



TREATMENT PLANT UPGRADE -RADIUM REMOVAL

PROJECT NEEDS ASSESSMENT

DRAFT RSI-W0364.21002.001



PREPARED FOR

Teller County Water and Sanitation District #1

P.O. Box 578

Woodland Park, CO 80866-0578

MAY 2022





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PREPARED BY

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CONTENTS

1. APPLICANT INFORMATION	1
2. EXECUTIVE SUMMARY	1
3. SYSTEM STRUCTURE AND OPERATION	1
4. PROJECT PURPOSE AND NEED	3
5. EXISTING FACILITY ANALYSIS	3
6. FACILITY PLANNING ANALYSIS	4
7. ASSESSMENT OF ALTERNATIVES	5
8. SELECTED ALTERNATIVE	11
9. PROJECTING WATER FLOWS – NOT USED	13
10. PROJECTING WATER FLOWS METHOD 2: EQUIVALENT RESIDENTIAL TAPS	13

Attachment 1 - Engineer's Seal (**pending**)

Attachment 2 - Organizational Chart

Attachment 3 - Monitoring Plan

Attachment 4 - Cross Connection Control Plan

Attachment 5 - Water Conservation Plan (N/A)

Attachment 6 - Written delegation of operator duties (N/A)

Attachment 7 - Annual budget source descriptions

Attachment 8 - 20 Year Cash Flow Projection

Attachment 9 - Audited financial statement or exemption

Attachment 10 - Documentation of general liability ins.

Attachment 11 - Additional water source descriptions (N/A)

Attachment 12 - Existing water rights

Attachment 13 - Existing process flow diagram

Attachment 14 - Copies of Discharge Permits (residuals) (N/A)

Attachment 15 - Pressure Map (N/A)

Attachment 16 - Project Area Map

Attachment 17 - Population and water demand projections (N/A)

Attachment 18 - Documentation of Water Rights – see attachment 12

Attachment 19 - Additional alternatives description (N/A)

Attachment 20 - Proposed process flow diagram and building expansion

Attachment 21 - Green Project Business Case (N/A)

Attachment 22 - Environmental Checklist – **Categorical Exemption Anticipated**

Attachment 23 - Documentation of Public Meeting – Meeting on **June 26, 2022**



Sections of this report are outlined or annotated to match the requirements of the Colorado Department of Health and Environment (CDPHE) requirements for the Project Needs Assessment (PNA) that is uploaded through the Colorado Environmental Online System (CEOS).



1. APPLICANT INFORMATION

Applicant – Teller County Water and Sanitation District #1, P.O. Box 578 Woodland Park, CO 80866

Consulting Engineer – JDS-Hydro Consultants, Inc. a division of RESPEC located at 5540 Tech Center Drive, Ste 100, Colorado Springs, Colorado 80919

Self Certification – No

2. EXECUTIVE SUMMARY

Teller County Water and Sanitation District #1 (TCWSD#1) PWSID# CO0160600 is a community water system in Teller County located off Highway 67 within the City of Woodland Park. This community has been in operation since 1965 and recently exceeded the combined Radium 226+228 MCL of 5 pCi/L in 2021. This exceedance spurred a violation notice for this community system to put into place a plan to provide the customers potable water with radium levels below the MCL. Teller County Water and Sanitation District #1 desires to apply for State Revolving Funds to assist with the capital and engineering costs that will be associated with the proven alternative necessary to reduce radium in the potable water system. Options evaluated were:

- / Purchase water from City of Woodland Park interconnect
- / Install regenerable ion exchange including wastewater treatment provided by the City of Woodland Park
- / Install single-use ion exchange treatment with spent resin disposal hauled by a licensed hazardous waste hauler to a licensed and certified hazardous waste disposal facility
- / Installation of Hydrous Manganese Oxide (HMO) filtration for the precipitation of radium and then hauling the solids to an approved licensed and certified landfill

3. SYSTEM STRUCTURE AND OPERATION

3.1 Legal Ownership of System – Teller County Water and Sanitation District, P.O. Box 578 Woodland Park, CO 80866

3.2 Organizational Chart – Included as attachment 2

3.3 Plans - Monitoring Plan is attachment 3 the Cross Connection Control Plan is attachment 4, the water conservation plan is not required due to the community size.

3.4 Current Operator in Responsible Charge



Lawrence E Watters, 00069-0297 Class A Water Treatment Operator, 00017-0288 Class 4 Water Distribution Operator

3.5 Operator Certification Impacts with Increased treatment – With ion exchange treatment in place for nitrate removal at the water treatment plant, a Class C operator is required per the Code of Colorado Regulation 100.4.2(e).

3.6 Record Keeping – The District is in compliance with records retention requirements as outlined in section 11.36 of Regulation NO. 11 – Colorado Primary Drinking Water Regulations.

All records pertaining to the operation and water quality of the District are located at 212 S. Chestnut Street, Woodland Park, CO 80863, and are available to the public during normal working hours.

