post from the city at the time.

In a follow-up post on Friday, city officials noted that initial water samples revealed no E. coli was present in the water. However, according to Elk Ridge officials, nine samples tested positive for coliform, a bacteria that can cause illnesses in humans.

Because state law requires two consecutive tests with no coliform present, the post indicated, the city is working to flush its system in order to meet the requirement.

Utah Presses Forward With Pipeline Plans Despite Colorado River Basin Constraints

By JUDY FAHYS • JUN 7, 2019

<https://www.kuer.org/post/utah-presses-forward-pipeline-plans-despite-colorado-river-basin-constraints#stream/0>

The drive behind a massive water development project in southwestern Utah, the Lake Powell Pipeline, shows no signs of slowing even after the Colorado River Basin states signed a new agreement this spring that could potentially force more conservation or cutbacks.

Despite the risk that the river resource is overcommitted and it is shrinking, four Upper Basin states — Utah, Wyoming, Colorado and New Mexico — are pushing forward with dams, reservoir expansions and pipelines like the one at Lake Powell that will allow them to capture what they were promised under the 1922 Colorado River Compact. The Lower Basin states of Arizona, Nevada and California have been using that water downstream for nearly a century.

President Donald Trump signed the basin-wide drought contingency plan in April, just weeks after the state of Utah declared in a news release that the river, which serves 40 million people, is “a reliable source of water.”

“What they need to do — the lower states — is use their right that's allocated to them, and we will use our right that's allocated to us,” said Mike Styler, who retired recently after 14 years as director of the Utah Department of Natural Resources.

A former state lawmaker, Styler originally voted on pushing forward with the 140-mile Lake Powell Pipeline. Once completed, the diversion project, which would draw from the lake, which straddles the Utah-Arizona border, about 86,000 acre-feet a year. That's enough water to support nearly 100,000 households.

Gary Turner, a Washington City turf farmer, said he supports the project as a way to allow continued growth in southwestern Utah.

“We absolutely have to have it,” he said on a recent spring day as he prepared to harvest 42 pallets of sod for customers around the region. “I don't know of any other option.”

Houses and apartments have sprouted up around Turner's 114-acre farm — evidence of a population boom that's been underway in southwestern Utah for years.

The St. George metropolitan area was the third-fastest growing in the nation last year, according to U.S. Census Bureau data released in April. Past data showed the area as the fastest growing in 2017 and the fifth-fastest growing between 2010 and 2018.

The state of Utah declared earlier this year that the Colorado River is a reliable source of water. Pipeline critics say the basin is already over-appropriated. Meanwhile new projects, like the Lake Powell Pipeline and climate change threaten future supplies.

Pipeline proponents anticipate the trend will continue, with the current population of around 171,000 residents expected to swell to around 509,000 by 2065. And that growth is why they insist the pipeline is necessary.

Turner said he's concerned about having homes for growing families and the demand for lawns drying up if water constraints stifle the boom.

He irrigates the vast expanse of his manicured green grass with water from the Virgin River, now the area's sole source. He said pioneer-era water rights provide what he needs to maintain his farm, so he doesn't need more water from the pipeline to stay in business. But Turner said more water will be needed for the community's expansion and for the lawns they'll need.

"We grow houses better than we can grow any other commodity," he said.

The state has already spent more than \$30 million on its application to build the pipeline. The Federal Energy Regulatory Commission is currently reviewing the project's environmental impacts. The Washington County Water Conservancy District, a project partner, estimates that the license could be finalized in two years, construction would begin a few years later and the pipeline would be operating by around 2030.

A graph illustrating the potential impact of drought on the Colorado River, based on Lake Powell levels in January, 2019. The graph was commissioned by the Colorado River Water Conservancy District with the private firm, Hydros Consulting, Inc.

But pipeline critics call the project too risky, too pricey and unnecessary. They contend that too much Colorado River water has already been promised to too many people.

"We are way beyond the budget of what the Colorado River can deliver, and when you just look at how much water is in the river and how much everyone else wants to take out, it's just not there," said Nick Schou, conservation director for the nonprofit Utah Rivers Council.

Schou said the Lower Basin states are facing cuts of as much as 500,000 acre-feet at the same time the Upper Basin states are planning nine projects that will draw about 400,000 acre-feet.

"Not only are we overusing the water, but there's going to be a lot less to go around in the future," Schou said.

Instead of a pipeline, opponents insist the smartest and cheapest solution is conservation.

"We don't think there will be the water," said Lisa Rutherford, who tracks the pipeline proposal for the nonprofit, Conserve Southwest Utah. "We do not think that we need the water."

Rutherford said she's worried that pipeline proponents will hinder sorely needed efforts to conserve water — efforts that are already stymied by low prices for water in the St. George area.

A survey last summer by KUER compared what customers pay in other Western cities for 28,000 gallons of water, the average used by St. George residential customers in July. Las Vegas paid \$111. In Denver, the cost was \$144, and Tucson residents ponied up \$235. But, in St. George, the bill was \$61.

The project's overall cost is another big concern for critics. Proponents estimate the pipeline's cost between \$1.1 billion and \$1.8 billion. Critics say the price tag will probably be \$3.2 billion or higher. And water users would be saddled with the cost, since the what used to be common federal subsidies for big water projects have evaporated.

Rutherford's partner, former state Attorney General Paul Van Dam, said the roots of the controversy go beyond facts and figures. He said many Utahns hold the conviction that Nevada, Arizona and California have been allowed to take precious resources that belong to Utah.

“That's just absolutely almost part of the DNA of people out here,” Van Dam said. “And - and it's just like treason if you don't fight for the water that is your water.”

This story is part of “The Final Straw,” a series produced by the Colorado River Reporting Project at KUNC, KUER and Wyoming Public Radio.

Duchesne River under flood warning, homeowners bracing with sandbags

POSTED 9:37 PM, JUNE 12, 2019, BY LAUREN STEINBRECHER

MYTON, Utah — People in Duchesne County are filling sandbags and stacking them along parts of the Duchesne River, which is under a flood warning for the next several days.

The flood warning extends from the community of Hanna, Utah, northwest of Duchesne, down to Myton, east of Duchesne.

Volunteers in Myton showed up to the American Legion hall to fill hundreds of sandbags.

The bags were trucked just down the street to the riverbank.

Early Wednesday evening, Brad Gingell stood by himself on a flatbed trailer, heaving bags from one part of the trailer to the other.

He'd said he'd been working alone the whole day, slowly stacking the bags a few feet away from the rising waters.

Around 6:15 p.m., help arrived.

"Morning, gentlemen!" Gingell chirped, as a group of boys and men of different ages walked up.

He began to give orders on what bags to stack where.

"And then we'll set a bag on top, and then one down inside to hold the plastic down," he said, outlining his strategy.

It's not exactly science.

"It's all guesswork," Gingell said. But it's the best he can do to brace his family's home and property against the Duchesne River.

The Duchesne County Sheriff's Office warned residents Wednesday afternoon that the river is expected to reach flood stage Thursday morning and will stay that way until early next week.

Brad said the dams at Starvation and Upper Stillwater reservoirs are expected to dump water downstream, though he expected them to release water on different days.

"If both of them go at the same time -- we've never had that happen," Brad said. "And so, we don't know what to expect."

What the line of sandbags are protecting, is near and dear to his family.

"This is my mom and dad's house," Brad explained. "It used to be grandma and grandpa's... so, it's been around a while."

"About 115 years," said Brad's mother, Ila Rhae Gingell.

She lives there now. In 115 years, she said the water hasn't reached the home. She's confident it won't this time, either.

"It's not going to get us, I don't think," Ila Gingell said, with a chuckle.

With all the help they got Wednesday, and all the sandbags volunteers lined up -- they hope the family home will be okay.

"We're going to be prepared," Brad Gingell said, adding, "And then we'll go from there."

High water levels raise flood concerns, improve recreation at Lake Powell, Utah Lake and Great Salt Lake

By Cara MacDonald, KSL.com | Posted - Jun 12th, 2019 @ 8:07pm

<https://www.ksl.com/article/46572701/high-water-levels-raise-flood-concerns-improve-recreation-at-lake-powell-utah-lake-and-great-salt-lake>

SALT LAKE CITY — Precipitation in 2019 has been very high and winter snowpack is only just beginning to melt, thus bringing significant increases in water levels to lakes and reservoirs throughout Utah.

Lake Powell's water levels are rising between 6 and 15 inches per day, the Great Salt Lake's are significantly higher than normal for June, and Utah Lake is nearly full. High water has brought both delight and concern to locals and visitors, as outdoor recreation improves and flood risks increase.

Utah Lake

"The water levels at the lake are the highest I've seen in the last six years," Josh Holt, manager of Utah Lake State Park, told KSL.com. "In some areas, we are probably about 12 inches from having the water (flood) into the park."

A pretty severe windstorm earlier in June led to waves that reached 8 to 10 feet in height, eroding the park's north jetty on the west end and causing significant damage, according to Holt. The park's managers are preparing for the water levels to continue getting higher in order to prevent flooding and further damage.

"We want to be prepared in case the water does continue to come up, rather than scrambling around trying to stir things up before damage occurs," Holt said. "Right now, we're preparing for the worst and hoping for the best."

The Great Salt Lake

The Great Salt Lake, by contrast, is not a flooding concern and visitors are enjoying the higher water levels as they increase access to outdoor recreation on the lake.

"After last year's disastrous year for snowpack, we have come up quite a bit this year," said Dave Shearer, park manager at the Great Salt Lake State Park and Marina. "All the boats are able to get out of the marina, and it looks like they'll be able to get out of the marina all year."

Water levels are only a tenth of a foot higher this year in comparison to last year, Shearer explained. The main difference is how long the high water levels are lasting.

“(Water levels) usually start going down in about mid-May to early June, and here we are in mid-June and we’re still going up,” he said. “Last year, by the end of June, there were several boats trapped in the marina. This year, everyone is able to get out and they pretty much should be able to get out all year.”

Despite higher water levels, Shearer said park officials are not concerned in the slightest about flooding. “We’re still making up the deficit,” he explained. “It’ll probably take another two years, minimum, of the year we just had to make up for the difference. We’re still down 6 feet from our normal lake level.”

Lake Powell

Lake Powell, meanwhile, is experiencing water levels which rise between 6 and 15 inches every 24 hours, according to a Glen Canyon National Recreation Area press release. High water, which continues to rise, has presented safety risks that visitors need to be aware of.

Vehicles need to be parked 200 to 300 yards from the shoreline to keep from becoming submerged, as a foot of water rising vertically could cover 30-50 feet of horizontal land, according to the press release. Increasing water levels overnight could cause float toys and other objects left near shore to float away, and houseboaters need to check and reset anchors daily to pull lines tight.

“Inflow is carrying debris and boaters should be aware of pieces of branches that could be as large as full trees floating in the lake,” the release added. “This debris could damage lower units when struck. Uplake, there have been large, dead cottonwood trees floating downstream from Trachyte Canyon, Ticaboo Canyon and Good Hope Bay. These debris fields will continue downstream.”

As water levels are so different from past seasons, boaters are advised to maintain awareness that ordinary boat routes and GPS paths may not be safe at current levels, according to the press release.

Despite greater risks, the increase in water has brought a lot of benefits to the lake, according to the press release. In addition to the now-adequate water coverage at Bullfrog’s launch ramp, boaters are enjoying the higher water levels in their explorations.

“It’s a good year,” Shearer concluded. “Everybody is loving getting out and enjoying the lake.”

How have wildfires affected Utah Lake?

Researchers are looking into it

By Kim Bojorquez Published: June 12, 2019 8:17 pm

<https://www.deseretnews.com/article/900075125/how-have-wildfires-affected-utah-lake.html>

PROVO — Researchers are trying to understand how ash from last summer’s Pole Creek, Bald Mountain and Coal Hollow fires are affecting Utah County's watersheds.

Ben Abbott, an assistant professor from Brigham Young University’s Department of Plant and Wildlife Sciences, and a group of student researchers are taking water samples and measuring how the fires have affected the bodies of water in Utah County, particularly Utah Lake, which is already experiencing harmful algal blooms.

"Algal blooms now are all over the world, and there is an increasing number of fires," he said. "It's still scientifically an open question. We don't know how those two phenomena interact."

A plate containing a filter cake of algae and cellulose after it has run through a plate and frame filter press in the greenhouse at Utah Valley University in Orem is pictured on Wednesday, June 12, 2019.

Though separate, their research is in concurrence with Utah Valley University's proposal to the Utah Lake Commission to build an algae-harvesting boat to deploy in Utah Lake this summer.

Abbott and his researchers want to understand how much sediment was transported from the fires, how the water chemistry has changed, and the impacts it might have on the lake's ecosystem.

Spanish Fork River, where the majority of the ash is flowing from, Provo River and American Fork River were also affected by the fires.

Abbott called last year’s fires, which burned approximately 300 square miles of forest, “megafires.” But not all wildfires are bad for the environment, he said, as they can lead to diverse habitat in the landscape.

"That wildfire, sure, it does kill the plants in that one patch, but then it lets other organisms and species and other kinds of ecosystems develop in that place," he said.

Without wildfires, certain species wouldn’t exist as they could be taken over by another species, according to Abbott.

Abbott said smaller fires, which have been historically part of the local ecosystem, are critical for the forest and for the river to renew itself, as well as several species that are adapted for those natural disturbances. But megafires are different and affect a much larger area.

"You can imagine with a megafire it's wiping out a whole mountain all out once," he said. "The trees recover more slowly, it's harder for animals, especially small things like fish, invertebrates, insects and crustaceans moving through the river system."

Abbott said the wildfires killed off a large portion of fish in the Spanish Fork River system.

Utah Valley University chemistry professor Kevin Shurtleff files through plates containing filter cakes consisting of algae and cellulose in the greenhouse at UVU in Orem on Wednesday, June 12, 2019.

"It killed the invasive species that were there, so maybe this will be an opportunity for native fish to recolonize those rivers and streams," he said.

Doctoral student Erin Jones, the lead researcher of the group, said there hasn't been much scientific study conducted on how wildfires affect lakes with algal blooms.

Utah Valley University chemistry professor Kevin Shurtleff displays a plate consisting of algae and cellulose filter cake after it has run through a plate and frame filter press in the greenhouse at UVU in Orem on Wednesday, June 12, 2019.

The study was first sparked by Jones, who had already been collecting water samples before the fires, when she looked at the weather forecast and learned that remnants from Hurricane Rosa were going to bring rainfall.

"We had been measuring the water quality in some of these streams for about a year and a half," she said. "It's not very often that you have a dataset before the natural disaster happens."

She said the fires, combined with rain from Hurricane Rosa, caused a lot of erosion to travel from rivers and streams and into Utah Lake.

She said the day the storm was expected to hit, her team installed robots to collect samples each hour throughout the rainstorm to see all the sediment, nutrients and different kinds of pollution that were coming off the landscape.

"Because this wildfire and the water chemistry are such a unique phenomenon ... it's really hard to say what is going to happen and what the water quality impacts will be from larger fires and more spiky precipitation events," she said.

She predicts that the ash could potentially decrease the algal growth, especially at the mouth of the rivers that flow into Utah Lake, but algae might increase in the long term.

"We might see fewer (algae) this year. But then next year it will be even worse," she said.

Abbott noted that while the Spanish Fork River "looks like chocolate milk" due to the ash, the Provo River is running clear.

Utah Valley University chemistry professor Kevin Shurtleff files through plates containing filter cakes consisting of algae and cellulose in the greenhouse at UVU in Orem on Wednesday, June 12, 2019.

While standing at the edge of Provo River, Abbott pointed out that the water there shouldn't run so clear this time of year. The reason it does is because Deer Creek and Jordanelle dams have trapped the sediment.

"Sometimes we're tempted to think if the river is muddy, it's unhealthy. And that simply isn't the case," he said. "That's part of the natural disturbance cycle of the river, and there are lots of organisms in the river that depend on that material. So when you put a dam that makes the water clear and takes out all of that sediment, that can have a negative effect on the river."

Abbott said the state of Utah Lake's water is important because when its water evaporates it feeds the snowpack in the winter that fuels the ski industry.

"One of the ecological laws is that everything is connected," Abbott said. "Whenever we are degrading the soil, air or water it has a direct impact on society."

To prevent or mitigate harmful algal blooms in Utah Lake, UVU chemistry professor Kevin Shurtleff and his team of undergraduate researchers began developing the pilot project for the algae-harvesting boat in 2016.

"A lot of other researchers have been trying to understand what's causing the algal blooms. I kind of skirted that and I want to find a solution to prevent them or end them," he said.

The algae-harvesting boat is expected to be 21 feet long and 8 ½ feet wide and would be able to filter 600 gallons of lake water per minute. The cost of the boat is \$75,000, and larger boats can cost upward of \$200,000. Currently, UVU is in the process of patenting the boat.

Prior to their final design, researchers tested seven different methods for removing algae from water. Of those seven, a technique called a "plate and frame filter press" worked the best and has been used for other purposes like removing yeast from beer or cleaning fracking water.

Shurtleff found success when he added cellulose, a crushed natural wood fiber, to the process to allow for the algae to be caught while preventing the algae from clogging the filters.

He said the reason why it's challenging to filter algae, or cyanobacteria, out of the lake, is because it measures 3 to 6 micrometers in diameter, compared to human hair, which is 100 micrometers in diameter.

Shurtleff and his students conduct harvesting tests in a 40-gallon algae tank inside UVU's greenhouse facility. After filtering out the algae, what he calls "filter cakes" are created, which he hopes to turn into fuel.

"That's the advantage of having a mobile system is that we can drive the boat to the (affected) areas," he said.

Shurtleff said his method is environmentally friendly and won't cause harm to June suckers, an endangered species of fish native to Utah Lake.