3.7 Annual Budget – The District adheres to the following procedures in establishing the budgetary data reflected in the financial statements.

A. State law for all funds requires budgets. During September, the proposed budget is submitted to the Board of Directors by the budget officer for the fiscal year commencing the following January 1.

The budget includes proposed expenditures and means of financing them.

B. Public hearings are conducted by the Board of Directors to obtain taxpayer comments.

C. Prior to December 31, the budget is adopted and appropriations made by formal resolution.

D. Expenditures may not legally exceed appropriations at the fund level. Board approval is required for changes in the total budget of any fund, or changes in project or department budgets. Budget

amounts included in the financial statements are based on the final, legally amended budget.

E. Budget appropriations lapse at the end of each year.

Accordingly, budget comparisons are of the legally adopted budget. The level of budget control is determined by the resolution appropriating sums of monies. Encumbrances are neither recorded on the books of the District nor included in the budget. The Board of Directors has the authority to make budget amendments.

A copy of the budget is included in attachment 7

3.8 Financial Status - as of March 31, 2022:

Net Income: \$19,059

Checking/Savings: \$433,574

Emergency Reserve: \$100,000

Total Cash Available: \$533,574

Existing State Loan: \$944,192

Rate Structure:

Base Fee: \$41 per month

Usage Rate: \$12.00/every 1,000 gallons

Sewer Fee: \$37.00 per month

State Loan Repayment Fee: \$36 per month

The District's reserve policy requires 3 months Operating Expenses to be held in reserve. Based on the 2022 Budget, the minimum reserve amount is \$80,886.



Estimated O&M costs, three-year financial plan and 20-year cash flow projection attached.

3.9 Audits – Included in attachment 9

3.10 Insurance – Included in attachment 10

4. PROJECT PURPOSE AND NEED

4.1 Health and Compliance – Currently TCWSD#1 is under a violation notice per CDPHE to reduce the level of combined radium 226+228 below the maximum contaminant level of 5 pCi/L. This order has necessitated the need to complete a project needs assessment for the purpose of applying for SRF funds. Radium 226+228 has a maximum contaminant level due to the toxicity of ingesting radium and its carcinogenic impacts on the human body.

4.2 Existing Facility Limitations – TCWSD#1 does not have the ability to remove radium from the raw water in its current facility or operations. A water treatment building exists that houses the prefilters, GAC pressure filters, and tanks for disinfection injection and sequestering agent injection. The possibility exists that TCWSD#1 will be able to install radium removal equipment into the existing GAC building reducing the capital costs of erecting a third building to house radium treatment. Depending on the treatment method selected and equipment size the existing building may not have enough space.

4.3 Operations and Maintenance Issues – Currently the facility is not loaded to capacity and the GAC system is working well.

Existing operations and maintenance issues at the facility are minor.

The facility is located in Teller County which experiences frequent lightening strikes which can cause motor failure and require the replacement of equipment.

5. EXISTING FACILITY ANALYSIS

5.1 Existing Source Water

5.1.1 Raw Water Supply: Water is supplied to the treatment plant through several wells. Each well is piped to the treatment facility for treatment of EDB, chlorination and then into the distribution system. While the existing two wells keep up with demand, a third well is being completed and will be piped into the system and added to the treatment. All 3 wells will not total over 200 gallons per minute.

Nearly all water usage is residential.

5.1.2 Water Rights – see attachment 12 for water rights

5.2 Existing Treatment

5.2.1 Overall Treatment Description – The current treatment process consists of the manifolding of wells 8,9, and 11. The combined raw water then enters bag filter prefiltration followed by granular activated carbon (GAC) pressure vessels for the removal of ethylene dibromide (EDB). After GAC treatment, the water is injected with sodium hypochlorite for disinfection. The option to inject sodium hydroxide is installed to raise the pH of the water if necessary. Disinfection is achieved through 250 feet of 24" DIP pipe before the potable water enters the distribution system.

5.2.2 Existing Process Flow Diagram – Included as attachment 13



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5.2.3 Current Compliance Status – TCWSD#1 received a Maximum Contaminant Level Violation notice from CDPHE on November 19, 2021 stating the last four quarters of radium sampling returned an average radium 226 + 228 combined concentration of 6.28 pCi/L which exceeds the MCL of 5 pCi/L. This compliance violation is to be remedied as quickly as possible with an immediate evaluation of alternative treatment, use of other water sources, or operational changes.

5.2.4 Appropriateness of Treatment Technologies – There are several approved technologies for radium removal from raw water sources. Blending, ion exchange, and the addition of HMO will be the technologies evaluated as potential treatment options for TCWSD#1.

5.2.5 Capacity of Treatment – Treatment capacity of the existing facility is 200 gallons per minute and the additional treatment will be designed or phased to meet that same demand. The water provided by the wells and through the treatment system is meeting demands. Expansion of the system for 5 additional lots will not tax the water treatment system.