If Shurtleff's proposal is approved this month, his team could begin assembling the boat and have it operating in Utah Lake by mid-July when algal blooms are expected to hit their peak.

"Ultimately, what we'd like to see is a fleet of these algae-harvesting boats," he said.

His team hopes to target areas that have toxic levels of algae like Sandy Beach, Lincoln Beach, Provo Bay and the marinas where people station their boats.

Shurtleff said groups from Martha's Vineyard in Massachusetts, where their own algal bloom affects the local shellfish industry, and Upper Klamath Lake in California have come to him for advice.

"I really hope we get funded here. ... It will show that the technology really does work," he said.

If his method is a success, Shurtleff said it's possible that he could use the technology in other watersheds across the country that are experiencing harmful algal blooms.

'High, fast and cold': Weather service issues a flood watch for Little Cottonwood Creek

By Courtney Tanner

<https://www.sltrib.com/news/environment/2019/06/13/high-fast-cold-weather/>

The creek that runs out of Little Cottonwood Canyon is under flood watch through Thursday afternoon with meteorologists warning that the water is “high, fast and cold.”

“The warm temperatures that we’ve been getting have increased the snow melt and pushed the flow up to near flood stage,” said David Bonnette with the National Weather Service. “The whole creek will be up to the banks.”

Because of the warm temperatures over the past few days in Salt Lake County, the snow in the canyon is melting quickly and filling Little Cottonwood Creek. The watch issued says: “Damage is possible in valley areas adjacent to the creek.”

Bonnette said there are not a lot of houses at risk, but that people should stay away from the banks of the creek which could possibly erode. He warns residents to stay out of the water — and to watch their dogs and children nearby who could be at risk of drowning in the dangerous conditions in an area that’s popular to hike.

“It’s definitely not a good place to be,” he added. “Just take caution.”

The water levels will peak midday Thursday and should lower after that as a cool storm system moves in — slowing how much melting snow runs into the creek.

There is also a warning for the Duchesne River in central Utah from the town of Hanna to the town of Myton. It will remain in flood stage through early next week.

Lehi activates emergency operations center, prepares for possible flooding

POSTED 9:43 PM, JUNE 13, 2019, BY JOHN FRANCHI, UPDATED AT 09:47PM, JUNE 13, 2019

<https://fox13now.com/2019/06/13/lehi-activates-city-s-emergency-operations-center-prepares-for-possible-flooding/>

LEHI, Utah — To prepare for possible flooding, the city of Lehi has activated its Emergency Operations Center.

The center is open from 6 p.m. until 4 a.m. to help residents who may be impacted by rising water.

“It’s just to be prepared in case there is a larger emergency,” said Shaye Ruitenveek, a Lehi City spokesperson. “Definitely better to be prepared, just in case something happens.”

As water continues to rise in both Dry Creek and Waste Ditch, residents who live near those waterways are protecting their homes with sandbags. The city estimates some 20,000 sandbags have been filled.

“We put up a lot of sandbags and then also, some barriers that have water in them to prevent water from reaching the homes,” Ruitenveek said.

The city plans to keep the Emergency Operation Center active as long as the flood threat exists.

“It depends on the temperature. We are going to be watching it over the next few weeks. It’s possible it could go into July,” Ruitenveek said.

Anyone who needs assistance can reach the Emergency Operations Center at (385) 201-1000.

City leaders are encouraging all residents to sign up for emergency text alerts [here](#).

Parched U.S. Southwest gets reprieve as snowmelt fills rivers

By Dan Elliott | The Associated Press

<https://www.satrib.com/news/nation-world/2019/06/13/parched-us-southwest-gets/>

Denver • A welcome surge of melting snow is pouring out of the Rocky Mountains and into the drought-stricken rivers of the southwestern U.S., fending off a water shortage but threatening to push rivers over their banks.

Last winter brought above-average snowfall to much of Colorado, Utah and Wyoming, so an abundance of snowmelt is rushing into the Colorado River, the Rio Grande and other waterways after a desperately dry 2018.

“It couldn’t have come at a better time,” said Greg Smith, a hydrologist with Colorado Basin River Forecast Center, part of the National Oceanic and Atmospheric Administration. “There’s this big sense of relief this year that we’ve kind of rebounded.”

Colorado was blanketed by 134% of its normal snowfall last winter. Utah was even better, at 138%. Wyoming peaked at 116%.

That will put so much water into the Colorado River that Lake Powell, a giant reservoir downstream in Utah and Arizona, is expected to rise 50 feet this year, said Marlon Duke, a spokesman for the U.S. Bureau of Reclamation, which manages Powell and dozens of other reservoirs.

The reservoir is rising so fast — 6 to 15 inches a day — that the National Park Service warned people to keep cars and boats at least 200 yards from the shoreline to keep them from being submerged overnight.

The influx into Powell will allow the Bureau of Reclamation to send enough water downstream into Lake Mead in Arizona and Nevada to avoid a possible water shortage there. Arizona, California and Nevada rely heavily on the reservoir.

Last year, the bureau predicted a better than 50% chance that Mead would fall so low that Arizona — which has the lowest-priority rights to the reservoir — would have to take a cut in its share in 2020. The shortage now might be put off until after 2021, Duke said.

The Colorado River is expected to send more than 12 million acre-feet into Powell this year, 112% of average and a huge improvement over last year, when scant snow in the Rocky Mountains produced only 4.6 million acre-feet for the reservoir. An acre-foot, or 1,200 cubic meters, is enough to supply a typical U.S. family for a year

The bureau expects to release 9 million acre-feet from Powell to Mead for the fifth consecutive year.

The news is also good for the Rio Grande, which flows from Colorado through New Mexico and then along the Texas-Mexico border to the Gulf of Mexico.

Elephant Butte, a massive reservoir on the Rio Grande in New Mexico, had dropped as low as 10% of capacity, but it could reach 30% this year, said Carolyn Donnelly, a water operations supervisor for the Bureau of Reclamation.

"Given last year, which was really one of the lowest years on record, it's been a complete turnaround," she said.

Besides replenishing reservoirs — a boon to cities and farms that depend on them — the surging rivers mean good rafting conditions, but some sections are so wild that guides are avoiding them.

Last week, a rafting accident killed a 29-year-old man on Colorado's Eagle River, and a 5-year-old boy had to be rescued from a river in a Salt Lake City suburb.

A popular hike along a riverbed in Utah's Zion National Park has been closed since April 1 because of high water. It could be two weeks before water levels fall enough to make the trail safe, park spokeswoman Aly Baltrus said.

Colorado authorities spent weeks clearing debris that threatened to clog streams around the small town of Lake City in the southwestern part of the state. Winter avalanches left behind dead trees and rubble that could have backed up the streams and then given way, sending a wall of water into the town, said Micki Trost of the state's emergency management division.

The National Weather Service issued alerts about potential flooding in several states but only a few local problems have been reported. Still, the risk could last for days because so much snow remains in the mountains after a cold May delayed the melt.

Enough snow is left that the Snowbird ski resort in Utah and Arapahoe Basin and Aspen in Colorado are still open, at least on weekends.

Weather and climate experts say it's too early to declare the Southwest's two-decade-long drought over because wet years sometimes provide temporary relief from prolonged dry spells.

Becky Bolinger, Colorado's assistant state climatologist, said that even if the drought is ending, another will follow.

"Our region is vulnerable to drought and vulnerable to increasing frequency of drought," she said.

Associated Press writer Brady McCombs in Salt Lake City contributed to this report.

Advisories lifted for Utah Lake algal bloom

By Braley Dodson Daily Herald

https://www.heraldextra.com/news/local/central/provo/advisories-lifted-for-utah-lake-algal-bloom/article_84d85be0-05ea-5084-9079-8523ffc8e56e.html

A warning advisory at the Saratoga Springs City Marina of Utah Lake has been lifted, the Utah Department of Environmental Quality announced Tuesday.

There is no sign of the bloom on any part of the lake, Carrie Bennett, spokeswoman for the Utah County Health Department, said Tuesday.

The department's Division of Water Quality posted on its website Tuesday that testing on June 5 and June 13 showed toxin levels at below the recreation health-based threshold for an advisory. An advisory can be lifted after two weeks of testing shows that the hazard has passed, according to the post.

During the advisories, people are encouraged to not swim or water ski in the area, ingest the water or let animals near it.

Testing by the Division of Water Quality on May 30 showed toxin levels from the bloom that exceeded recreation health-based thresholds, with the surface sample near the Saratoga Springs Picnic Area 375 times greater than the advisory level, according to the Utah Department of Environmental Quality.

The bloom was spotted in the Lindon Marina and Saratoga Springs area. No other sites showed signs of the bloom. The samples from the Lindon Marina came back with toxin levels below what would require a warning.

The bloom used to appear once every fall, but blooms have been appearing in the summer over the last few years, causing closures of part of the lake and a second bloom following in the fall.

Flooding closes Great Basin National Park campground

Associated Press Published: June 18, 2019 11:15 am

<https://www.deseretnews.com/article/900075853/flooding-closes-great-basin-national-park-campground.html>

RENO, Nev. — Flooding from rapid snowmelt has closed a campground at Great Basin National Park near the Nevada-Utah line and triggered flood warnings into Wednesday for parts of southern Elko County in northeast Nevada.

A Park Service official said Monday the Baker Creek Campground was closed Friday due to high waters that damaged the road into the camp.

It reopened briefly but was closed again for repairs Monday due to rising waters.

The National Weather Service extended a flood warning until 1:30 p.m. Wednesday for Lamoille Creek southeast of Elko where minor flooding was reported along the Ruby Mountains.

Moderate-to-major lowland flooding also was reported on the Humboldt River at Comus, where some rural roads have been impacted. Minor-to-moderate flooding also was occurring on the Humboldt at Carlin and Battle Mountain but no major damage was reported.

Guest opinion: Utahns should be more diligent in testing for lead poisoning

By Claudia Fruin, Sara Johnson and Jonny Vasic

For the Deseret News Published: June 18, 2019 8:00 am

<https://www.deseretnews.com/article/900075744/guest-opinion-utahns-should-be-more-diligent-in-testing-for-lead-poisoning.html>

Children in Utah are at risk for lead poisoning. In the last two years, with encouragement from members of the Utah Lead Coalition, the number of children being tested has tripled. Even with only 3 percent of preschool-aged children being tested and reported in Utah, the data is quite concerning. Approximately 2 percent of the tested children have elevated blood lead levels. Since we have approximately 300,000 children 5 years and younger in Utah, this translates to around 6,000 preschool age children potentially affected by lead poisoning. There is no safe level of lead and it is more toxic to young children's developing nervous systems leading to lower IQ scores, and behavioral disorders including ADHD and aggression. It affects nearly every organ system leading to kidney damage, hypertension and hearing loss. This is also true for adults.

Lead-based paint and contaminated house dust and soil from old paint are major sources of exposure for young children. Paint chips and dust can be ingested or inhaled by young children from both the interior and exterior of the home. More than half of the homes built prior to 1978, when lead-based paint was banned, have some lead-based paint. Homes built prior to 1960 have an even greater risk. Older homes undergoing renovation also pose a risk for lead exposure. In Utah more than half of the homes were built before 1978.

Water as a source of lead exposure has also come into the spotlight recently in Utah with the voluntary testing of school water showing 3 percent of samples elevated as well as the Sandy water crisis in February of this year. Aging pipes as well as older water fixtures may contain lead. Other common sources include toys, spices, pottery and ammunition. Beyond children, other high-risk populations include pregnant women and refugees. Lead crosses the placenta after 12 weeks gestation and can permanently affect a child before it is born.

Utah does not require routine blood lead testing on children or pregnant women. There is a federal mandate, however, that all 1 and 2-year olds on Medicaid insurance get tested, but in our state, this happens less than 25 percent of the time. The data we have collected in the last two years is concerning enough that Intermountain Healthcare pediatricians have made it a 2019 priority to test all 1 and 2-year olds at their well-child exams for lead poisoning.

As a comparison for health risk, the incidence of congenital Cytomegalovirus infection in Utah is around 1 in 150 births or around 0.67 percent. Congenital CMV can cause similar developmental

delays and neurologic dysfunction like lead poisoning. In our state it has been mandated since 2013 that all children who fail their second newborn hearing screen get tested for a congenital CMV infection. Since the prevalence of lead poisoning in our children is likely three times the risk of congenital CMV, we need to do a better job with awareness, education and testing. Please make sure your health care provider is testing your child's blood for lead exposure and if you are pregnant or planning a pregnancy, make sure you are either screened

Claudia Fruin is a pediatrician and chair/founder of the Utah Lead Coalition. Sara Johnson is a pediatrician and board member of UPHE. Jonny Vasic is the executive director of UPHE.

Groundwater Pumping Diminishes Streams Across The Country, Study Finds

By LUKE RUNYON

<https://www.kuer.org/post/groundwater-pumping-diminishes-streams-across-country-study-finds#stream/0>

Originally published on June 20, 2019 10:17 am

Groundwater pumping is causing rivers and small streams throughout the country to decline, according to a new study from researchers at the Colorado School of Mines and the University of Arizona.

Scientists have known for a while that there's a link between groundwater and surface water that runs through streams and rivers. Previous studies have shown pumping near a stream will eventually cause its levels to drop.

"If you pump near a stream you're going to change the amount of water that flows through the stream, because some of that stream water is going to basically get pulled to the well instead of flowing down the stream," said Reed Maxwell, hydrologist at Colorado School of Mines and the study's co-author.

Maxwell says his new study with hydrologist Laura Condon at the University of Arizona goes broad, quantifying the effect of pumping across the country.

"What we found is that we have actually depleted streams quite a bit," Maxwell said.

The study finds that since the 1950s, groundwater pumping has caused some stream flows to decline upwards of 50%. Some streams have disappeared from the surface altogether, seeping underground to refill pumped groundwater, the study finds.

Declines are particularly stark in portions of the Colorado River basin and on the Great Plains, Maxwell said.

Using a computer model, researchers were able to envision what rivers across the U.S. would've looked like without widespread groundwater pumping, which took hold in the 1950s.

The U.S. Geological Survey has put the loss of groundwater over the 20th century at 649 million acre-feet. One acre-foot is enough water to supply roughly two households' water use for a year.

"There's nothing inherently wrong with groundwater pumping," Maxwell said. "What we want to do is understand what is a long term sustainable amount of pumping. And particularly groundwater because it's a buffer between wet and dry years."

Condon and Maxwell's article is published in the journal Science Advances.

This story is part of a project covering the Colorado River, produced by KUNC and supported through a Walton Family Foundation grant. KUNC is solely responsible for its editorial content.

Warning advisory issued for harmful algal bloom in Zelp Calder Reservoir

by Hunter Geisel Friday, June 21st 2019

<https://kutv.com/news/local/warning-advisory-issued-for-harmful-algal-bloom-in-zelp-calder-reservoir>

(KUTV) — A harmful algal bloom has emerged at the Zelp Calder Reservoir.

According to the Utah Department of Environmental Quality, the Division of Water Quality identified a harmful algal bloom at the Zelp Calder Reservoir boat ramp on June 11.

The Utah DEQ stated that the monitoring crew observed isolated clumps of green cyanobacteria on the surface of the reservoir and throughout the water column.

The TriCounty Health Department will be posting signs and collecting samples at the reservoir next week, according to the Utah DEQ. The DWQ will return to the reservoir the following week to collect additional samples.

The Utah DEQ has issued a warning advisory for Zelp Calder Reservoir at this time, and the agency is asking everyone to avoid areas of algae scum, keep animals away, don't ingest the water and clean fish well and discard the guts.

To learn more about harmful algal blooms, visit deq.utah.gov.

Can Utah's water supply keep up with its booming population?

By Kim Bojorquez Published: June 23, 2019 9:02 pm

<https://www.deseretnews.com/article/900076665/can-utahs-water-supply-keep-up-with-its-booming-population.html>

SALT LAKE CITY — Will Utah's water supply catch up with the state's rising population, expected to double by 2065?

It was one of the several questions posed at Utah State University's Research Landscapes series focused on Utah's waterscapes. The event Tuesday at the O.C. Tanner headquarters in Salt Lake City attracted a mix of state and local government officials, businesses leaders, developers and nonprofit organizations.

Rep. Timothy Hawkes, R-Centerville, said now is a great point in time to reflect on Utah's water, as he remembers a time when talking about water would invoke ridicule or hostility.

"It's amazing to think now, how much that conversation has changed, but our policy hasn't changed," he said.

He said the state's water scarcity "always has been, and always will be" a problem due to limited supply and an "ever-increasing" demand.

Historically, he said, Utah's snowpack and the West's era of dam building has helped Utah to capture water in times of plenty and release in times of scarcity.

"That really helped us for many, many years," he said. "We no longer can rely on snowpack, the era of big building dam is over, the question is, what is the next big thing that could help us grow and thrive into the future?" he said.

"We have reliable, high-quality, cheap water today, but we can't guarantee it tomorrow."

In 2017, the University of Utah's Kem C. Gardner Policy Institute projected that Utah's population is expected to double by 2065.

While Hawkes admits he might not have the answers, he knows that "to have innovation we need to have good information."

"The biggest challenge we face as policymakers is lack of good, high-quality information," he said.

And that's where Michelle Baker, an associate dean and professor of biology at USU, and her research come into play to help answer those questions.

Baker and her student research group focus on understanding how water links landforms and people, and how it influences freshwater ecosystems.

At Tuesday's presentation, she called Utah's mountain water towers "critical icons" to the state's identity.

She noted that tourism isn't the only industry in Utah fueled by water. Gas and oil development, agriculture and high-tech industries require a clean water supply.

"Our water supply and the demand for that water have a mismatch," Baker said. "Second to Nevada, Utah is the driest state in the nation and climate change is not something that we can deny."