5.2.6 Operational Controls – Existing treatment is up and running and the system is controlled by SCADA. The specific setpoints, control narrative and upgradeability were not considered in depth for this draft report. Describe if the existing treatment process has operational controls.

5.2.7 Residuals Management – Current treatment does not produce residuals that are disposed frequently. Periodically the granular activated carbon requires replacement. During that process a contractor is hired to come and replace the media in the tanks and to dispose of the old media.

6. FACILITY PLANNING ANALYSIS

6.1 Planning Area Description

6.1.1 Project Area Map – A map is included in attachment 16

6.1.2 Urban Growth Boundary – While the District is located in a populated area, there are only 5 lots remaining for development within the property boundary.

6.1.3 Local and Regional Issues – The District is in Teller County and is located within the City of Woodland Park boundary. Geology in the area is such that no named aquifer exists and the wells that are drilled are conveying water from fissures in the rock. Several wells have been drilled over the years and are in various stages of completion. In the event of an emergency the City interconnect may be used at a higher rate.

6.2 Population and Water Demand Projections – Teller County is growing 1 – 2% per year. If that growth rate were consistent within the District boundary, TCWSD#1 could buildout in the next few years. At buildout, water demand and treatment is not expected to be significantly higher than current usage or in excess of available treatment within the treatment plant.

6.3 Source Water Planning

Raw water is pumped from the following wells and is available or near available for use in the system and treatment at the Piute Treatment Plant:

- / Well 8 – Permit #62299-FR, 40 gpm, located at NE ¼ of NW ¼ Sec. 13, Township 12S, Range 69 W. Located 1037 feet from North Section Line and 3,685 feet from East Section Line.
- / Well 9 – Permit #62300-F, 30 gpm, located at NE ¼ of NW ¼ Sec. 13, Township 12S, Range 69 W. Located 750 feet from North Section Line and 2,830 feet from East Section Line.
- / Well 11A – Permit #17942-F, located at SW ¼ Sec. 1, 3,559 feet from S. Sec. Line, 28 feet from W. Sec. Line. This well is currently being brought online and will be added to the basis of design report to be added to the water system.



Other wells are included in the systems portfolio but are not currently delivering water to the system for treatment due to various conditions and designations.

7. ASSESSMENT OF ALTERNATIVES

7.1 Alternatives

Alternative 1: Purchase Water from City of Woodland Park using interconnect

Description:

This option would utilize the existing potable water interconnect between Teller County Water and Sanitation District and the City of Woodland Park. Water would be metered at the interconnect and TCWSD#1 would be responsible to pay for the delivered water.

Capital and Operation and Maintenance Costs:

Capital, Operation and Maintenance Costs: Operations and maintenance costs would not change year to year for this water treatment but the cost per gallon would change per contract depending on the decisions and negotiations with the City of Woodland Park. The interconnect is already installed so capital costs would not be increased initially

Advantages and Disadvantages: Advantage of this alternative are that there will be no capital costs for this option. The disadvantage of this option is that TCWSD#1 will lose control of the cost of the potable water. There would be the option for cost negotiation, but if the City of Woodland Park decided there was a need to greatly increase the cost of water sold to TCWSD#1, the District would be obligated to purchase needed water until the District could install approved radium treatment. In essence this would be a double cost impact to the District. The cost of this option was to be explored by TCSWD.

Alternative 2: Regenerable Ion Exchange

Description:

Regenerable ion exchange pressure vessels would be installed in a new building structure after treatment through GAC vessels. Chlorination would be moved to disinfect the water after the water is treated through ion exchange resin to preserve the life of the resin. The backwash water from the regeneration of the resin will be discharged to the sewer system which is processed at the City of Woodland Park wastewater treatment facility. The estimated total cost of this system including all accessory equipment, building, electrical, engineering, and all other miscellaneous costs is \$1,202,421.

Capital and Operation and Maintenance Costs:

Capital Costs will have the largest impact in this alternative and category. Pressure vessels, a new building, brine backwash system, as well as piping, metering, site work, SCADA, electrical, and relocating chlorine contact line will be the most expensive parts of this option. Ion exchange has a scaled cost. The building required to hold the treatment process containing pressure vessels to remove radium will be the largest cost.

Operation and maintenance cost will include salt for the brine backwash and management of the backwash dosing tank. The operator will have to mix the brine by manually loading salt and start the mixing process. Salt can cause other issues with storage and caking on nearby equipment.

Advantages and Disadvantages: Installing an ion exchange treatment system first and foremost continues to allow TCWSD#1 the ability to control their costs. The District would be responsible for securing the lowest cost options to remove radium as well as negotiating the price for resin replacement. Disadvantages are absorbing the upfront capital costs as well as not having a guarantee that the water treatment backwash brine would be accepted by the City of Woodland Park's wastewater facility. With the passage of CDPHE's



Part 20 – TENORM, wastewater facilities that know they are accepting TENORM wastes must characterize their wastewater effluent as well as their biosolids. If a facility exceeds the exclusionary limit, the facility must register as a TENORM processor and becomes accountable to meet the regulatory requirements of a registered TENORM facility. To avoid this outcome, the City of Woodland Park may decide to no longer accept wastewater from water treatment plants that are treating for radium and backwashing the brine into the sewer. There is also no reconcentration of brine option available for ion exchange because the radium is not being bound to something in the backwash. It is still generally in solution.

Alternative 3: Single-Use Ion Exchange

Description: Single use ion exchange for radium removal employs pressure vessels filled with a radium selective cation resin. With this process, untreated water is pushed through the resin at a rate that allows the removal of radium from the raw water before discharge to the next process. It is important to remember when using ion exchange resins for radium removal, disinfection should occur post ion exchange treatment. Sodium hypochlorite has the negative impact of causing the resin to swell and destroys cross connections where the radium bonds with the resin. When the resin is fouled to the point the radium is breaking through at a rate that could cause TCWSD#1 to exceed the radium MCL for drinking water, a licensed hazardous waste hauler would be employed to remove the fouled resin. The same or different contractor would then refill the pressure vessels with uncontaminated resin and the process would repeat. A quote from two different vendors were secured. The more economic 80 gallon per minute treatment system would cost the District **\$1,129,770**.

Capital and Operation and Maintenance Costs:

Capital Costs will have the largest impact in this alternative and category. Pressure vessels or the likely need for a new building will be the two most expensive parts of this option. Ion exchange has a scaled cost. The treatment process containing pressure vessels to hold the treatment resin will be the largest cost. However, if a new building is required, that could be the largest cost.

Operation and maintenance costs are estimated to be lower on a month-to-month basis to regenerable resin costs. There would be less daily interaction with the radium treatment system and no salt hauling or brine mixing. Resin changeout is estimated to occur more often with single-use ion exchange. And while there is not a discharge to the sanitary sewer, facility licensing will be required. Hauling and replacement of the resin is typically provided by the vendor.

Advantages and Disadvantages: Installing an ion exchange treatment system first and foremost continues to allow TCWSD#1 the ability to control their costs. The District would be responsible for securing the lowest cost options to remove radium as well as negotiating the price for resin replacement. Disadvantages are the inability to control the cost of resin removal and disposal as well as the inflationary costs of resin year to year.

- / Once cost for someone to license, haul and change out the media when needed
- / Less control if something blinds the media or changes the water quality
- / Only one place to get replacement media
- / Could be a as needed replacement instead of a monthly cost.
- / Single use media tanks are estimated to be larger and require an additional building.

Alternative 4: Addition of Hydrous Manganese Oxide (HMO) and Filtration

Description: Hydrous Manganese Oxide would be injected after treatment through pressure sand filters for the purpose of radium removal from the source water by adsorbing to the manganese. After contact time between chemical addition and raw water is achieved, the precipitate of radium manganese precipitate is filtered through a back washable sand or engineered media filter. Once the filters are fouled, they would be backwashed into a backwash tank where they would be fed at a controlled rate to the sanitary sewer system



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or the water treatment residual could be reconcentrated, vacuumed out and hauled to a certified and licensed TENORM landfill facility.

Capital and Operation and Maintenance Costs will be significant with this alternative. Due to the limited space in the existing water treatment building, a new structure will need to be constructed to house the chemical addition of HMO as well as the filtration system and backwash tank.

Operation and maintenance costs will be similar to the regenerable ion exchange process as there will be chemical to mix, and a pumping system to maintain. The operator will have more time in the facility than a single use resin.

Advantages and Disadvantages: The advantage of TCWSD#1 installing an HMO system that filters radium/manganese precipitate and then contracts for the water treatment residuals to be hauled to a landfill is that the District has control over their costs to the ability they can negotiate said costs. The disadvantage to TCWSD#1 operating their own radium treatment system is in the additional capital, operation, and maintenance costs. There is always the question of the cost of TENORM disposal and the unknown future costs to do so.

Overall Operation and Maintenance Considerations

TENORM regulation Part 20 will have some effect on water producers and waste receivers. The long term option should consider what operation changes will be required and the system flexibility. Increased man hours will be required with and of the new treatment options.



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Table 1. Radium Removal – Regenerable Ion Exchange

Item #	Item Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Radium Removal Treatment - Regenerable Ion Exchange	1	LS	234,000	234,000
2	Installation	45%	% of cost		105,300
3	Associated Equipment / Installation	25%	% of cost		58,500
4	Brine Makeup and Storage System (included above)		LS	0	0
5	Backwash Storage Tank - 10,000 gallons	1	LS	30,000	30,000
6	Backwash Pumping System	1	LS	12,000	12,000
7	Metering	1	LS	7,000	7,000
8	Site Work, Utilities	1	LS	50,000	50,000
9	Relocation of chlorine contact line	1	LS	10,000	10,000
10	SCADA	1	LS	25,000	25,000
11	Electrical	1	LS	50,000	50,000
12	Building - 18'-6" ceiling height	1200	SF	320	384,000
Subtotal					\$965,800
Contingency (+10%)					\$96,580
Engineering (BDR, Design etc....)					\$115,896
Legal					\$24,145
Total					\$1,202,421
	Filter Housing Rehabilitation	1	~12 years	180,000	180,000
	Radium Registration	1	LS	200	200
	Radium Licensing	1	per Year	10,000	10,000
	Waste Hauling	1	Per Year		N/A
	Sewer Disposal Fee - Annually	1	LS		2,400
	Backwash Concentration System	1	LS		N/A
	Salt Delivery Cost	8	Tons	150	1,200
	Media replacement	1	~5 years		42,000