According to Baker, Utah's water consumption is among the highest in the nation, as 160-170 gallons of water are used per person each day, mostly to support agricultural industries. She added that Utahns pay less than a penny per gallon, making it the second-lowest water per gallon rate in the nation.

Baker attributes Utah's population boom to having a young population compared to the rest of the nation, leading to more births than deaths, as well as people moving to Utah attracted by the growing tech industry.

USU researchers are focusing their efforts on three areas such as water's quantity, quality and efficiency, she said.

Baker shared research by another USU professor, Robert Gillies, who studied Utah's water quantity. His study found a decrease in snow depth and a substantial decrease in areas covered by snow.

Meanwhile, over the last 50 to 60 years, the amount of precipitation during the winter has increased by 9 percent, Baker noted.

"How do we get 9 percent more precipitation and less snow in the winter? More of that precipitation that's coming is rain, and that's not how our mountain water towers are supposed to work," she said.

She said Utah is not alone in a decrease in snowpack, as states across the mountain west like California have experienced similar conditions.

"We need to expect that our water towers will be less efficient at storing water and snow, and we need to plan for that much more carefully," she said.

Utah's airsheds and watersheds are linked, she said, as evidenced when nitrogen and phosphorus pollution contribute to Utah Lake's toxic algal blooms, a problem that's been ongoing for four consecutive years.

Last year, she said 37 states reported a total of 255 harmful algal blooms.

Most surprisingly, one of Baker's graduate student researchers studied pharmaceutical pollution in Red Butte Creek streams and found traces of caffeine, methamphetamines, nicotine, Tylenol and amphetamine.

Originating from Red Butte Canyon, the stream flows through the University of Utah campus and eventually becomes part of a storm drain system at Liberty Park.

"In order to put filthy water to reuse, we need to know what, if any, risks there are," she said. "To restore or improve water quality we really need to know the flow path (the) water takes in the system so that we can identify the sources and potentially mediate or remove (the risks)."

When it comes to using water more efficiently, Baker said the most water could be saved in agriculture uses, like converting from flood irrigation to sprinklers, using piping instead of canals and scheduling specific days when water could be applied to fields.

Former assistant director and general counsel for the Western States Water Council and current partner at Smith Hartvigsen, Nathan Bracken, recommended attendees at Tuesday's discussion should become as familiar with their water quality as they are with public roads.

Bracken said there is no "silver bullet" that will solve Utah's multifaceted water problems and that a "multitude" of methods will need to be used.

"If we don't act, if we don't collaborate and if we don't work on this challenge, we're going to pay an astronomical amount more because we're going to be responding to crisis rather than being proactive," he said.

Baker said she hopes attendees left with a better understanding of the complexities of Utah's water system and the fragility of mountain water towers.

The next event from the USU Research Landscapes series will take place Oct. 1 and will focus on USU sociology professor Courtney Flint's research on the social dynamics of environmental issues.

Officials locate E. coli in Brian Head's water, boiling order in place

Emily Havens, St. George Spectrum & Daily News

<https://www.thespectrum.com/story/news/2019/06/21/officials-locate-e-coli-bacteria-water-supply-brian-heads-boiling-order-issued/1527094001/>

A water boiling order is in place in Brian Head after officials have located E. coli bacteria in the water supply.

Officials became aware of the contamination Thursday, according to a news release. The source of the contamination is currently not known.

Residents and tourists in Brian Head are instructed to boil their water prior to using it to kill bacteria and other organisms that may be in the water.

The presence of E. coli bacteria indicates the water may be contaminated with human or animal wastes, the release states.

MORE: Police say six LDS Church missionaries were held hostage at gunpoint during home visit

According to the release, bacterial contamination can occur when a higher-than-average amount of runoff enters the drinking water source. A pipe break or failure in the water treatment process can also cause contamination.

Town officials are chlorinating and flushing the water system and continue to look for the source of the contamination, according to the release. Tests are being done for coliform bacteria, and the problem is expected to be resolved within the next four days.

In the meantime, officials are advising residents and tourists to boil their water correctly by letting it boil for one minute, allowing it to cool before use or simply using bottled water.

When an E. coli contamination occurs, water should be boiled for drinking, making ice, brushing teeth, washing dishes and for food preparation

Trust Your Tap: Get to Know Your Water System

By Marie Owens

<https://deq.utah.gov/communication/news/trust-your-tap-get-to-know-your-water-system>

Safe, clean drinking water is critical to public health, welfare and safety. Increased understanding of how public water systems work, as well as community involvement and investment in these systems, are important ways to safeguard this valuable resource. The more residents and communities know about their drinking water, the better their providers can secure resources to adequately provide the necessary infrastructure, protection of source waters, system operations, and water storage capacity.

DEQ's Division of Drinking Water (DDW) offers a number of resources to help individuals identify the drinking-water system that services their home, review the system's annual water quality report, and learn more about how their system works.

"My Drinking Water" Portal

In 2018, DDW developed a new search portal called "My Drinking Water" to help Utah residents locate their public water system quickly and easily. Customers simply enter their street address and zip code, and the search feature takes them to DDW's WaterLink portal to retrieve the water supplier's Public Water System information.

The Water Monitoring Report includes:

The water system contact, including phone number and email

The system location

Last surveyor update (i.e., the date the system was last inspected)

Rating

Approved: The system is generally in compliance with all Safe Drinking Water Act requirements.

Not Approved: The system has infrastructure, water quality, or monitoring violations that need to be addressed. There is no formal signed plan between the system and DDW to come into compliance.

Corrective Action: the system has an agreed-upon plan to come back into compliance.

Customers can also find the following additional information in the Water System Reports located in the upper right portion on the web page:

Bacterial sampling results (Bacterial Summary)

Inspection reports that include system violations for monitoring or water quality (IPS)

Consumer Confidence Report (CCR)

Every public water system provides its customers with an annual water-quality report called the Consumer Confidence Report (CCR). Water systems serving year-round residents are required to deliver the CCR to their customers by July 1st of each year.

The CCR provides a variety of important information about each community water system, including:

Water system information (e.g., the name and phone number of the contact person)

Information on opportunities for public participation

Source(s) of drinking water

Any monitored contaminants detected in the drinking water during the past five years of sampling

Information on monitoring for Cryptosporidium, radon, and other contaminants, if detected

Compliance with state and federal drinking water standards, explanation of violations, potential health effects, and corrective actions

Variances or exemptions to a maximum contaminant level (MCL) or treatment technique

Required additional information, such as explanations of contaminants in drinking water and educational information on nitrate, arsenic, or lead in areas where they may be contaminants of concern.

Customers generally receive their CCR with their water bill. Residents who would like to review their CCR can contact their water provider using the phone number on their water bill or visit their city's public works/public utility website and search for "annual water quality report." Renters can contact their building manager or visit the water system website. EPA's Safe Water Hotline (1-800-426-4791) also offers information for locating local water companies and CCRs.

Many people don't realize that public water systems offer regular opportunities for citizens to participate in decisionmaking for their community's drinking water.

Water Testing at Individual Residences

People can become concerned about the quality of their drinking water if their home has older plumbing or if a family member is immuno-compromised or sensitive to contaminants. In those instances, in-home testing is a good way to identify issues with drinking water inside the house. Residents have several options if they want to test their homes.

Water Systems

Water systems sometimes offer free testing for customers with concerns about the quality of the drinking water in their house. Residents can call their water system using the phone number on their most recent water bill to see if testing services are available.

State Certified Labs

Homeowners can test their water themselves using a state-certified lab for sample analysis. DDW provides a list of certified labs, their location, and the substances they analyze. Labs charge for this work and fees vary based on the tests ordered. Residents can call the lab to request bottles, get instructions on how to collect samples, and when to return samples to the lab.

Some residents may choose to add home treatment systems to improve taste or protect vulnerable members of a household. Point-of-use (POU) systems treat water at a single tap and point-of entry (POE) systems treat water throughout the house. POU and POE devices use different contaminant removal technologies and may have treatment limitations. We work hard so that you can trust the water directly from your tap throughout the state but if you decide you need a home treatment unit, please keep in mind that you are now taking on the responsibility for the quality of the drinking water within your own home and these units need to be carefully installed, operated and continuously maintained.

Drinking Water Protection: A Shared Responsibility

One of the best ways for people to protect their drinking water is to be involved and informed about activities that could compromise its safety. EPA has the following suggestions for greater citizen involvement:

Attend public hearings on new construction, stormwater permitting, and town planning.

Ask questions about any issue that may affect a drinking-water source.

Participate with local government and water systems as they make funding decisions.

Volunteer or help recruit volunteers to participate in community contaminant monitoring activities.

Help ensure that local utilities that protect drinking water have adequate resources to do their job.

For more information on how DDW works to ensure the safety of Utah's drinking water, visit the Division of Drinking Water home page. Check your water bill this month for the yearly Consumer Confidence Report from your water system. You can also find your report on DDW's WaterLink database. Go to waterlink.utah.gov and select the Public Portal in the upper right corner, select "Consumer Confidence Report" and search for your CCR by county/water system and year. WaterLink will generate a complete data report for you on your selected water system.

Snowmelt, cool weather make for 'impressive' water flow over High Uintas dam

By Dennis Romboy Published: June 24, 2019 4:10 pm

<https://www.deseretnews.com/article/900076796/utah-snowmelt-upper-stillwater-reservoir-water-level-high-uintas-dam.html>

DUCHESNE COUNTY — Big snow, cool weather and spring runoff have converged to send a curtain of water cascading over a dam taller than Niagara Falls at a High Uintas reservoir.

Upper Stillwater Reservoir is at 100 percent capacity and water is flowing over the 200-foot tall spillway, which measures about 600 feet across. Niagara Falls has a 160-foot vertical drop.

"It's a pretty impressive sight to see," said Gene Shawcroft, general manager of the Central Utah Water Conservancy District.

Hundreds of people traveled over the weekend to see the falling water, which is about an hour's drive northwest of Duchesne in Rock Creek Canyon. It takes about two days for water to fill the Upper Stillwater spillway, and Shawcroft said it could last another 10 days depending on how fast the snow melts.

The dam spillway was engineered to control the elevation of the reservoir as the water level rises. Although it does not happen every year, overflowing water is a normal part of operations. The Upper Stillwater last spilled over in 2017.

The reservoir was created in 1987 as part of the Central Utah Project, which captures a large portion of Utah's share of Colorado River water from the Uinta Basin and moves it through several reservoirs to eight counties along the Wasatch Front and central Utah.

Shawcroft said the system is designed to store and provide water in dry years and prevent flooding in wet years.

"From our perspective, the project is doing exactly what it was designed and intended to do," he said.

All watersheds across the state have received higher than average precipitation since last October and several Utah reservoirs are at capacity and spilling. Reservoirs managed by the district are averaging 96 percent capacity.

Warning advisory issued for Utah Lake in Provo Bay area

By Braley Dodson Daily Herald

https://www.heraldextra.com/news/local/central/provo/warning-advisory-issued-for-utah-lake-in-provo-bay-area/article_764593ce-995c-54a2-aaa-3ff425097918.html

Utah Lake's algal bloom has reemerged despite testing showing no trace of the bloom the week before.

The Utah County Health Department issued a warning advisory for the Provo Bay area of the lake Monday after samples collected on June 17 and June 18 showed high counts of cyanobacteria, according to an update from the Utah Department of Environmental Quality. Advisory signs will be posted at Sandy Beach and at the Utah Lake State Park Marina.

People are encouraged not to swim, water ski, ingest water or let animals ingest it during advisories.

The lake's algal blooms have the ability to produce cyanobacteria, which can be harmful to humans and animals.

The monitoring crew didn't see visible cyanobacteria at sites other than Provo Bay, according to the update, but did see a bright green hue and small green particulates in the water there.

A warning advisory for the Saratoga Springs City Marina at Utah Lake was lifted last week after testing showed no sign of the bloom on any part of the lake.

An advisory can be lifted after two weeks of testing shows that a hazard has passed.

Algal bloom warning advisory issued for Provo Bay

By Lauren Bennett, KSL.com | Posted - Jun 24th, 2019 @ 8:17pm

<https://www.ksl.com/article/46580881/algal-bloom-warning-advisory-issued-for-provo-bay>

PROVO — Just five days after officials gave the all clear for algal bloom in Saratoga Springs Marina, an advisory warning was issued for the other side of Utah Lake at Provo Bay.

The Utah County Health Department issued the warning Monday after samples collected on June 18 showed high cyanobacteria cell-count concentrations, also commonly known as blue-green algae because of its color in the water.

The health department will post advisory signs at Sandy Beach and Utah Lake State Park Marina.

Officials with Utah Department of Environmental Quality collected samples from the lake June 17 and 18 to assess lake conditions, and crews did not observe signs of blue-green algae in the water except at Provo Bay.

Crews "will collect samples in Provo Bay this week to chart the progress of the bloom and monitor for changes in cell-count densities and toxin levels," according to the environmental department's algal bloom monitoring website.

Permanent warnings about algal bloom are being installed around Utah Lake

By Sean P. Means

<https://www.sltrib.com/news/2019/06/25/permanent-warnings-about/>

Forget about temporary warnings of algal blooms on Utah Lake — the Utah County Health Department is putting up permanent warning signs.

The permanent Harmful Algal Bloom (or HAB) signs are meant to be educational and raise awareness of the blooms, which were found earlier this month near the Saratoga Springs Picnic Area and have hit the lake for the previous three summers.

“The signs are more infographic in their approach and should help us to better communicate with those who are using Utah Lake,” Ralph Clegg, the department’s executive director, said in a news release.

The signs are already in place in Provo Harbor, south of the Provo Marina, according to the release, due to sample results there. Warning signs are being posted both at Provo Marina and Sandy Beach, common access points to the harbor.

The installation was a joint effort of the county health department, the Utah Lake Commission, and the Utah Department of Environmental Quality’s Division of Water Quality.

Blue-green algae are a natural part of many freshwater ecosystems, but when conditions are right — with high nutrients in the water, warm temperatures, plenty of sunlight and calm water — they can grow rapidly. The blooms produce cyanobacteria, which can be a health risk to people, pets, wildlife and fish.

Symptoms of exposure to cyanobacteria can include headache, fever, diarrhea, abdominal pain, nausea and vomiting, and sometimes allergy-type reactions from skin contact.

Nutrients that feed explosive algal growth often come from pollution, including agricultural runoff and municipal discharge. The growth accelerates when the weather is hot and water levels are low.

Residents can sign up for updates about Utah Lake, including warnings and closures, by going to the county health department’s website, www.alerts.utahcounty.gov. Alerts are available via text, email or phone.

DEQ issues warning for Utah Lake algae

POSTED 6:44 PM, JUNE 25, 2019, BY ADAM HERBETS, UPDATED AT 06:46PM, JUNE 25, 2019

<https://fox13now.com/2019/06/25/deq-warns-about-utah-lake-algae/>

PROVO, Utah — Utah Lake is dealing with toxic algae issues for the second time this summer, this time in Provo Bay.

Officials with the Utah Department of Environmental Quality said they're planning to post more warning signs at Utah Lake State Park and Sandy Beach in response to the outbreak. When Fox 13 stopped by Provo Bay, we only found one sign warning about algal blooms, posted more than a year ago.

The repeated issues have led UDEQ to start posting more permanent signs, telling people to stay out of any water that might be infected.

Signs to look out for include:

- Water that looks scummy
- Water that appears to be discolored or has streaks
- Green globs below the surface of the lake

Officials said boating and fishing are safe, as long as you clean the fish properly before you eat them; swimming can be more risky. It's especially important to not ingest the water.

Dale Johnson, who was out fishing with his grandkids on Tuesday, said he had no idea about the warnings because nobody told him when he entered Utah Lake State Park. He said now he's especially glad his family stayed inside the boat.

"I don't know anything about it, other than it seems like usually it's late summer there's a lot of problems with it," Johnson said. "I thought with the cooler weather so far this year it probably wouldn't be a problem for a while... and I didn't catch any fish, so it doesn't matter."

If you are exposed, the symptoms can be serious, ranging from skin irritation to brain and liver damage.

Please call the Utah Poison Control Center at (800) 222-1222 if you feel like you might be exposed.

Access And Sustainability: Two Words Centered Around The Jordan River Parkway Competition

By MAX ROBERTS • JUN 24, 2019

<https://www.upr.org/post/access-and-sustainability-two-words-centered-around-jordan-river-parkway-competition>

The access and sustainability of the Jordan River Parkway are threatened by a large set of issues affecting the state as a whole. Salt Lake County and the Jordan River Foundation invited design teams to submit their ideas for a segment of the parkway to attract creative solutions to conserve and promote river and spark public conversation. Organizers are now inviting the public to share their voice on these ideas.

Since the competition began on March 13, 16 US teams submitted their proposals for the 3 1/2 mile stretch of river, and a jury of public leaders and experts will now judge the entries on their employment of activation, connectivity, recreation, conservation and economic prosperity.

The project encourages dialogue between policymakers and the public on the complex challenges affecting the river.

“The more we talk about the relatedness of these things, the better off we will be in the long run, because when we talk about them in isolation, we lose how interdependent they are on each other for our quality of life,” said Dina Blaes, an associate deputy mayor for Salt Lake County.

These problems - including water quality, habitat degradation and urbanization - are being addressed all throughout the state, including algal bloom prevention and plastic bag bans. Blaes believes whenever direct actions such as these are taken, they bring about positive public engagement. She wants all Utahns to understand that these are statewide challenges, not just in Salt Lake, and we should remember what we value in our quality of life moving forward.

“With the growth, we can expect, we know more people are looking at Utah as a wonderful place to live and work and play,” Blaes said. “But what are we doing with the resources that are drawing those people to us? Are we good stewards? I think these are discussions and concepts that are transferable to just about any community in Utah.”