Radium removal at 80 gpm with regenerable Ion Exchange and discharge to the City sewer. ResinTech is the resin manufacturer and FilterTech is the supplier. Size is approximately 18'x22'x20'.

Since the Engineer has no control over the cost of labor, materials or equipment, or over the Contractor's method of determining prices, or over competitive bidding or market conditions, his opinions of probable construction cost provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgement as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by him.



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Table 2. Radium Removal – Single-Use Ion Exchange

Item #	Item Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Radium Removal Treatment – Single-Use Ion Exchange	1	LS	224,380	224,380
2	Installation	45%	% of cost		100,971
3	Associated Equipment/Installation	25%	% of cost		56,095
4	Metering	1	LS	7,000	7,000
5	Site Work, Utilities	1	LS	50,000	50,000
6	Relocation of Chlorine Contact Line	1	LS	10,000	10,000
7	SCADA	1	LS	25,000	25,000
8	Electrical	1	LS	50,000	50,000
9	Building – 18'-6" ceiling height	1,200	SF	320	384,000
Subtotal					\$907,446
Contingency (+10%)					\$90,745
Engineering (BDR, Design etc....)					\$108,894
Legal					\$22,686
Total					\$1,129,770
	Filter Housing Rehabilitation	1	~12 years	180,000	180,000
	Radium Registration	1	LS	200	200
	Radium Licensing	1	per year	10,000	10,000
	Waste Hauling – Hazardous Waste Every 5 Years	1	per year		13,000
	Sewer Disposal Fee	1	N/A		N/A
	Backwash Concentration System	1	N/A		N/A
	Salt Delivery Cost per Month	1	N/A		N/A
	Media Replacement	1	~5 years		70,400

Radium removal at 80 gpm with single-use Ion Exchange and no discharge. Estimated 7 gpm/ft² and a total of two vessels. Total unit size is 18 ft x 22 ft x 12 ft high and media removed by WRT and replaced as necessary.

Because the engineer has no control over the cost of labor, materials, or equipment; the Contractor's method of determining prices; or competitive bidding or market conditions, the opinions of probable construction cost provided for herein are made on the basis of experience and qualifications. These opinions represent the engineer's best judgement as a design professional familiar with the construction industry. However, the engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from the opinions of probable cost prepared by the engineer.



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Table 3. Radium Removal – Hydrous Manganese Oxide (HMO) Filtration

Item #	Item Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Radium Removal Treatment – HMO	1	LS	365,300	365,300
2	Installation	45%	% of cost		164,385
3	Associated Equipment/Installation	25%	% of cost		91,325
4	Backwash Storage Tank – 10,000 gallons	1	LS	30,000	30,000
5	Backwash Disposal Pumping System	1	LS	12,000	12,000
6	Metering	1	LS	7,000	7,000
7	Site Work, Utilities	1	LS	50,000	50,000
8	Relocation of Chlorine Contact Line	1	LS	10,000	10,000
9	SCADA	1	LS	25,000	25,000
10	Electrical	1	LS	50,000	50,000
11	Building – 18'-6" ceiling height	1,200	SF	320	384,000
Subtotal					\$1,189,010
Contingency (+10%)					\$118,901
Engineering (BDR, Design etc....)					\$142,681
Legal					\$29,725
Total					\$1,480,317
	Filter Housing Rehabilitation	1	~12 years	180,000	180,000
	HMO Chemical Delivery Cost – Annually	1	LS		11,000
	Sewer Disposal Fee – Annually	1	LS		2,400
	Concentrated Haz. Waste Disposal Fee – Annually	1	LS		9,000
	Radium Registration	1	LS	200	200
	Radium Licensing – only if concentrating	1	per year	10,000	10,000
	Backwash Concentration System	1	LS	50,000	50,000

Radium removal at 80 gpm with HMO and discharge to the City sewer. Tonka was the basis of the cost estimate. Filter loading rate of 5 gpm/ft² with two vessels 4' 6" in diameter. Backwash volume of 2,819 gallons estimated every 24 hrs to stay below 500 pCi/l. Also included is an Alan Bradley PLC, system valves, regen air wash blower package, pressure gage panel, backwash flow meter, HMO feed system, freight and field services.

Because the engineer has no control over the cost of labor, materials, or equipment; the Contractor's method of determining prices; or competitive bidding or market conditions, the opinions of probable construction cost provided for herein are made on the basis of experience and qualifications. These opinions represent the engineer's best judgement as a design professional familiar with the construction industry. However, the engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from the opinions of probable cost prepared by the engineer.