The county will finalize and secure funds for the project over time, with more public outreach efforts during the process. All Utahns are invited to vote for the People's Choice Award by June 25, at 10:00 PM. Salt Lake County Mayor Jenny Wilson will announce all prize winners on June 27 at 10:00 AM. Visit www.slco.org/on-the-rivers-edge for more information and to vote for People's Choice.

Brian Head's boil water advisory expected to be lifted soon

By The Associated Press

<https://www.sltrib.com/news/nation-world/2019/06/26/brian-heads-boil-water/>

Brian Head, Utah • The boil water advisory for the small Utah town of Brian Head after E. coli bacteria was detected in drinking water is expected to be lifted soon.

Town Manager Bret Howser said Tuesday that tests on the water supply have come back clean.

He says state officials need to give the OK to lift the boil advisory and that could come on Wednesday.

Last Thursday, the town instructed residents to drink bottled water or boil their water for at least one minute before use.

Howser says the ski resort town has had high runoff this year and dirty water likely got into some springs.

He says the town switched to well water and the water supply has been flushed and chlorinated to eliminate the bacteria.

Boil order lifted for Brian Head after 5 days

By Lauren Bennett, KSL.com | Posted - Jun 27th, 2019 @ 8:43pm

<https://www.ksl.com/article/46583561/boil-order-lifted-for-brian-head-after-5-days>

BRIAN HEAD — The boil order that was issued for Brian Head last week after E. coli was detected in the town's water, was lifted Wednesday, according to officials.

The order was first issued June 21 after water samples tested positive for E. coli, according to a notice posted on the town's website.

As of Wednesday, the order had been lifted according to another [notice](#) posted from the city. But officials advised residents to flush their water to clear out any potentially contaminated water from the plumbing.

Interior and exterior faucets should be flushed, the post advised, such as showers, water and ice dispensers, and water treatment units.

As a result of the flushed water systems, some residents may notice a decrease in water pressure and/or discolored water — officials assured this is normal and does not pose a health risk.

The city also gave details instructions on how to flush different systems, including hot and cold water faucets, fridges and dishwashers.

Authorities said last week they will chlorinate and flush the water system while attempting to discover where the bacteria originated. Bacteria contamination can happen when run-off enters the drinking water source, especially during heavy rains. It may also happen because of a break in the pipes, or if the water isn't treated correctly.

E. coli bacteria signals the water may be contaminated with human or animal waste. The microbes can cause diarrhea, cramps, nausea, headaches and other symptoms and may pose a significant risk, especially for young children and the elderly, the original advisory states.

Artists, architects and planners reenvision the Jordan River Parkway

By [Christina Giardinelli](#) Published: June 27, 2019 7:31 pm

<https://www.deseretnews.com/article/900077338/artists-architects-and-planners-reenvision-the-jordan-river-parkway.html>

SOUTH SALT LAKE — As it runs north from its headwaters at Utah Lake to where it empties in the Great Salt Lake, some see the Jordan River as a risk in the community rather than an asset.

Now, Salt Lake County officials hope to change that.

"It's a topic that I've heard my entire life," said Michael Budge, who joined a multidisciplinary team committed to reimagining what the river's parkway could look like.

"It's been run down, it has this stereotype of being unsafe," he said, noting that homes along the river's edge tend to face away from the water rather than embrace its potential.

Budge and his team submitted their project to a contest challenging participants to come up with creative ways of reenvisioning a 3 ½ mile mid-valley stretch of the Jordan River Parkway.

According to county officials, the contest was not an actual bidding competition, but rather a way to brainstorm ideas and receive feedback from the community.

"We asked landscape artists, urban planners, artists, engineers and designers to submit their most creative ideas," said Salt Lake County Mayor Jenny Wilson, who served on the competition's 11-member jury of experts and elected officials.

"Every entry reinforced what we know we must do to reimagine this regional amenity," she said, noting that the push for new ideas came from a need to "invest in the future and make (the Jordan River Parkway) even more of a regional amenity."

Budge's teammate, Kevin Blalock said "the over arching idea" for their team's project, Weave, "is this very dramatic intervention to try to bring communities together."

Blalock said Weave proposed a way to "bridge the divide that the Jordan River created between the various cities, by introducing a pedestrian path that kind of weaves its way back and forth across the river."

The contest, launched in March, received 15 entries before its May 30 deadline. In addition to the \$20,000 prize, five \$2,500 prizes were awarded.

Weave took home the grand prize, as well as prizes for the Economic Prosperity and Connectivity awards.

A prize for the Activation Award went to Live + Work + Recreate, a project that proposed— among other initiatives—a TRAX line intersect at Central Point Station.

The winner of the Recreation Award, the Reimagine River's Edge team, proposed ideas including a kayak and yoga park.

Jordan Rising, a project from entrants in Seattle, pitched a hot air balloon to float over the area. The project won the Conservation Award, as well as a \$4,000 People's Choice Award which, Wilson noted, received a total of 1,398 votes from Utah residents.

Wilson said that while some of the ideas proposed by various projects were "visionary" and "over the top," others would be easier to implement in the near future.

She said the next step will be to review the submissions and "see if there are elements to their overall design that we want to roll with on a short-term basis, and some that may be worthy of exploring over multiple years."

Even after a rush of snow and rain, the thirsty Colorado River Basin is “not out of the woods yet”

It will take as many as 13 water years exactly like this one to erase the impacts of long-term drought in the West, Colorado River District engineers say

Katie Klingsporn @KlingspornKatie

<https://coloradosun.com/2019/07/01/colorado-river-drought-management-plan-water/>

Colorado’s water year has been extraordinary.

After nearly 20 years dominated by drought, a combination of heavy storms, persistent precipitation and cold temperatures conspired for a water bonanza not seen in decades.

Today, rivers are swollen, ample snow lingers in the mountains and the statewide snowpack sits at 3,700 percent of normal (just one of many eye-popping stats attributed to a later-than-normal runoff and summer snow).

Perhaps most notable is this: For the first time in 19 years, the entire state has been [proclaimed 100% drought free](#). The fields are green, [rivers are overflowing their banks](#) and reservoirs are refilling.

But in the long-term puzzle of ensuring that the Colorado River — the main artery of the American West — provides water to the millions of people in the basin who depend on it, the challenges are mounting. And in the face of a complicated tangle of population growth, [long-term drought and climate change](#), does 2019’s water stand a chance of making a meaningful impact?

Water experts say the answer is: Sadly, not likely.

Colorado River District general manager Andy Mueller likened it to a year-end salary bonus. It’s a great development in the short term, but if it’s an anomaly in the broader picture, its effects will be minor.

“This is a short-term boon, and we should be happy,” Mueller said before adding the caveat stressed by many in the water community: “But we’re not out of the woods yet.”

A pattern of aridification

Going from the record-breaking drought of 2018 to the record-breaking water year of 2019 is a stroke of luck that has enabled a much faster recovery of fisheries, soils and watersheds, said Taryn Finnessey, Colorado’s senior climate change specialist.

Here, reservoirs such as Blue Mesa, Navajo and Ridgway are expected to rebound as snowmelt flushes through rivers.

“However, on the broader Colorado River, even with a banner water year, we won’t see a significant recovery,” she said.

Large inflows are expected into both Lake Powell on the Utah/Arizona border and Lake Mead downstream — the big reservoirs considered to be the savings accounts for the Colorado River basin. The reservoirs, which have been steadily dropping for years, are projected to end the year at slightly higher levels.

But both are so far from capacity — as of June 24, Mead was only at 40 percent, while Powell was at 51 percent, according to the Bureau of Reclamation — that these increases will, at best, put them a little more than half full by year’s end.

“So we’re not seeing a huge rebound in those really large storage buckets that provide long-term storage in the Southwest,” Finnessey said.

Why not? The short answer, she said, is climate change.

Over the past 20 years, the broader Colorado River system has experienced not only decreased precipitation — in the form of 19 years of drought — but also increased temperatures. The hotter weather creates more rapid evaporation and thirstier soils, and causes the snow to melt more quickly, transforming it from the steady flows that were once typical, into an annual big-water flush that’s harder to capture and store.

The result, Finnessey said, is a slow shift in the basin “from drought to long-term aridification” that’s drawing down the water. A growing population only exacerbates the problem. And one good year of water won’t reverse that.

In fact, Mueller said the river district’s engineer guesses it would require eight to 13 years “exactly like this one” to emerge from the deficit. So, relying on Mother Nature to turn things around isn’t a reliable option.

James Eklund, the state’s representative on the Upper Colorado Basin Commission, said the problem is that the entire system of storing, capturing and using the water of the Colorado River is predicated on the way things functioned before climate change.

“That’s not a responsible way to move forward because that’s just not the reality that we’re going to be facing,” he said. “If you had perfect foresight, you would not have designed water law, policy and storage the way that we designed it.”

Make no mistake, Eklund said, managers will store every drop they can in a year like this. Unfortunately though, “climate change is boxing Colorado water managers in from all sides.”

A big step

No question, 2019’s abundance of water is positive news for the Colorado River, which, along with its tributaries, provides water for about 40 million denizens of the Southwest.

But what may prove even more significant is a new drought-contingency plan that promises to better manage the overtaxed system.

To understand the complex system of divvying up water in the Colorado River basin, you must go back to its foundational governing document, the Colorado River Compact of 1922.

That document split the basin into two groups, the Upper Basin (Wyoming, Utah, Colorado and New Mexico) and the Lower Basin (Arizona, Nevada and California). It dictated that each basin was allowed 7.5 million acre-feet per year, with the Lower Basin entitled to be quenched first.

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Demand for water has outpaced supply for the past two decades, thanks in big part to drought and rising temperatures, and the Lower Basin states' overuse of their allotment. That had led to declines in the now bathtub-ringed Lake Powell and Lake Mead, [which last year hit their lowest levels since being filled](#).

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It became plain to all involved that if those patterns continued, the system would collapse. That prompted water managers in both basins to come to the table. Their mission was to avoid catastrophe.

The result of those talks is the Colorado River Basin Drought Contingency Plan, which was signed in May. In that agreement, the Lower Basin states agreed to specific decreases in water use.

The plan is designed to bank water and leave it in Lake Mead, which in turn keeps more water in Lake Powell (by preventing large releases from Powell required to bail out the Lower Basin's supply.) And unlike in the past, the water that is banked in Powell by the Upper Basin states will belong solely to Colorado, Wyoming, Utah and New Mexico as a sort of emergency water account.

Previously, all the water saved by Upper Basin states in Lake Powell could be released to Lake Mead for the Lower Basin states to use.

“That was a perverse incentive,” Eklund said of the former arrangement that didn't really reward water conservation by Upper Basin states. “What we decided to do is make it a positive incentive.”

The Upper Basin states, meanwhile, agreed in the Contingency Plan to explore methods for managing and reducing consumption.

(As part of that promise, the Colorado Water Conservation Board has assembled eight workgroups to study a demand-management program for the state, which is envisioned as a voluntary program that would pay users to not use their water rights. The water saved through that program, the river district's Mueller said, could be stored in Lake Powell to be used explicitly for Upper Basin needs.)

Finally, the contingency plan makes reservoir operation more flexible for Colorado's Blue Mesa and Navajo reservoirs and Flaming Gorge in Wyoming — while still respecting the environmental considerations of their water releases.

Lauren Ris, deputy director of the Colorado Water Conservation Board, called the plan “a huge milestone.” And Eklund said, “The system as a whole is better off with the plan.”

Mueller was more measured, though. “I think it’s an important interim step in trying to reach balance,” he said. “It’s a good step toward the fix, but it’s not the ultimate fix in this river system.”

Ever more precious

It has been [150 years since John Wesley Powell led his historic expedition](#) down the big river, setting out to chart, understand and study a vast system of canyons and hydraulics that at the time was largely unknown — an enormous blank swath on the map.

A century and a half is a mere blip in the life of the mighty Colorado River. But since that expedition, the river has witnessed monumental changes. These include the creation of three major dams, two basins, 15 special-management areas and more than 20 laws governing its water use; the explosion of human population in the vicinity of its rugged and rocky banks; the development of agriculture and energy; the increase of recreational uses; the ever-rising clamor for its precious contents; and a climate that’s changing in wild swings of unpredictability.

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MORE: [Amid drought, a changing climate and population growth, can Colorado’s unique water law system survive?](#)

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Blue Mesa Reservoir is Colorado’s largest lake, 20 miles long with a surface area of over 14 square miles. The reservoir was created by the damming of the Gunnison River by the Blue Mesa Dam in 1966 as part of the Colorado River Storage Project, helping control the flow of water into the Colorado River as well as generating hydroelectric power, flood control and storage. Last year, the reservoir was drawn down dramatically because of persistent drought. (Dean Krakel, Special to The Colorado Sun)

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Snow on the San Juan Mountains can be seen as people boat, fish and picnic near Ridgway Reservoir on June 23, 2019. (William Woody, Special to the Colorado Sun)

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Make no mistake, Eklund said, managers will store every drop they can in a year like this. Unfortunately though, “climate change is boxing Colorado water managers in from all sides.”

Spectators hike along a service road to view spring runoff spilling from the Morrow Point Dam the afternoon of June 3, 2019. At full capacity the dam can release 41,000 cubic feet of water per second. (William Woody, Special to The Colorado Sun)

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(As part of that promise, the Colorado Water Conservation Board has assembled eight workgroups to study a demand-management program for the state, which is envisioned as a voluntary program that would pay users to not use their water rights. The water saved through that program, the river district's Mueller said, could be stored in Lake Powell to be used explicitly for Upper Basin needs.)

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The headwaters of the Colorado River in Grand County. (Nina Riggio, Special to The Colorado Sun)

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MORE: [Read more environmental coverage from The Colorado Sun.](#)

Mueller echoed that, noting that if Lake Powell is a measure of how secure the Upper Basin should feel about its future, "we should not feel that secure."

He said it's time to take a hard look at measures such as removing sod, improving agricultural efficiency, crop switching and even cloud seeding.

There are models of success out there. Denver Water, which serves 1.4 million people in Denver and the surrounding suburbs, has seen its per-capita water use drop 34 percent since 2001 thanks to major conservation efforts.

"We're actually using the same amount of water that we used in the '70s even though our population has grown by half a million," said Dave Bennett, the utility's director of water-resource strategy. "And that's really a testament to conservation."

When it comes to the Colorado River, conservation may not be enough. For now, though, it's one of the best tools available. So, while nobody has come up with the end-all answer for solving the long-term crisis, water managers are unanimous on one thing: Users can't afford to waste a single drop of water, even in a year of abundance.

"We were lucky this year," said Finnessey, the climate change specialist. "But I don't think that's something that we can ever assume will happen again. So we need to be really wise stewards of our resources."

Ris echoed that.

"Hooray that this is happening," she said of the state's current state of overflow. "But we need to remember that we live in a semi-arid state. Another drought is coming — we just don't know exactly when. I don't think we can place all our hopes and dreams on this one water year for solving all the problems on the Colorado River."

Big Cottonwood Canyon resident warns of 'fecal time bomb' as canyon visitation increases

By Carter Williams, KSL.com | Posted - Jul 3rd, 2019 @ 9:15pm

<https://www.ksl.com/article/46587429/big-cottonwood-canyon-resident-warns-of-fecal-time-bomb-as-canyon-visitation-increases>

COTTONWOOD HEIGHTS — Stop pooping.

Well, more specifically, forest rangers and residents both agree they are tired of hikers and campers leaving human waste in Salt Lake County's watershed streams while visiting backcountry locations within the county.

That's what they can agree on, but one resident blames those in charge of the area for the problem while those tasked with maintaining Wasatch backcountry say visitors just aren't following the rules.

It's a problem they say has increased over the years and comes as Central Wasatch Commission officials question if visitation to the Wasatch canyons has reached a tipping point as more people venture out to the canyons for recreation.

So where did this No. 2 problem arise?

Evan Johnson, the creator of a group called Save Our Big Cottonwood Creek and a Big Cottonwood Canyon resident, alleges visitors have come into the canyon and, when nature calls, relieve themselves near Big Cottonwood Creek. He said that's caused E. coli counts to rise in recent years and warns the canyon is a "fecal time bomb" as more people travel there this summer.

"They just peel off the road and then they poop on the mountain or pee in the creek or whatever. There are no bathroom facilities," he said. "There's so much poop that the creek water is contaminated. ... People think the water is clean to drink out of, but upstream, some guy might be peeing in it."

The Big Cottonwood Creek Watershed exists between Mill Creek and Little Cottonwood Creek canyons and the water from Big Cottonwood Creek creek is used for both recreational and culinary reasons, according to Salt Lake County Watershed and Restoration. It runs from unincorporated land down through areas in Cottonwood Heights, Murray and Holladay. Salt Lake City owns nearly all of the water rights, but most of the land in the backcountry is owned by the U.S. Forest Service.

A 2016 report by county watershed officials note there are typically minimal traces of E. coli in all of the streams in the county. That's usually caused by all sorts of critters that live in the wilderness, but can also be created from human activity.

Water samples seem to support Johnson's claim, said Marshall Alford, district recreation staff officer for the U.S. Forest Service Salt Lake Ranger District. According to E. coli testing results from 2015 through 2018, there were five times the E. coli counts that were above the county maximum detection limit of 2419.6 MPN/100 ml. Each occurred in a July or August month, where more people are more likely to visit the backcountry.

"The impacts of these activities in these canyons have an immediate impact on water quality," Alford said. "We understand the impacts and that's the reason that we have significant efforts to educate, do compliance and provide as much infrastructure as we can."

Johnson's biggest beef with the Forest Service is the lack of toilets that he said could help prevent this. He said there are currently 16 toilets in the canyon and there needs to be more. That echoes what Barbara Cameron, president of the Big Cottonwood Canyon Community Council, wrote in a letter to the Utah House Natural Resources Committee dated on Aug. 15, 2018.

"Some claim there are more toilets in the canyons, yet don't mention that they are in campsites that require an entry fee," she wrote. "Salt Lake City and the Forest Service have said they intend to take some toilets off the sewer and replace them with vault toilets because the USFS doesn't have the water or money to maintain flush toilets or provide potable water in the canyons."

Forest Service officials agree more toilets would be nice, Alford said; however, those toilets, he added, must be properly located and fit the agency budget. That's why the ones currently available are located at trailheads, where more people are likely to be. As more visitors wander deeper into parts of the canyon, the agency has tried educating them to use Leave No Trace principles.

"The law isn't Leave No Trace, but Leave No Trace is a really effective way to communicate how to do those best management principles of managing your waste in the backcountry while also following the rules and laws," he explained.

That means people should make cat holes at least 200 feet from water, trails or a camp and away from where people are unlikely to walk or camp. These holes should be at least 6- to 8-inches deep and 4- to 6- inches in diameter.

“The cat hole should be covered and disguised with natural materials when finished. If camping in the area for more than one night, or if camping with a large group, cat hole sites should be widely dispersed,” the non-profit organization Leave No Trace writes.

The organization recommends people using toilet paper sparingly outdoors and that if it is used, it should be buried in a cat hole or placed in a plastic bag and carried with the person. It adds that urine has “little direct effect on vegetation or soil” but suggests people should urinate on rocks, pine needles or gravel because it’s less likely to attract wildlife.

Alford said many people traveling to the Wasatch backcountry aren’t following those steps and it has resulted in the worsening water quality Johnson has complained about. Alford said that’s also been visible with waste and toilet paper found in backcountry areas, and he hopes visitors will use designated bathrooms or at least not contaminate the watershed when nature calls.

“Using the bathroom in close proximity to a stream or a river or really any flowing water or a body of water of any kind, that is not adhering to Leave No Trace principles. You manage the impacts to water quality by adhering to those principles,” he said. “Doing so reduces the presence of human waste in the watershed and that results in lower fecal coliform counts when public utilities monitor their water quality.”

As for Johnson, he still would like to see more bathrooms in the future. He said some of his neighbors have resorted to leaving out their own buckets for visitors in hopes of deterring people from contaminating the creek.

“You need four times the toilets you have up there,” he said. “This has been known for 30 years. ... They collect millions of dollars out of these canyons and they don’t put anything back in our canyons.”

Contributing: Paul Nelson, KSL Newsradio

Layton homes without water after a dozen main breaks

By Ashley Imlay

Published: July 4, 2019 5:16 pm

<https://www.deseretnews.com/article/900078306/layton-homes-no-water-dozen-main-breaks.html>

LAYTON — Up to 200 homes in Layton were without water Thursday after a failing water pressure valve sparked 11 water main breaks in the city, officials said.

Shortly before 8 a.m., crews discovered an isolated leak and began repairs, said Steve Garside, public information officer for Layton. About 30 minutes later, they found another leak, he said.

"And then we knew there was a problem in the system," Garside said.

One pressure regulator valve was failing, he said, which caused too much pressure to be sent into the water system.

"We ended up with a total of 12 breaks, but only 11 of them were related," he said.

The valve had been repaired as of about 5 p.m., according to Garside, and crews were expected to finish repairing the breaks by 10 p.m.

Water savings comes pouring into Utah with millions of federal dollars

By [Amy Joi O'Donoghue@amyjoi16](mailto:AmyJoi.O'Donoghue@amyjoi16)

Published: July 6, 2019 6:47 pm

<https://www.deseretnews.com/article/900078511/utah-water-savings-federal-dollars.html>

SALT LAKE CITY — Utah will realize more than 7,500 acre-feet of water savings each year with the completion of 10 projects across the state to boost efficiency and bolster water supplies.

An acre-foot is 326,000 gallons of water, or enough to cover a football field one foot deep with water.

The U.S. Bureau of Reclamation announced this week it is giving \$29.1 million in WaterSmart grants to Western states, with \$5.4 million headed to Utah to help offset costs of projects planned for multiple counties and communities.

A 1,700-foot unlined earthen canal that serves the Davis and Weber Counties Canal Co., will be replaced with steel piping and a culvert, boosting water savings for a system that's experienced shortened irrigation seasons due to years of drought. Lining the canal will save water by preventing seepage and evaporation.

The \$2.2 million project also includes a hydropower component to help offset energy consumption. Reclamation awarded \$880,000 for that project, which is expected to result in water savings of 841 acre-feet on an annual basis and allow water to be stored in Echo and East Canyon reservoirs for longer periods of time, helping native fish species.

The grants foster the importance of water savings and amplify what was achieved with the historic lining of the Murdock Canal in Utah County, which runs more than 21 miles and was enclosed and turned into a popular recreation trail.

In Sanpete County, the Moroni and Mount Pleasant Irrigation Co. will convert 3.5 miles of an open earthen canal with 30-inch piping in a system that will also include modernized measuring devices and metering. That canal has experienced losses as high as 30 to 60 percent and the yearslong drought has forced shortened irrigation seasons.

The company expects a water savings each year of 1,221 acre-feet, with the new pressurized pipeline also allowing irrigators to complete on-farm improvements such as transitioning from flood irrigation to sprinkler systems. The project cost is nearly \$1.9 million, with the federal government kicking in \$847,000.

In addition to funding canal lining projects, the federal government awarded nearly \$600,000 to accelerate several communities' transitions to secondary water metering and real-time monitoring systems so users are aware of their consumption habits.

In Spanish Fork, 1,000 new smart irrigation controllers will replace outdated meters and the city is implementing portal software that will notify customers of leaks. An estimated 17,500 pressurized irrigation meters will be reprogrammed to work with the software. The bureau awarded \$277,000 to offset the project's cost of \$692,000.

A grant of \$300,000 will allow the Weber Basin Water Conservancy District — the largest system in Utah with secondary water metering — to expand those meters into the southern Davis County communities of Bountiful and Woods Cross.

Tage Flint, the district's general manager, said 700 meters will be installed on the retail system the district operates in time for next year's irrigation season.

The district has about 8,000 secondary water meters throughout its system in a project it first launched seven years ago.

"We're still seeing about a little more than 20 percent in savings," Flint said. The system becomes particularly useful for customers when it identifies leaks, he added, and the district can step in and help with repairs.

System users get a monthly mailer and have access to a real-time portal.

"They can see last night's usage if they want," Flint said.

The project cost is \$855,000 and includes a hydroelectric component the bureau funded.

In the last legislative session, Utah lawmakers passed a law [requiring](#) metering of pressurized secondary water on new construction after April 1, 2020.

Worried about truck traffic and losing valuable water, southern Utah residents fight plan to mine frack sand

By Brian Maffly

Published: 3 days ago

Updated: 3 days ago

<https://www.sltrib.com/news/environment/2019/07/07/worried-about-truck/>

Northwest of Kanab, an undulating sea of red sand rises for several miles spanning the divide between Kanab Creek and the East Fork of the Virgin River.

On that southern Utah divide sits a parcel of state trust land that mineral developers hope will be the start of a massive sand-mining operation, yielding millions of tons of silica granules to be used for fracking wells in the West's oil and gas fields.

But first Southern Red Sands, a new company behind the proposal, must secure water, 1,200 acre-feet a year, needed to process the sand. To that end, it has turned to two public entities: the city of Kanab and the Kane County Water Conservancy District.

The proposal has sparked an outcry from many Kanab residents who say the water transactions reek of self-dealing and the mine could mar scenic vistas and clutter roads with trucks.

“We are concerned about traffic, but primarily our concern is about water. We think it's horrible. This is high ground between Kanab and Mount Carmel, and they are going to put an \$80 million sand-mining plant up there,” said Bart Battista, an executive with Best Friends Animal Society. “Are you serious? You are selling your water in a desert.”

The famous animal sanctuary, the closest private property to the proposed mine, worries the mine's groundwater pumping could affect its water rights. Battista helped launch a new group to oppose the mine, calling itself Keep Kanab Unspoiled, playing on the city's marketing slogan, “Magically Unspoiled.”

The Kanab City Council is expected to vote next week on a proposed water-service agreement to supply the mining operation, and the Kane County Planning Commission will decide on a proposed conditional use permit that will establish numerous operational guidelines.

The operation would directly support 40 jobs, depending on its size, which has yet to be determined, according to Chad Staheli, CEO for Southern Red Sands.

“We are fortunate that we have this unique sand in Kane County,” he wrote in response to emailed questions. “We believe that we can harvest the sand and finish it in a responsible and sustainable way so that Kane County can benefit from a viable, well-managed business that will diversify and contribute to the local economy while coexisting with other meaningful activities in the area.”

Critics counter that such an operation is not a good fit for a county so rich in geological scenery and steeped in agricultural traditions. Battista and others say authorities seem too eager to facilitate a proposal that could have far-reaching consequences and undermine the area’s amenity-based economy.

"They say they are responding to the market, but it's not the market. It's crony capitalism," said Battista, an engineer by training who intends to run for Kanab City Council. "Crony capitalism is when you get a sweetheart deal for 600 acre-feet of water."

Southern Red Sands' operations manager is Kane County Commissioner Andy Gant, who happens to be an in-law to Mike Noel, the retired state lawmaker who oversees the Kane water district.

Gant said he does not expect the mine proposal to come before the County Commission, so he is not concerned his interests might get conflicted. Unless the mine requires a variance, approval for the mine’s conditional use permit rests entirely with the county’s Planning Commission, which will render a decision Wednesday, he said.

The water district board discussed the mine’s proposed water-service agreement in executive session seven times over the past year before approving it in a public session April 11.

Noel signed the accord that obligates the district to provide 600 acre-feet of water to the mine, which is to pay \$2 per 1,000 gallons of water used, or \$652 per acre-foot, under the 20-year deal that the company can extend for an additional 30 years.

Kanab would provide another 600 acre-feet, representing 6 percent of the water rights it controls, under a proposed agreement that could be finalized at Tuesday’s City Council meeting.

Kanab Mayor Robert Houston did not return a phone message, but he voiced support for the deal at a council meeting in February, saying “this comes at a really good time because there needs to be work down to a couple of the water tanks and this could help fund that,” according to the meeting minutes.

Southern Red Sands holds leases on two school trust sections on either side of U.S. 89, covering a total of 960 acres. It is the section south of the highway, which includes a feature called Red Knoll, that would be first developed.

These lands are overseen by the Utah School and Institutional Trust Lands Administration, or SITLA, whose mandate is to generate revenue for public schools.

The leases initially called for a royalty of \$3 a ton, but the company renegotiated it down to \$1 on each of the first 2 million tons, graduating to \$1.50 after 4 million tons.

Southern Red Sands, meanwhile, holds 520 claims, filed last year by another company, on about 12,000 acres of surrounding federal land, according to an online database known as The Diggings. The annual cost to maintain these claims is nearly \$89,000.

This suggests the firm intends to expand operations if the initial mine pays off.

Horizontal oil and gas wells are voracious consumers of sand when they are fracked, sucking an entire train load down a bore hole. With a rebound in drilling in recent years, particularly in New Mexico's Permian Basin, demand for fracking sand increased, forecast to reach 181 million tons by 2024.

Wisconsin has been the go-to source of sand because its deposits of sand granules have the right combination of size, hardness and roundness. Called "proppant," the sand is injected into bore holes with a water-chemical cocktail under intense pressure. The liquid fractures hydrocarbon-bearing rock formations and is then sucked out, leaving the sand behind to prop open the cracks.

Because of the high transportation costs, Western energy developers have been looking closer to their oil and gas fields for fracking sand. According to industry observers, supply now exceeds demand as new regional sources of sand come on line. Prices have fallen by half to around \$23 a ton over the past two years, and are expected to remain flat.

While Kane County is not an oil and gas producer, its sprawling dunes contain sand deposits packed with granules that have fracking characteristics, according to a study commissioned by SITLA.

While the water agreements would guarantee the mine access to 1,200 acre-feet, Staheli said the mine initially would require about 400, the amount used to water 80 acres of alfalfa.

"Since we, too, live in Kane County, we want to play an active role in the water conversation," he said. "Conservation is a primary goal. We are working with the community to conserve first."

The mine's sand also could be used in solar panels, glass, paints, ceramics and recreational products, according to Staheli. He believes initial levels of production would be 700,000 tons a year, which would take 46 trucks a day to ship.

Since the most likely destination is 350 miles away in eastern Utah's Uinta Basin, the trucks would be routed north on U.S. 89 through Panguitch, he said, rather than south through Kanab. If the sand goes to San Juan County's oil fields, which are not currently being drilled, or New Mexico, however, the most direct route would pass through Kanab.

Kane County is seeking Bureau of Land Management permission to widen and pave a 1-mile gravel spur road off the highway to the mine site at Red Knoll. Hardening that road would reduce dust emissions.

"The plant itself does not produce meaningful dust," Staheli said, "as the sand is wet during a large portion of the operation."

The sand would be scooped from the surface, washed in a closed-loop system, dried as the water is recaptured, then sorted by grain size through a sieve.

"Our overall process will not disrupt the flow of tourists who visit our area," Staheli said, "or those who come from afar and fall in love with us and want to stay."

Critics such as Battista and residents behind Keep Kanab Unspoiled are deeply skeptical.

“A [frack] sand operation at the gateway to our community may jeopardize Kanab’s reputation as a beautiful place to visit,” the group warned on its website. “Fewer tourists may visit. How many will stay away?”

Harry Reid: We all must face the threat of climate change

By Harry Reid | Special to The Tribune

Published: 3 days ago

Updated: 3 days ago

<https://www.sltrib.com/opinion/commentary/2019/07/07/harry-reid-we-all-must/>

I was born and raised in the tiny town of Searchlight, Nevada, where we were surrounded by one of nature's masterpieces: the desert. It was there I learned of the tenuous connection between humankind and the environment. Clean water is a precious resource in the desert.

As a youngster, I learned to respect my surroundings. As an adult, my religion gave me a spiritual connection with nature. I learned of a divine mandate to care for creation and that there is a link between spiritual and habitat health. The importance of not sacrificing environmental health for temporal wealth is necessary.

No matter one's faith, caring for our domain and its divine creation is essential.

Climate change is threatening the world, and we are already experiencing its disastrous effects. In the last year alone, we have encountered record wildfires, crippling drought and increased temperatures. Immediate action must be taken if we are to be successful in combating this crisis.

This concerns me greatly because of the current and future impact it will have on my family. It is a crisis that will be inherited by our children and grandchildren. If greenhouse gas emissions continue at their current rate, by the time my grandchildren are in their 40s, the earth's atmospheric temperature will have increased by 3 degrees Fahrenheit. Intensified droughts, food shortages, poverty, wildfires, diminished coral reefs, increased human migration and rising sea levels will threaten our planet and way of life.

Climate change is not solely an increase in temperature. As the atmosphere warms and ice melts, temperatures will become more extreme. This means while some regions may be increasingly hot, others become unseasonably cold.

Just last week, Sydney, Australia, announced it would declare a climate emergency after facing inaction on the national level. Sydney's Mayor Clover Moore said, "Cities need to show leadership, especially when you're not getting that leadership from the national government."

In the United States, we are facing a similar passive attitude toward climate change from our federal government. Still, you don't need to be a world leader to make meaningful change on this front.

I have been inspired by the work of Greta Thunberg, who is only 16 years old, but has helped spark a worldwide environmental movement. For weeks, Greta missed school to sit on the steps of the Swedish Parliament and protest the legislature's inaction.

Greta said, “Some people say that I should be in school instead. Some people say that I should study to become a climate scientist so that I can ‘solve the climate crisis.’ But the climate crisis has already been solved. We already have all the facts and solutions. All we have to do is to wake up and change.”

Climate change is not a hoax. Being aware of our energy usage, reducing waste and simply living more environmentally conscious can help solve this crisis for our children and posterity. Our connection with the environment should not be simply monetary. We should learn to respect our planet for the great gift that it is.

As Greta said, we all need to be involved in the change and solutions we so desperately need. As a country, we need to rid ourselves of the use of coal and wean ourselves off the use of fossil fuels. We must move to electricity provided by wind, sun, geothermal, and other renewable energy sources. We as a country must set the example for the world to have a clean, clean environment.

The very lives of our children and their children and their children depend on less dependence on the dirty and more dependence on the clean.

Harry Reid is a former United States senator from Nevada, serving from 1987 to 2017. He led the Senate’s Democratic Caucus from 2005 to 2017 and was the Senate majority leader from 2007 to 2015.

Algal Blooms Abound: Permanent Signs Tell About Risks

By Donna Kemp Spangler

<https://deq.utah.gov/communication/news/algal-blooms-abound-permanent-signs-tell-about-risks>

For the past few summers, it's not unusual to see signs at several popular water destinations in Utah that warn the public of potential health risks associated with algal blooms. These signs are put in place by local health departments in consultation with other agencies, including the Utah Department of Environmental Quality, after water samples show high levels of cyanobacteria or cyanotoxins.

At Utah Lake those permanent signs were installed this spring in an attempt to better communicate the occasional presence of Harmful Algal Blooms (HABs).

The coordinated effort involves the Utah County Health Department, the Utah Lake Commission and DEQ's Division of Water Quality. It came about as a way to help the public understand the potential risks when blooms are present while also encouraging people to enjoy the lake while blooms subside or are not present. In summers past, the warning or closure signs were put up for the duration of the blooms, then taken down after repeated testing showed no health risk.

The permanent signs are reminders of the occasional presence of algal blooms even when water samples aren't collected. Users should be on alert and avoid certain areas of the lake where blue-green algal mats or scum are visible. Contact can cause burning eyes, headaches, respiratory problems and rashes, and swallowing the water can cause diarrhea or other gastro symptoms. If water sample results show algal species reach established thresholds the health department can advise a warning or close that stretch of the lake.