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8. SELECTED ALTERNATIVE

Removal of radium in drinking water for small systems can be difficult due to the advanced operations required. Selection of the single use ion exchange system removes several operation barriers.

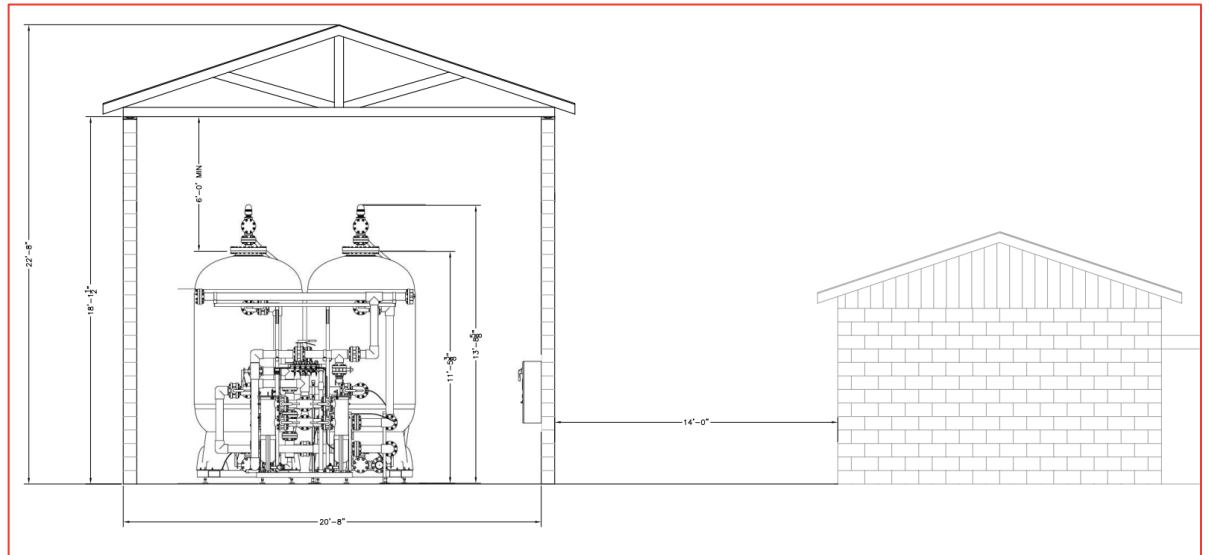


Figure 1 - Building Layout

8.1 Justification of Selected Alternative – After evaluating the radium treatment options of an interconnect with City of Woodland Park, regenerable ion exchange, single use radium selective ion exchange, and HMO the selected option is single use ion exchange. Monetarily, this option is the most economical and does not require any sewer disposal as the resin is not regenerable and does not require periodic backwash cycles. Both regenerable ion exchange and HMO for the removal of radium require backwash cycle to clean the media or filter sand. With no backwash cycles, operator involvement will increase but operations will be similar to the existing water treatment. Once running, an operator will only need to observe the pressure before the prefilters as well as through the ion exchange pressure filters daily. Radium sampling should not increase above the current required sampling schedule. Ion exchange for the removal of radium is an EPA Best Available Technology (BAT) treatment option.

8.2 Technical Description and Design Parameters – TCSWD currently treats ethylene dibromide (EDB) (EDB) with granular activated carbon (GAC) pressure vessels before distributing this treated water to its customers. This treatment process will remain to keep TCSWD in compliance with Regulation 11 MCL for EDB. Single use ion exchange pressure vessels for radium removal will be installed in a new building. After the source water is treated for EDB with the GAC vessels, it will be then pass-through pretreatment and cationic resin included with the IX treatment system. Finally, chlorine and Seaquest will be dosed for disinfection and corrosion control

8.3 Proposed Process Flow Diagram – The addition of the membrane system will be before the existing ion exchange system. The draft membrane process flow diagram is included in attachment 20

8.4 Appropriateness of Treatment Technologies - Single use ion exchange for the removal of radium will allow TCSWD meet Regulation 11 maximum contaminant level for radium of 5 pCi/l in the potable water delivered to its customers. The single use radium selective cationic resin will be used to remove radium from the source waters. It is possible CDPHE will increase lead and copper testing to every six months for the period of three years with the addition of ion exchange treatment. After one year of acceptable lead and copper results in the distribution system, TCSWD can request CDPHE remove the increased lead and copper sampling and return



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to the original lead and copper sampling schedule. Fortunately, TCSWD already doses Seaquest, a corrosion inhibiting chemical. There is a small possibility the dose may need to increase to prevent increased corrosion from the removal of hardness from the source water.

8.5 Environmental Impacts With radium treatment placed in a new building on the existing water treatment plant lot approved for the existing facilities, this addition is unlikely to negatively impact any wildlife habitat. The lot where the new building and treatment will occur is near the center of the City and has a large church to the direct west of the lot and a road to the direct east. The property for the radium treatment is already owned by Teller County Sanitation and Water District. This property, according to FEMA mapping, is in Zone X which is an area of minimal flood hazard. There are no known historical or archeological properties surround this lot where the radium treatment and new building will exist.

8.6 Land Requirements – The new building will be erected on the existing land that currently houses the existing water treatment plant. A new building will require permitting and approval by the Teller County Building Department. Easements for the lot were already established with the original water treatment building and then the second building to house the GAC filters. The new building will be designed to sit back from required easements at the appropriate distance.

8.7 Construction Requirements – No major concerns currently exist for the construction of the new building and installation of ion exchange pressure vessels for radium removal. New soil bores will be drilled to determine the depth of bedrock that will be below the new building. The lot is located with an existing road on the north and east. The existing chlorine contact line will need to be relocated as it is under the planned location for the new building. Past construction on this site did not uncover a high groundwater table.

8.8 Operational Aspects – Adding ion exchange to remove radium from TCSWD source waters will not increase the operator certification level necessary to operate the water treatment. Currently, Regulation 100.4.2 states that a Level C operator is required for ion exchange treatment at less than 1,400 gallons per minute. Daily operations will see a slight increase of time at the water treatment plant. It will be necessary to monitor and record pressure readings at the prefilters as well as at the ion exchange pressure vessels. The possibility exists that TCSWD will be required by CDPHE to increase lead and copper monitoring until the system can determine the corrosivity impact of cation resin removing hardness as an impact to the treated water quality.

8.9 Cost- The capital cost of this system totals \$1,129,770.

8.10 Environmental Checklist- Due to the construction occurring at a previously disturbed site a categorical exclusion is anticipated.

8.11 Project Implementation

Table 4. TCWSD#1 Radium Treatment Draft Schedule

2021 TCWSD1 Draft SRF schedule 4.mpp					Qtr 4, 2021	Qtr 1, 2022	Qtr 2, 2022	Qtr 3, 2022	Qtr 4, 2022	Qtr 1, 2023	Qtr 2, 2023															
ID	Task Mode	Task Name	Duration	Start	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
1		Well 8 Radium Test Results	30 days	Mon 10/18/21																						
2		Well 8 new source testing	60 days	Mon 11/15/21																						
3		Board Decision to Pursue SRF Funds	0 days	Mon 11/15/21																						
4		Source Water Testing for Design -Well 9	30 days	Mon 11/15/21																						
5		Well 11a - New Source Water Testing	30 days	Mon 11/15/21																						
6		Project Needs Assessment (significant information gathering)	4 mons	Mon 12/20/21																						
7		Design Paramaters Sent to Board	0 days	Wed 12/22/21																						
8		Draft PNA Section 7 to Board	0 days	Wed 3/23/22																						
9		Environmental Determination / Report (est)	3 mons	Mon 1/24/22																						
10		Technical Managerial Financial	30 days	Mon 2/28/22																						
11		Public Meeting	0 days	Wed 5/4/22																						
12		Loan Application - Jan. 15, Feb 15, April 15, June 15, Aug. 15, Oct 15 and Nov. 15	60 days	Wed 5/4/22																						
13		Drawings - 60%	4 mons	Mon 4/11/22																						
14		Specifications - 60%	4 mons	Mon 4/11/22																						
15		Basis of Design Report - Treatment and Source Addition	20 days	Mon 8/1/22																						
16		Final Plans and Specifications	45 days	Mon 8/1/22																						
17		CDPHE Engineering Review	60 days	Mon 10/3/22																						
18		Advertisement	0 days	Fri 12/23/22																						
19		Bidding	30 days	Mon 12/26/22																						
20		Loan Execution	15 days	Mon 12/26/22																						
21		Construction	6 mons	Mon 2/6/23																						
22																										
23		Building	135 days	Mon 8/1/22																						
24		Teller County Planning	60 days	Mon 8/1/22																						
25		Regional Building	45 days	Mon 10/24/22																						
26		Permit	0 days	Fri 2/3/23																						

9. PROJECTING WATER FLOWS – NOT USED

10. PROJECTING WATER FLOWS METHOD 2: EQUIVALENT RESIDENTIAL TAPS

Currently there are 246 taps and only 5 additional taps available for development. 2021 water use was 34.28 AF which calculates to an average daily water use per tap – 125 gallons per day which is on the low end of averages per tap or SFE. 5 additional taps – (125 gallons per day * 5 * 365) / 325,851 – 0.70 AF per year

The existing two wells are providing adequate water now and the addition of well 11 will more than deliver the additional water. Well 11 is being added for redundant sources and to lower the overall demand on each well.