DEQ and its partners take public health seriously and recognize the importance of communicating the potential risks responsibly.

Blooms are a natural occurrence that has been around since the dawn of time. Scientists have found certain species can produce hazardous cyanotoxins. Under certain conditions, these cyanobacteria can produce anatoxin-a, a neurotoxin and microcystins, which can affect the liver. At elevated concentrations, both toxins can be harmful to people and animals that drink the water. These are the only few cyanotoxins that can be routinely monitored.

Although algal blooms occur naturally, they are intensified by nutrient-enriched sources like urban runoff, agriculture and treated wastewater. Nitrogen and phosphorus are the main ingredients that are mixed with warm temperatures and sunlight.

The algal problem is not unique to Utah. Algal blooms are impacting water bodies across the continent including areas along both coasts. Florida, for instance, has had to close stretches of beaches. However, unlike Florida health officials, who have come under scrutiny for failing to adequately inform the public of the potential health risks connected to harmful algal blooms, Utah has taken a more cautious and robust approach to communicating the risks.

The Division of Water Quality has stepped up its monitoring and testing thanks to funding from the Utah Legislature.

DEQ's website, habs.utah.gov, provides a detailed list of current blooms, maps the locations of samples collected and test results. It provides a hotline for reporting algal blooms and information on public health advisories, such as guidance on when cyanobacteria counts trigger advisories. [The Utah Poison Control Center](#) is listed as a contact for concerns about exposure. In addition, Utah County Health Department provides alerts via text, email or phone. Visit www.alerts.utahcounty.gov for more information.

Providing information is only part of the strategy. Efforts are under way to explore solutions to the problem. A Utah Lake Water Quality Study contains a broad stakeholder group working diligently to understand the issues specific to Utah Lake. Its goal is to find solutions to address the issue. For those interested in following the efforts and become part of the conversation, join the Facebook page: <https://www.facebook.com/groups/utahlakestudy/>

Toxic Algae Blooms Force Mississippi to Close All Mainland Beaches

Mississippi authorities are telling people to stay out of the water because the toxic algae can cause rashes, stomach cramps, vomiting, and diarrhea

July 8, 2019, 7:16 AM MDT / Updated July 8, 2019, 9:34 AM MDT

By Ben Kessler and Associated Press

<https://www.nbcnews.com/news/us-news/toxic-algae-blooms-force-mississippi-close-all-mainland-beaches-n1027326>

Mississippi closed all mainland beaches on the state's coastline during the Fourth of July weekend due to toxic bacteria sweeping the state's Gulf Coast.

The Mississippi Department of Environmental Quality (MDEQ) has been closing beaches due to blue-green algae blooms since June.

By Sunday, the spread of the noxious bacteria forced the department to close the state's last open mainland beach.

Blue-green algae blooms can cause rashes, stomach cramps, vomiting and diarrhea, and state officials also advised against eating fish or seafood from areas affected by the algae.

Beaches on the state's barrier island remain open, according to the National Park Service, but are being closely monitored. MDEQ said people and pets are welcome to sit on the beach, but are not to go in the water

The blue-green algae, also known as Cyanobacteria, live in water and are the most common type of algae to bloom. The algae often have a distinct musty smell and sometimes look like paint floating on water, according to the National Oceanic and Atmospheric Administration (NOAA).

NOAA says the blooms are happening because of Mississippi Riverflooding that ravaged the Midwest and Southeast all spring.

To ease the flood waters and prevent the water from reaching New Orleans, authorities opened the Bonnet Carre Spillway, which diverted some of the water to the Mississippi Gulf.

Algae blooms are mainly caused when too many nutrients, like fertilizers, enter a body of water. As water from the nutrient-rich Mississippi River made its way into the Mississippi Gulf's brackish water, it brought the algae with it, NOAA oceanographer Richard Stumpf told NBC News.

Stumpf said the bloom is "not at all surprising." "The water has to flow out, and that's the direction it flows," he said.

Another contributing factor to the algae blooms: climate change.

Larry Brand, a marine biology and ecology professor at the University of Miami's Rosenstiel School of Marine and Atmospheric Science, told NBC News that while blooms are mainly caused by excess nutrients, "algae also like higher temperatures."

"As the earth gets warmer, you can get more and more blooms," Brand said.

The extreme weather that climate changes causes often leads to massive rain storms and floods, which Brand says moves fertilizers from soil into bodies of water. As this becomes more common, so too might algae blooms.

And there's no real way to stop a bloom once it happens in a large body of water.

"You're going to have to wait for the tides to flush it away," Brand said.

Warnings removed for Utah Lake algal bloom at Provo Bay, but issued for Payson lake

By Braley Dodson Daily Herald

Jul 9, 2019

https://www.heraldextra.com/news/local/central/provo/warnings-removed-for-utah-lake-algal-bloom-at-provo-bay/article_6548cb24-fd08-568e-b7df-bf0cab511593.html

Utah Lake's algal bloom has dissipated for the second time this summer.

The Utah County Health Department removed its warning advisories for the lake in the Provo Bay area Tuesday after testing showed toxin levels were at safe levels.

"The water sample and the testing is looking good for Provo Bay," said Aislynn Tolman-Hill, spokeswoman for the Utah County Health Department.

Tolman-Hill said testing hasn't shown the bloom emerge on other areas of the expansive lake.

It's the second time that the bloom has disappeared this season. It had appeared earlier in Saratoga Springs and vanished a week before [warning advisories were posted on June 24](#) at Sandy Beach and at the Utah Lake State Park Marina in Provo.

A warning advisory was also issued Tuesday for McClellan Lake in Payson after samples showed cyanobacteria counts above the health-based threshold needed for an advisory.

Samples were taken on June 24 after a monitoring crew saw clumps of green algae along the shoreline.

Toxin counts received on June 5 tested below the threshold for an advisory, but the dominant toxin present in the samples can produce the dangerous microcystin and anatoxin-a, according to a Tuesday update from the Utah Division of Water Quality.

McClellan Lake, Big East Lake and Box Lake will be tested this week.

People are encouraged not to swim, water ski, ingest water or let animals ingest water during advisories. Advisories can be removed after several samples show toxin levels are safe.

The Utah Division of Water Quality routinely tests the Utah Lake. Tolman-Hill said it's unknown how the upcoming hot temperatures could impact a bloom.

The blooms have the potential to produce cyanobacteria, which can be harmful to humans and animals.

Tolman-Hill encourages those recreating at Utah Lake to contact the Utah County Health Department or the Utah Division of Water Quality if they see something concerning at the lake.

Permanent signs have been installed around the lake that include photos of what the bloom looks like.

“I think those are good reminders,” Tolman-Hill said.

Utah is doing battle with dreaded quagga mussels — and the problem is getting worse

By Scott D. Pierce

Published: 1 day ago

Updated: 1 day ago

<https://www.sltrib.com/news/2019/07/09/utah-is-doing-battle-with/>

The Utah Division of Wildlife Resources spent the Fourth of July weekend battling invaders — and trying to keep quagga mussels from spreading.

According to the DWR, 210 boats were decontaminated after being pulled out of Lake Powell, and invasive quagga mussels were discovered on 3 out of 4 of them, 157 boats in all. Seventeen boaters were cited for either not stopping to have their boats inspected or for transporting their boats with the bilge plug still in.

Boaters are [required to have their boats decontaminated](#) after they've been in Lake Powell. The bilge plug must be removed and the water drained to prevent the mussels from spreading to the next body of water the boats enter.

“We are doing everything we can to protect Utah’s water infrastructure,” Scott Dalebout, DWR statewide operations lieutenant, said in a news release. “This isn’t just about preventing damage to boats — this is about making sure these invasive species don’t spread to other water bodies where they will get into water pipelines and cause millions of dollars in damage to Utah’s water infrastructure.”

The quagga problem has gotten worse this year at Lake Powell because the lake level has risen and caused previously exposed mussels to dislodge and float in the water. That has resulted, the release said, in “significantly more boats ... leaving Lake Powell with mussels and shells onboard their vessels, in sea strainers, or on anchors and in compartments.”

There are more than 40 decontamination centers across the state. [A complete list](#) is available online at wildlife.utah.gov.

Why are quagga mussels so bad?

- They can plug water lines — even lines that are large in diameter.
- If they get into water delivery systems in Utah, they will cost millions of dollars annually to remove them and keep the pipes free, which would likely result in higher utility bills.
- They remove plankton from the water, which supports fish species in Utah.
- Mussels can get into boat engine cooling systems, fouling them and damaging the engines.
- When mussels die in large numbers, they stink. The sharp shells of dead mussels can cut your feet as you walk on the beaches.

— Utah Division of Wildlife Resources

Utah DEQ warns residents of algal blooms in McClellan Lake

By Lauren Bennett, KSL.com | Posted - Jul 10th, 2019 @ 7:52pm

<https://www.ksl.com/article/46591788/utah-deq-warns-residents-of-algal-blooms-in-mcclellan-lake>

PAYSON — Health officials warned residents Tuesday to not swim or water ski in McClellan Lake after harmful blue-green algal blooms were found in the water.

The warning advisory was issued by Utah County Health Department officials after water samples taken June 24 showed concentration of cyanobacteria blooms, commonly known as blue-green algae, exceeded the health-based threshold, according to the Utah Department of Environmental Quality [website](#).

“A warning advisory indicates a moderate relative probability of acute health risk,” the release said.

So long as the warning advisory is in place, people should not ingest the water, keep pets and livestock away from the water, clean fish well and discard guts, and avoid areas of scum while boating.

Toxin test results for microcystins, the harmful toxin produced by algal blooms, were “well below the recreation health-based threshold,” according to the environmental department.

Dominant toxins present in the sample — aphanizomenon gracile, sphaerospermopsis and chrysochlorium — could still produce microcystin, the release noted.

Kanab City Council Votes To Approve Water Service Agreement For Proposed Frac Sand Mine

By [DAVID FUCHS](#) • 11 HOURS AGO

<https://www.kuer.org/post/kanab-city-council-votes-approve-water-service-agreement-proposed-frac-sand-mine#stream/0>

A controversial frac sand mine proposed in southwest Utah is poised to move forward after the Kanab City Council conditionally agreed Tuesday night to sell water to the Salt Lake City-based company pushing the project following a contentious public hearing.

A second hearing on the project will take place tonight in Kanab before the Kane County Planning Commission, which is expected to vote in favor of the project's conditional use permit. The permit will outline the measures the mine must take to mitigate potential negative impacts of the mine.

The conditional approval passed Tuesday hinges on the Kanab city attorney's review of potential liability if problems arise from the project, which would mine and process sand across a 55-acre area roughly 10 miles north of the city.

Frac sand is a naturally occurring "proppant" used to hold open fissures created by hydraulic fracturing operations in oil and gas extraction. The company says it plans to ship the sand for use in the Uinta basin.

Dozens of residents attended the four-hour hearing and expressed concerns that city officials had not gathered sufficient information about how the project would affect the town's water supply or alter the area's landscapes.

Despite the pushback, city officials say the project is poised to move forward.

"Regardless of what we do here tonight, this project will go forth," Kanab Mayor Robert Houston told the crowd before the vote. "The ultimate decision will be made by the State Engineer."

The operation is being proposed by Southern Red Sands, LLC, a start-up mining company based in Salt Lake City. The company owns over 500 other mining claims across 12,000 acres near the proposed site, according to [The Diggings](#), an online database of past and current mining claims.

Southern Red Sands officials estimate that the project would create as many as 40 jobs, though some will be shift work and technical positions. Trucking will be outsourced. The company has already leased the potential mine site — a 640-acre property south of Highway 89, which includes a feature known as "Red Knoll." The land is currently managed by the School and Institutional Trust Land Administration, or SITLA, a state trust that uses public lands to generate revenue for public schools.

The first public discussion of a water service agreement between Kanab and Southern Red Sands, LLC took place at the Kanab City Council meeting on February 12, 2019.

Under the water agreement approved Tuesday night, Kanab City will sell the company 600 acre-feet of water per year, one-third more than the project's estimated use of 400 acre-feet per year. The company has a separate agreement in place with the Kane County Water Conservancy District for an additional 600 acre-feet per year.

The City Council voted to amend the service agreement so that liability will be placed or shared with the company if problems arise from the operation. The company cannot be held liable as the current agreement stands.

Critics voiced concerns that the mine could deplete the aquifer, increase truck traffic, hurt tourism, damage the area's aesthetic beauty and could eventually expand beyond its current scope based on the company's nearby holdings.

Bart Battista, a retired Marine Corps officer who was previously the lead environmental planner for Camp Pendleton, one of the largest Marine Corps bases in the United States, said that the mine cannot move forward without two critical components: a well, which must be approved by the state engineer, and an access road, which requires approval from the Bureau of Land Management.

"For some reason the city is being blind to that and just thinks that they don't have a choice and that they can't influence this process," he said. "And I believe the county thinks the same way."

Battista currently manages the facilities at Best Friends Animal Society, a no-kill animal sanctuary which is the largest adjacent property owner to the proposed mining site.

City officials said they believe the city has sufficient water to make the sale and that selling its water is the best way to maintain a voice in the project moving forward.

David Fuchs is a [Report for America](#) corps member who reports from KUER's Southwest Bureau in St. George.

Boulder causes water leak, outage in Centerville

By [Gretel Kauffman@gretelkauffman](mailto:Gretel.Kauffman@gretelkauffman)

Published: July 11, 2019 7:49 pm Updated: 16 hours ago

<https://www.deseretnews.com/article/900079286/centerville-water-leak-outage-boulder.html>

CENTERVILLE — A broken water pipe left dozens of people without water in Centerville on Thursday evening.

After a small water leak was reported on Main Street, crews found that a pipe underneath was lodged on top of a boulder and had a small hole in it, according to Centerville Public Works Director Randy Randall.

When crews tried to move the boulder, it ruptured the entire length of the 20-foot pipe, causing it to leak water at about 4,000 gallons a minute.

Crews are now working to replace the pipe. In the meantime, Randall estimates that less than 100 people in the area of 1400 N. Main Street will be without water.

There was no damage to nearby homes and no contamination in the water system, Randall said, though the water may be a bit cloudy when it's first turned back on. He said he believed the water would be back on by midnight Thursday night.

Correction: *An earlier version reported incorrectly the water pipe was broken on Tuesday. The break occurred Thursday.*

UPDATE: Controversial Southwest Utah Frac Sand Mine Moves Forward

By [DAVID FUCHS](#) · 18 HOURS AGO

<https://www.kuer.org/post/update-controversial-southwest-utah-frac-sand-mine-moves-forward#stream/0>

Updated 3:00 p.m. MDT 7/11/19

A controversial frac sand mine proposed in Southwest Utah is poised to move forward after local officials gave the go-ahead this week on the sale of water and a conditional use permit.

The Kane County Planning Commission voted Wednesday night to issue the permit to Southern Red Sands, LLC, which has plans to operate the mine just north of Kanab.

The permit listed 48 conditions the company must follow to minimize the impact of the proposed mine on the county. The process is a standard procedure for new works on county lands.

However, according to Kane County attorney Rob Van Dyke, the site is ultimately outside of county jurisdiction, as the operation would be located on land managed by School and Institutional Trust Land Administration, or SITLA.

The county's conditions will be passed onto SITLA for further review.

David Fuchs is a [Report for America](#) corps member who reports from KUER's Southwest Bureau in St. George.

Utah Lake under warning after algal bloom extending from Saratoga Springs to Provo found

By Kurt Hanson Daily Herald Jul 12, 2019

https://www.heraldextra.com/news/local/utah-lake-under-warning-after-algal-bloom-extending-from-saratoga/article_b76633b9-be2e-5cb0-a7e8-f41f04f6cd7c.html

Teams from the Utah Department of Environmental Quality observed a large algal bloom Friday extending from Pelican Point to Provo Bay in Utah Lake.

According to information from the DEQ, warning signs will be posted at Lincoln Beach, Sandy Beach, Pelican Point, Lindon Harbor, American Fork Harbor, Saratoga Springs Marina and Saratoga Springs HOA.

Because of the size and toxicity of the bloom, all of Utah Lake is under a warning.

Warnings for Utah Lake were just lifted on Tuesday after testing showed toxin levels in Provo Bay to be safe.

Algal blooms can cause gastrointestinal distress, headaches and rashes. Toxins found in blooms can be fatal for livestock and pets. When visiting Utah Lake, please adhere to all posted warnings.

People are encouraged not to swim, water ski, ingest water or let animals ingest water during warnings.

Report: Pollutants Increase In Idaho's Snake River Aquifer

By ERIC TEGETHOFF • JUL 16, 2019

<https://www.upr.org/post/report-pollutants-increase-idahos-snake-river-aquifer>

Water quality in and around the Snake River in southern Idaho is on the decline, according to a new report.

The Idaho Conservation League's [survey of the Eastern Snake Plain Aquifer](#) finds an increase in pollutants, especially nitrogen and phosphorus - in some cases exceeding state and federal water-quality standards.

Josh Johnson, central Idaho conservation associate with the [Idaho Conservation League](#), explained the Magic Valley's 417,000 cows produce waste equivalent to a city of 12 million people, and that waste isn't being treated before seeping into the aquifer or running into bodies of water.

"Which, of course, we would never let that happen if it was a human city," said Johnson. "But in this case, all that cow manure is being put on the fields, on the land, and adding a lot of this nitrogen and phosphorus to the groundwater."

The aquifer supplies drinking water to more than 300,000 Idahoans. The report says the industrialized dairy industry, which is growing rapidly in the region, is a leading source of contaminants.

Johnson said the State of Idaho needs to better monitor and regulate the amount of pollution going into the water system. He added the state will also have to tackle waste from the dairy industry, which affects water quality as well as the rest of the environment.

"We need to figure out how can we best deal with this waste and how can we reduce the impact that it's having," he said, "both from a water pollution perspective, such as what we detail in this report, but also from a climate change perspective, just from some of the methane and other gases that come out of there."

Idaho is among the top five largest dairy-producing states in the country. Johnson noted that this report shouldn't cause alarm for the public, but it indicates a growing problem that needs to be addressed.

To protect forests from wildfires, Utah and feds launch \$20 million effort

By Kathy Stephenson and Brian Maffly

Published: July 16

Updated: July 16, 2019

<https://www.sltrib.com/news/2019/07/16/protect-forests/>

Utah will get up to \$20 million over the next four years to protect communities and watersheds in forest areas from the threat of catastrophic wildfire, Gov. Gary Herbert announced Tuesday.

[Under Utah's Shared Stewardship agreement](#) with the U.S. Department of Agriculture and the Forest Service, the state will start two large, forest restoration projects intended to head off large unwanted fires in critical areas, Herbert's office said in a news release. They include the upper Provo River project, located on the Uinta-Wasatch-Cache National Forest, and the Canyons project, located on the Manti-La Sal National Forest.

[The Canyons project](#), which is currently undergoing an environmental review, would clear about half the beetle-killed Engelmann spruce on 30,000 acres on central Utah's Wasatch Plateau. The 171,000-acre project area also includes thinning, prescribed burns and reseedling in an effort to nurse an ailing ecosystem back to health and restore aspen groves that have been displaced by conifers after years of fire suppression and livestock grazing.

The new forest-management accord signed last May "expedites" reviews and lower bureaucratic hurdles for such projects.

"This agreement strengthens the already strong partnership between the Forest Service and the State of Utah," said Agriculture Secretary Sonny Perdue in the statement. "Through Shared Stewardship, Utah and the Forest Service are working together to identify landscape-scale priorities and build capacity to improve forest conditions."

[In May, Perdue and Herbert signed the stewardship agreement.](#) Tuesday's announcement puts it into action. Utah is the third state to have such an agreement, which does not affect Utah's ongoing petition to loosen Roadless Rule restrictions on logging the 4 million acres of national forest that are in inventoried roadless areas.

“This influx of resources allows the state and USDA Forest Service to begin immediately to address the state’s most critical forest and watershed needs,” said Herbert. “By working collaboratively with our federal partners and under the Shared Stewardship agreement we can quickly respond to the most pressing issues faced by land managers.”

A warming climate, years of drought, spreading beetle infestations that are killing trees and an historic legacy of fire suppression has left many areas overgrown, choked with deadfall and primed for “catastrophic wildfires.”

[Utah officials expect the agreement to build on existing programs](#) and investments in restoring degraded forests. For the program’s first year, Utah and the Forest Service will each kick in \$2 million toward treatments in two landscape-level projects, according to Brian Cottam, the director of the Utah Division of Forestry, Fire and State Lands. One is on the Wasatch Plateau, the other in the western Uinta Mountains.

“Both are in line with the overarching goals of the agreement: protection of communities and of watersheds and water sources,” Cottam said. “You hear the term ‘random acts of conservation,’ but in order to make a difference in reducing wildfire risk we have to approach and implement these projects at a much larger scale.”

For the past few years the Forest Service has worked on the Upper Provo project, targeting vast swaths of dead lodgepole pine blanketing the western Uintas — scenic land used heavily for camping, fishing, skiing, hunting and snowmobiling.

DEQ: Sandy City not compliant with report in aftermath of water contamination

by Jim Spiewak

Wednesday, July 17th 2019

<https://kutv.com/news/local/deq-sandy-city-not-compliant-with-report-in-aftermath-of-water-contamination>

SANDY, Utah (KUTV) — The Division of Environmental Quality denied a mandatory technical report Sandy City was required to submit as part of an administrative order following the water contamination crisis earlier this year.

The report, which DEQ required Sandy to compile, is designed to get information about what went wrong, and do so under deadline while details are still fresh in everyone's mind. The findings could then be used to learn from the event and see what changes, if any, need to be made to keep something like this from happening again.

“We've never had a situation like this one in Sandy City,” says Marie Owens, the director of the drinking water division for DEQ.

Owens says Sandy officials submitted a roughly 10-page report by the June 4 deadline, but added, “We were anticipating that this would be a much more thorough report.”

Owens says she expected the report to be 100 pages, with another 100 pages of appendices. She says the report did not have a full narrative of what happened or exactly when water samples were collected, among other omitted information.

“We have not extended a deadline, so technically it is late and insufficient,” Owens said.

Because of that, fines of \$1,000 a day, going back to the June 4 deadline, could be imposed. If the EPA gets involved, fines can go up to about \$15,000, something Owens says she doesn't want to see happen.

“We're working with them to get them approved, rather than fined,” Owens said.

Sandy employees and DEQ staff have had several meetings and email exchanges since the denial to fill the gaps before the city resubmits a report.

“As I understand it, in their mind, it’s incomplete but, in our mind, I want to make sure we end up with a document that they are happy with,” said Sandy Utility Director Tom Ward.

Ward says some of the things the state has asked for will take more time to produce, and he’s aware of the potential fines looming.

“Sandy is committed to meeting all of the requirements without any external motivation something like that might provide,” Ward said.

Neither Sandy employees or DEQ would commit to a timetable for a new report, or say if or when fines could start.

About 2,500 homes have been sampled and there is no public health threat to the drinking water. But the mitigation from this water contamination has come with a cost. Ward estimates the city has spent \$500,000 on the issue.

Conservationists say no more dogs at Bloods Lake

by Ginna Roe

Wednesday, July 17th 2019

<https://kutv.com/news/local/conservationists-say-no-more-dogs-at-bloods-lake>

Bloods Lake, near Guardsman Pass, is part of the Bonanza Flat Conservation Area's 1,341 acres of hiking trails. It's also a popular spot for people to take their dogs to cool off in the summer.

"This is stunningly beautiful, and it's a wonderful place to bring dogs," said Phil Cox, a local hiker.

But until 2017, the land, including the trail hikers made to get to the lake, was privately owned.

"This entire landscape, including the land surrounding Bloods Lake, was under contract for development," said Wendy Fisher, executive director of Utah Open Lands.

Fisher said developers were set to build a golf course with 250 homes, until Park City stepped in to buy the land.

"Yeah, there's been lots of problems. I mean, just kind of a blatant disregard for the property," said Logan Jones, trails and open space coordinator for the Park City Municipal Corporation.

Since the city purchased the property, they've had several issues with parking, trash and dog waste being left behind. Jones said Bloods Lake is being loved to death.

The city has re-routed the trail head to preserve the land in the area. They've also worked with UDOT to ban parking along the Guardsman Pass Road. The changes are part of bigger effort to preserve the area.

"There's a lot of dog waste that's been left on the trails. ... A lot of that flowed down into the lake," Fisher said.

Dog waste increases pathogens in the water by 20% to 30%. Fisher is concerned the water shed is a risk of contamination.

“What people don’t realize is that Bloods Lake is actually a direct drinking water source,” she said.

A nearby girl scout camp uses Bloods Lake as their primary water source. Utah Open Lands, the conservation group working with Park City to manage the land, is recommending the city stop allowing dogs at the lake.

“We’re hoping that people recognize that this could have been completely closed off to the public entirely if it had been developed,” Fisher said.

“We’d be incredibly disappointed,” Cox said, “I don’t think the dogs are creating a huge problem. I think probably the humans are creating the problem.”

Utah Open Lands is asking people to consider the big picture.

“We hope that people will work with us to understand that there is an issue,” Fisher said.

Utah Open Lands will bring its findings and recommendation to Park City Council to be voted on.

Canal leak in Utah city cuts supply for secondary watering

By Gretel Kauffman

Published: July 19, 2019 5:03 pm

<https://www.deseretnews.com/article/900080440/utah-canal-leak-riverton-water-supply.html>

RIVERTON — Some residents of Riverton may have trouble watering their lawns in the coming days.

The Welby Jacob Canal has been shut off because of a leak, Riverton spokesman Casey Saxton said Friday. The canal provides much of the water for Riverton's secondary water system, which is used for outdoor and landscaping purposes.

The outage will affect homes west of 3200 West, Saxton said. These houses can expect to experience little to no pressure in their secondary water until the damage is repaired and the canal is turned back on.

The city doesn't have an exact timeline for when the water pressure will return to normal, but it could be anywhere between one day and one week, Saxton said.

Detecting, Monitoring, and Preventing Harmful Algal Blooms

By Dr. Kate Fickas

<https://deq.utah.gov/communication/news/detecting-monitoring-and-preventing-harmful-algal-blooms>

The scientists at the Utah Department of Environmental Quality's (DEQ) Division of Water Quality (DWQ) have been tasked with devising better and more effective techniques to detect and mitigate the human-health risks of harmful algal blooms (HABs). The Utah State Legislature helps us and our partners fulfill this task with ongoing funding for HAB monitoring and response.

That's the protracted way of saying, we really care about the people using Utah's waterways and we don't want them to get sick. We understand the importance of clean water to the health, welfare and safety of the public.

For the uninitiated, when stagnant, nutrient-rich water warms up in the summer, it becomes the ideal breeding ground for cyanobacteria—commonly known as blue-green algae. Under these circumstances, the bacteria can reproduce at alarming rates, overwhelm the water body and begin to produce dangerous liver and neurotoxins. Even in the absence of these toxins, the cyanobacteria can cause gastrointestinal distress and skin irritation.

Detecting these blooms early is vital to advising residents of potential risks and finding solutions to this ongoing issue. This year, DWQ has become more proactive by monitoring in popular recreation destinations where the likelihood of a HAB forming is greatest.

We work with both the national and international community in locations also dealing with HABs to make sure our science and understanding is state-of-the-art. Below are just a few of the ways DEQ is monitoring blooms in Utah and ways the residents can help us find and address HABs:

Monitoring Crews

When a HAB is detected and reported to DEQ, dedicated monitoring crews respond to verify the bloom and sample the extent and threat to human health. These teams return to sites of verified blooms to track the growth of the bloom and check for toxin production.

Once the teams have collected samples of suspected blooms, the samples are sent to two different labs for independent confirmation of toxins, cell counts and cyanobacteria species. Results are often available within 24 hours.

When these crews are not responding to a new or ongoing HAB, they work to visit over 50 targeted waterbodies each month across the state to check water conditions and monitor for potential HABs.

Sonde Buoys

Real-time water-quality-logging sondes are deployed on buoys in Utah Lake, Scofield Reservoir and Deer Creek Reservoir. The data from these instruments help the water quality scientists at DEQ monitor the signals if a cyanobacteria bloom is growing. Monitoring teams from DWQ maintain and calibrate these instruments. The public can view the data provided by these sondes [here](#).

Satellite Imaging

The Cyanobacteria Assessment Network (CyAN) is a multi-agency project that harnesses resources from NASA (National Aeronautics and Space Administration), U.S. Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA) and U.S. Geological Survey (USGS) to process images to detect HABs from satellites. Using powerful algorithms, the images are processed to measure differences in the color spectrum to identify the severity and scope of a HAB. As the program is refined, scientists are testing this technology around the state to more quickly spot HABS before they affect humans and livestock.

Utah Water Watch

Utah Water Watch (UWW) is a water quality education and data collection program that seeks to increase awareness about the importance of water quality and promote stewardship of Utah's aquatic resources. Its goal is to empower citizens to learn and share knowledge about their local watersheds and practice good stewardship. Data collected are shared in a public database and with local water managers. Utah Water Watch volunteers are trained to monitor, sample and analyze potential harmful algal blooms. UWW is a free program and is open to volunteers of all ages. Volunteers learn more about water quality and help protect lakes and streams in Utah.

When app users come across a potential HAB, they can upload the location and a photo to water quality managers, and public health officials. The app harnesses crowd-sourced data to track and manage water resources.

In the coming years, DWQ hopes to add Unmanned Aerial Vehicles (UAVs) to reduce the need to conduct expensive airborne observations in manned aircraft.

Because algal blooms can occur in short time periods, such as a few days, or extended periods of time, such as several months, monitoring a bloom requires frequent observations. Historically, researchers relied on manned aircraft to detect and measure blooms. Unmanned aerial vehicles have emerged as an effective tool for spotting and monitoring algal blooms but at a much lower cost. Not only do UAVs reduce the cost of airborne studies in manned aircraft, they also provide the opportunity for remote monitoring of complex and difficult-to-reach algal bloom-affected areas.

As Utah and the rest of the country continue to deal with algal blooms, accurate and precise data are key to safeguarding our water quality, protecting human health and supporting the state and local agencies addressing HABs.

Utah County Health Department closes Lincoln Beach due to dangerous levels of algal blooms

By Genelle Pugmire Daily Herald

Jul 25, 2019

https://www.heraldextra.com/news/local/utah-county-health-department-closes-lincoln-beach-due-to-dangerous/article_c79c6016-638e-55b7-b9a3-febc99acd3af.html

Lincoln Beach, on the east side of Utah Lake, has been closed by the Utah County Health Department and has been put on a danger advisory due to harmful algal blooms.

The Health Department, which has been monitoring changes throughout the week, will have warning signs placed at the Lincoln Beach Marina.

According to the Health Department, a danger advisory indicates a high relative probability of acute health risk.

On Monday, the Utah Department of Environmental Quality had crews on the lake monitoring blooms. It was then they saw some isolated clumps of bright green cyanobacteria with a cottage cheese consistency on the water's surface.

Tests were taken and on Wednesday, toxin results showed the levels to be above the threshold for a danger advisory.

Algal blooms are considered harmful when cyanobacteria in the water multiply quickly and form visible colonies or blooms, according to the health department.

Residents should not swim or participate in other water recreation to avoid contact with the water. Pets and livestock should be kept away from the water as well.

Those boating should avoid areas of scum and for those who catch fish with the intent to eat them should clean them well and discard the guts.

Dead fish and ducks found in Burch Creek, smell of gasoline reported

By MEGAN OLSEN Standard-Examiner

Jul 25, 2019

https://www.standard.net/news/environment/dead-fish-and-ducks-found-in-burch-creek-smell-of/article_6ed23052-d105-5a1e-84c0-5fe04388c6aa.html

SOUTH OGDEN — Children who regularly fish in Burch Creek were out of luck on Pioneer Day when they found the creek full of belly-up fish and a couple of dead ducks. The group of children also noticed a smell like gasoline.

Concerned about their fishing spot, a member of the young fishing party called their mom, who called 911 to report the incident, according to Captain Tracy Bolt with the South Ogden Fire Department.

The South Ogden Fire Department, South Ogden Public Works and Weber-Morgan Health Department had personnel present at the site Wednesday, according to Bolt.

The fire department was notified just before 4:30 pm, Bolt said, and the health department was called out at 4:42 pm, according to Lori Buttars, public information officer with the health department.

Bolt said responders found 40–50 dead fish in the creek. After checking for dead and live fish in different parts of the creek, they think the contamination began near the area where the creek goes underneath Glasmann Way, at about 5200 South.

“We were all in concurrence that it was some type of hydrocarbon, which is a flammable liquid,” said Bolt. “Our best guess based upon what we were finding out there was it was very likely gasoline.”

Bolt said a nearby resident also said she smelled gas that morning around 7 a.m., but she did not find anything awry on her property when she investigated, so she didn’t report the smell.

“The bulk of (the contaminated water was) diluted and washed way downstream and benign by the time we were notified,” Bolt continued. “So as far as it being a hazard to the public, (it’s) little to none.”

The children were unharmed, Bolt said.

According to Buttars, South Ogden Public Works storm water personnel took samples at the site for testing. The agency that gets there first usually takes the sample, Buttars said.

Standard practice in these situations is for the agency that collects the sample to send it to a lab to be analyzed, according to Kevin Okleberry, spills coordinator with the Utah Division of Water Quality. The

test results are then evaluated by the lead local agency on the incident in consultation with the division, Okleberry said.

Okleberry confirmed that the division had received an incident report submitted by Weber-Morgan Health Department.

A representative from South Ogden Public Works could not be reached to confirm that the samples have been submitted to a lab to be analyzed. Okleberry said that agencies sometimes wait to submit samples until they can gain more information about the type of contaminant.

If the sample testing comes back negative for gasoline, it could be tricky to determine what the contaminant is — like a needle in a haystack, Okleberry said.

“If (the tests are) negative for what the most obvious thing is, then it’s kind of ‘Okay, how long do we want to pursue this?’” Okleberry said. “At this point, we would need some help from the public to ... identify a responsible party and find out what happened and what chemical they discharged. That, of course, would allow us to do an analysis.”

Those who have any information about the incident should call the state’s 24-hour environmental incident line at 801-536-4123. Those wishing to report information can also call the division’s main line during the day at 801-536-4300 and ask for Kevin Okleberry.

Western Wildfires Are Threatening The Water Supply

By [ALI BUDNER](#) • JUL 29, 2019

<https://www.kuer.org/post/western-wildfires-are-threatening-water-supply#stream/0>

It's no secret that wildfires are getting worse in the West. They're threatening lives, homes and ecosystems. And they are also threatening our already-precarious watersheds. It's all becoming a vicious cycle — especially for the drier parts of our region.

Jonathan Bruno knows this — that fire and water are two forces of nature that are intimately connected in the Western landscape. He's a wildland firefighter and a conservationist who works for a Colorado [nonprofit](#) that protects one of the state's largest watersheds.

He took me to a steep canyon at the edge of Colorado Springs to show me a structure that illustrates the impact fire can have on water flow. It's a giant metal mesh fence spanning the width of a man-made rock canal.

Bruno described it as looking “like a colander for your spaghetti or something.”

He said these glorified spaghetti strainers cost millions of dollars each. But they serve the important role of catching large chunks of debris that wash down off these cliffs in the mega rainstorms that often come after a big wildfire.

“We're talking about black water full of rocks, full of trees,” said Bruno. “We have seen boulders the size of cars moved after a post-wildfire.”

It's [common knowledge](#) that massive floods after wildfires can sometimes do more damage than the flames themselves. They can wash debris, ash, and sometimes even heavy metals into the water.

And Bruno has seen it happen. Catastrophic flooding happened right here seven years ago after a massive blaze from the infamous [Waldo Canyon fire](#) swept through this and 18,000 acres, near Colorado Springs.

But something most people don't know is the burn scars from fires actually attract future storms.

“It's because of the amount of heat that's coming off the earth that's drawing these thunder heads in,” Bruno explained.

And these massive burn scars can do something else —speed up snow melt. Eco-hydrologist, Kelly Gleason, recently published a [study](#) about that.

“What we found,” said Gleason, “was that for 850 fires which occurred all across the West — snow disappeared about five days earlier on average.”

And in some cases it melted as much as a month early. That's partly because the vegetation that had shaded the ground was burned off, but that's not the only reason, according to Gleason.

“There's still this standing dead charred forest,” she said, “which sheds black carbon or soot in addition to kind of chunks of burned charred debris, which concentrates on the surface, darkens it visibly and causes it to absorb a lot more of that available sunlight energy.”

She said it's like the snow is wearing a black T-shirt on a sunny day. And she found this early melting phenomenon lasts for up to a decade after a fire.

Gleason said this shouldn't just matter to snow-lovers or people who live at elevation. Because up to [75% of all our water in the West](#) originates as snowpack.

Snowpack is essentially our version of water storage through winter and spring. And if it melts too early, Gleason said, “we really don't have the infrastructure or reservoir storage capacity to hold that water until the summer when we need it the most.”

She said climate change has [already made snowpack more vulnerable](#) to early melting. It has also made wildfires larger, more intense and more common. She said together they create a vicious cycle.

Local water providers are also worried about what wildfires can do to water storage and supply.

“That's definitely something that keeps me up at night,” said Mark Shea with [Colorado Springs Utilities](#).

He wasn't talking hypothetically either. Severe flooding after the devastating Waldo Canyon wildfire here seven years ago did major damage to roads and water pipes. He said it cost millions of dollars and the destruction even got close to impacting water treatment facilities and one of the city's critical reservoirs.

But he isn't just sitting around waiting for his worst nightmare to come true. He's partnered with other agencies that are involved in wildfire suppression — like the [U.S. Forest Service](#).

That's where Oscar Martinez works. I went with Shea and Martinez up to a forested area above Colorado Springs to see what they're working on together.

Martinez showed me a recently “treated” stand of ponderosa pine. That basically means his crew had thinned out the trees.

“If you had come here before the treatment,” Martinez said, “it would have been pretty densely packed with individual trees.”

Now they're far enough apart that there's some grass and native wildflowers starting to come up from below. The logging remains are stacked into giant pyramids waiting to dry out and be carefully burned off next year.

Martinez said, when conditions are right, they'll come back and do a prescribed burn here. But even now, if a wildfire comes through, the area won't burn as hot or as fast and they'll be able to better predict the path of the flames. And he said that's the key to how water providers like Shea can better protect their infrastructure.

They're also working on a plan to include key water elements — like pipelines, treatment facilities and reservoirs — on the maps that firefighters use when they're actively fighting a wild blaze. So the people

on the front lines know how and where to protect the water supply as carefully as they protect homes and lives.

“In Colorado, more than most places,” said Martinez, “our forests and our water pipelines are intimately connected. Eighty to 90% of the water comes off the forest in some way shape or form.”

And doing as much as they can to plan ahead for wildfires, he said, is a way to protect them both.

This story was produced by the Mountain West News Bureau, a collaboration between Wyoming Public Media, Boise State Public Radio in Idaho, KUER in Salt Lake City, KUNR in Nevada and KRCC and KUNC in Colorado.

Toxic algal bloom detected at popular Herriman swimming spot

POSTED 5:42 PM, JULY 31, 2019, BY ELLE THOMAS

<https://fox13now.com/2019/07/31/toxic-algal-bloom-detected-at-popular-herriman-swimming-spot/>

HERRIMAN, Utah – Parents and kids were asked to get out of the water at Blackridge Reservoir on Wednesday after a dangerous and toxic algal bloom was detected.

Along the shoreline at Blackridge Reservoir, visitors will now see white signs sticking out of the ground, which read, “THE WATER AT BLACKRIDGE RESERVOIR HAS BEEN CLOSED UNTIL FURTHER NOTICE.”

Wednesday afternoon, dozens of children and parents were already in the water when they found out it could be dangerous to their health.

“We were out here for like five minutes, all of the kids were in the water and then a guy came up and said there was algae in the water, and we weren’t supposed to be in there,” said Carol Fuchs, a local mom who brought her kids and their friends for a day of swimming.

The Salt Lake County Health Department said they consistently monitor several waterways, including Blackridge Reservoir.

“All individuals should stay away from the water,” said Jorge Mendez with the health department.

“I have a 2-year-old, so I can try [to keep him out of the water] but he keeps going back in,” Fuchs smiled as she shrugged.

Wednesday, the SLCHD received lab results which detected a harmful algal bloom. The health department said these blooms occur naturally when cyanobacteria, also known as blue-green algae, multiply – letting off a chemical called ‘Anatoxin-A.’

“Contact with this water and the toxin levels may affect individuals who play and swim and do other activities in the water,” Mendez said.

As soon as parents received the warning, they vacated the water – some left, others moved their activities to the shore.

“We’ll just play in the sand I guess, there’s a beach here,” Fuchs said as her kids and their friends made sandcastles along the water’s edge.

SLCHD warns, any contact, even just using trace amounts to build a sandcastle, could be reason for concern.

“It is a skin irritation and if it is ingested it can definitely have effects to the gastrointestinal track,” Mendez said. “Whenever there is contact and ingestion, or contact with mucous membranes, it definitely has [gastrointestinal] track symptoms, vomiting, diarrhea, rash.”

According to SLCHD, the warning will stay in place until toxin levels change and drop below the warning advisory level -- no one should swim in the area or ingest the water and it is important to keep pets away.

If you believe you have been exposed to the toxins, call Utah Poison Control Center at 800-222-1222. Suspected blooms on waterways can be reported to the 24-hours DEQ Spill Line at 801-536-4123. For up-to-date information from the DEQ, click [HERE](#).

Lakewide warning lifted at Utah Lake, Lincoln Beach remains closed due to toxic algae

By Braley Dodson

Aug 1, 2019

https://www.heraldextra.com/news/local/central/provo/lakewide-warning-lifted-at-utah-lake-lincoln-beach-remains-closed/article_738f4f2a-b488-56bd-89d1-70ce818b55c1.html

The lakewide warning covering Utah Lake has been lifted, according to an update from Utah County's emergency notification system Thursday.

Provo Bay and Goshen Bay remain under a warning and Lincoln Beach remains closed.

The entire lake was placed under a warning July 12 after the Utah Department of Environmental Quality saw a large algal bloom that extended from Pelican Point to Provo Bay.

Lincoln Beach was closed July 25 under a danger advisory after testing showed cell-count density amounts that exceeded the threshold.

The algal blooms have the potential to produce cyanobacteria, which can cause gastrointestinal distress, headaches and rashes.

People are encouraged not to swim or water ski on Utah Lake, nor should they ingest or let animals ingest water from the lake during warnings.

Letter: Time to update the Safe Drinking Water Act

By Parker Stohlton

Published: August 1, 2019

<https://www.deseretnews.com/article/900082123/letter-time-to-update-the-safe-drinking-water-act.html>

The Safe Drinking Water Act set legal limits for contaminants in drinking water in 1974. While it's good we have this law, the last time it was updated was 1996. Since 1996, new contaminants have since entered our drinking water. As the contaminants are relatively new, there are no legal limits for the contaminants.

Additionally, the federal limits for contaminants can still be high enough for the contaminants to be detrimental to our health and well-being.

I think it would also be prudent to replace any lead pipes that transport our water. Said lead pipes are more likely to be found in older neighborhoods. As more and more cities are finding lead in their water, it would be wise to replace the lead pipes before any catastrophic result occurs.

Without water, we cannot survive. So let's not let water slowly and silently kill us.

Parker Stohlton

Lindon

Dangerous algal bloom in Lincoln Marina, warning placed in Provo, Goshen Bays in Utah Lake

BY HUNTER GEISEL THURSDAY, AUGUST 1ST 2019

<https://kjzz.com/news/local/dangerous-algal-bloom-in-lincoln-marina-warning-placed-in-provo-goshen-bays-in-utah-lake>

(KUTV) — The lake-wide advisory for the harmful algal blooms in Utah Lake has been lifted but warnings and dangers are still in place in parts of the lake.

The Utah Department of Environmental Quality (DEQ) announced Thursday that the Utah County Health Department lifted the advisory across Utah Lake after cyanobacteria cell-count concentrations from samples collected on July 22 in the open water near Pelican Point were well below the recreation health-based threshold values for a warning advisory. Additionally, the toxin-test results were also well below advisory thresholds.

However, the danger advisory is still in place for Lincoln Marina, where the Division of Water Quality found high concentrations and isolated clumps of cyanobacteria along the shoreline. Additionally, the cell counts from samples collected in Provo Bay and Goshen Bay were above the warning advisory threshold and toxin results were below recreational health advisory thresholds.

According to the DEQ, a danger advisory means that the waterbody is closed off and everyone should keep out of the water; a warning advisory means that no one should swim, water ski or ingest the water, people should keep their animals away from the water, clean fish well and discard guts, and to avoid areas of scum when boating.

According to the DWQ, algal blooms may look like pea soup, green or blue paint, or have a scum layer or mats or foam floating on the surface; infected water could also appear in shades of blue, blue-green, yellow, brown or red.

If exposed to cyanobacteria algal blooms, people can experience the following symptoms:

- Rashes, hives or blisters
- Runny nose
- Sore throat
- Asthma and allergic-like reactions
- Vomiting
- Diarrhea
- Stomach pain
- Weakness
- Tingling

- Dizziness
- Difficulty breathing
- These are the symptoms that animals can experience if infected:
- Weakness
- Staggering
- Difficulty breathing
- Vomiting
- Convulsions

To keep up with the latest updates on the Utah Lake algal bloom, [visit deq.utah.gov](http://deq.utah.gov).

E. coli in Utah Waters: How to Recreate Safely this Summer

By DEQ Communications Office

<https://deq.utah.gov/communication/news/featured/e-coli-in-utah-waters-how-to-recreate-safely-this-summer>

A cool swim on a hot summer day is one of life's simple pleasures. But water that appears to be clean may contain pathogens such as *E. coli* that can make people sick. The Utah Department of Environmental Quality (DEQ) wants to ensure that Utah waters are safe for swimming and other recreational activities. That's why DEQ's Division of Water Quality (DWQ) and local health departments (LHDs) work together to protect public health by monitoring Utah's high-priority waterbodies for *E. coli* contamination. If sampling shows that *E. coli* levels in a waterbody exceed health standards, LHDs issue advisories to warn people not to swim in a lake or reservoir until these levels fall below the advisory threshold.

E. coli in Recreational Waters

Escherichia coli (*E. coli*) are a large and diverse type of bacteria commonly found in the intestines and feces of healthy people and warm-blooded animals. Many people associate *E. coli* with food-borne illnesses, but they can also be found in any untreated water. While most strains of *E. coli* are harmless, some varieties can cause diarrhea, urinary-tract infections, and even pneumonia. Surface waters containing *E. coli* can cause recreational water illnesses if people swallow or have contact with contaminated water.

coli are a good indicator of the presence of fecal contamination and possible disease-causing bacteria or viruses such as *Cryptosporidium*, *Giardia*, *Shigella*, and norovirus. Health officials use the presence of *E. coli* to determine if the public needs to be notified of a health risk, since the pathogens that accompany fecal contamination can also make the water unsafe for people.

Sources of *E. coli*

These wastes can enter surface waters from agricultural runoff from fields treated with manure, faulty septic tanks or sewer systems, improper dumping, waste from dogs and livestock, storm events, urban runoff, large concentrations of waterfowl or other wildlife, discharges from boats, and direct human contamination. Pollution of all kinds, including *E. coli*, is typically higher after rainstorms because the water flowing into streams and lakes travels over lawns, fields, sidewalks, and streets that may contribute sources of fecal contamination.

DEQ's *E. coli* Monitoring Program

The Division of Water Quality (DWQ) statewide monitoring program samples for a wide range of possible contaminants, including *E. coli*, to determine if waters in the state are meeting water-quality standards. Water-quality data collected by DWQ are used to identify emerging problems, determine

whether pollution-control programs are working, and help direct resources and pollution-control efforts to the areas where they are most needed.

While it would be ideal to collect *E. coli* samples on all Utah waters on a weekly basis, limited resources means DWQ must take a tiered approach to monitoring. Each year, DWQ works with local health departments to prioritize highly recreated water bodies across Utah. Utah's high-priority recreation lakes and reservoirs are sampled monthly during the May-through-October recreation season.

Advisories

DWQ alerts local health departments if monthly sampling indicates elevated concentrations of *E. coli* in waters within their jurisdiction. Likewise, local health departments notify DWQ when sampling indicates high levels of *E. coli*. Water quality scientists take a second sample as soon as possible after the first sample, and if the test results exceed the numeric criteria established for that waterbody, the local health department and DWQ may jointly issue a health advisory. The site is then monitored on a regular basis during the advisory. The advisory remains in place until consecutive samples over two weeks fall below the water-quality standard for the site.

How to Stay Healthy

Recreational water illnesses are spread by swallowing water, breathing in a water spray, or coming into contact with contaminated water. Swimming pools and hot tubs are treated with chemicals to kill bacteria, but most other recreational waters, including streams running through popular parks, decorative fountains, or small municipal ponds, are untreated and can pose health risks.

Follow these tips to stay safe and healthy when recreating in Utah waters:

Don't swallow the water.

Make sure to wash hands if they were in contact with the water before touching the mouth or eyes. The single most effective way to prevent the person-to-person spread of *E. coli* is careful hand washing.

Don't swim in discolored, odorous, foamy, or scummy water.

Avoid swimming within 48 hours of a major storm.

Avoid swimming with open cuts or wounds.

Wash and cook fish thoroughly and wash hands after handling fish or lake water.

Help protect the water from fecal contamination:

Don't swim in the water with diarrhea or within two weeks of having diarrhea.

Take children for frequent bathroom breaks and diaper changes. Don't change diapers near the water.

Don't rinse children off in the swimming area.

Dispose of diapers properly away from the water.

Pick up dog waste and dispose of it properly.

People should enjoy Utah's beautiful lakes and streams but always be mindful of the possibility of *E. coli* in the water and take appropriate precautions.

Wondering if your favorite beach or pond is under a health advisory? Visit our [advisories page](#) for up-to-date information on current and past advisories. Check out our webpages to learn more about our *E. coli* [monitoring program](#), [sources of *E. coli*](#) , and [how to protect yourself](#) when recreating in Utah waters.

Thousands of fish dead at Pineview, officials say water quality is likely not to blame

By MEGAN OLSEN Standard-Examiner

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https://www.standard.net/news/environment/thousands-of-fish-dead-at-pineview-officials-say-water-quality/article_73717c62-2071-53dc-9025-fba54e60282c.html

WEBER COUNTY — Over the weekend, visitors to Pineview noticed a significant number of dead fish along the shoreline of the reservoir.

The fish were almost all one species — black crappie — and most of them were young, about four inches long.

Chris Penne, aquatic biologist with the Utah Division of Wildlife Resources, said that DWR staff estimate that thousands of fish have died.

The dead fish are concentrated in the narrows by the dam, including some of the beach access areas, swim beaches and the port ramp area where boats launch, Penne said. Wind may also blow the dead fish to other parts of the reservoir.

But Penne said water quality is likely not to blame, though they can't say for sure.

Penne said the Weber-Morgan Health Department has regularly taken samples for harmful algal blooms, and there have not any harmful blooms up to this point.

Following reports of dead fish, the health department took more samples, and those results are pending, Penne said.

The massive die-off has multiple causes, Penne said, including Pineview's current water level, recent high temperatures, and a particularly large population of fish.

“The gist of it is summers are hard on fish,” Penne said. “Just like with humans, the temperature gets warmer than they like. In the case of some species, like crappie, when that water gets warmer, it holds less oxygen ... so that makes breathing it a little bit more of a challenge for them.”

Young black crappie like to have cover from predators, so they tend to live in flooded vegetation or brush, where they can safely eat, Penne said.

Pineview has dropped about five feet, so the young crappie have lost access to their vegetated habitat.

“Rather than going to ... live in the open water where the predators are, they'd rather take their chances along the shorelines in the shallow water,” Penne said.

The problem is that the shallow water is crowded, making it more likely for the fish to be affected by disease, infection or starvation, Penne said.

“We don’t really try and look for one (reason) because they’re all linked together,” Penne said.

“Crowded, stressed fish are a lot easier to hit with disease, and so it could be one (thing) that killed them (or) it could be all of the above.”

Last year, there was a similar die-off event at Pineview, but hundreds of fish died then, compared to thousands killed this year.

However, those who like to fish should not conclude that they’ll be out of luck at Pineview.

“All things the same, if we didn’t have so many fish right now, I don’t think you’d be seeing this,” Penne said. “There’s no denying that temperature is part of it, but we’ve had these temperatures in other years and haven’t had this issue, so when you get this many fish, when they get a lot more crowded, that’s where you start getting problems.”

“They’re kind of the victim of their own success,” Penne continued. “Pineview’s got a lot of fish in it right now. While this may look like a lot, this is still a fraction of what’s out there.”

It’s difficult to say how many more fish will die. If temperatures stay hot, the die-off will likely continue. If it cools down, it will likely get better, Penne said.