ATTACHMENT 1

ENGINEER SEAL – INCLUDED ON APPLICATION



A-1



RSI-W0364.21002.001

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ATTACHMENT 2

ORGINIZATIONAL CHART



A-2

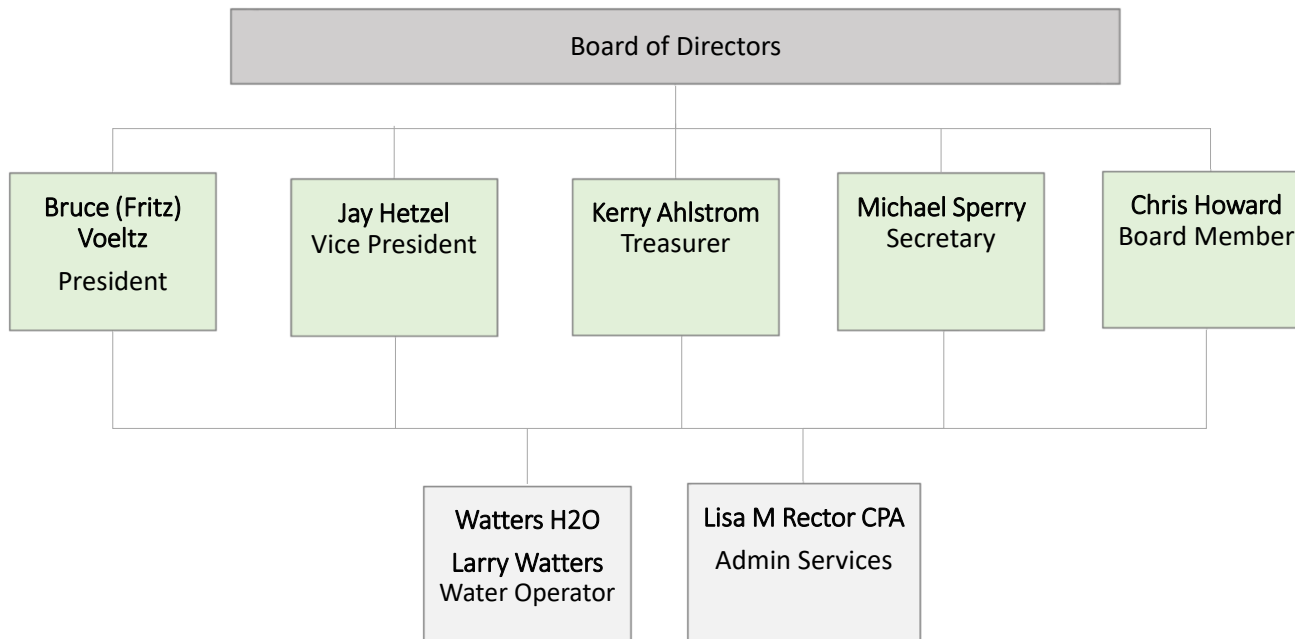
RSI-W0364.21002.001



Teller County Water & Sanitation District #1

Organization Chart

Effective: 1/1/2022





ATTACHMENT 3

MONITORING PLAN



A-3



RSI-W0364.21002.001

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Public Water System Monitoring Plan

System Name	TELLER COUNTY WSD
PWSID (Assigned by Department)	CO0160600
County	TELLER
School or Daycare	No
Describe Changes	New ORC, New ADMINASTRATOR- Effective September 1, 2020

Submittal to the Department

Submit Online (Preferred): wqcdcompliance.com/login

Fax: 303-758-1398

WQCD - B2 - Drinking Water CAS

4300 Cherry Creek Drive South

Denver, CO 80246-1530

Revisions

Water systems are required to submit any changes to the Department within thirty (30) calendar days following the effective date of the change. **If submitting revisions please only submit the individual section(s) that changed.**

Monitoring Schedules

All routine monitoring information, facilities and sample points (with state assigned IDs), system classification, and system source classification is available at wqcdcompliance.com/schedules. Schedules are updated on a weekly basis and should be checked regularly for any changes.

Immediately call **303-692-3308** (or **1-877-518-5608** if after-hours) for:

1. Positive coliform or Positive *E. coli*.
2. Nitrate greater than or equal to 10.0 mg/L.
3. Nitrite greater than or equal to 1.0 mg/L.
4. Surface water high turbidity or inadequate disinfection.
5. Chlorine dioxide greater than or equal to 0.8 mg/L.
6. Chlorite greater than or equal to 1.0 mg/L.

08/27/2020

CO0160600 - TELLER COUNTY WSD

Contact Information

Completed by: **Larry Watters**

Signature: _____

Certification of Accuracy: I hereby certify that the information is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

System Physical Address (Not Mailing)

Address: **201 Piute Trail**

City: **WOODLAND PARK** State: **CO** Zip: **80863**

System Phone: **719-687-0761** **System** Email: **TELLERWATER@GMAIL.COM**

Administrative Contact (AC) Name: **LISA RECTOR**

(The primary contact person for all Department mail or other communications regarding drinking water compliance)

Mailing Address: **PO BOX 578**

City: **WOODLAND PARK** State: **CO** Zip: **80066**

Phone: **719-687-0761** E-mail: **TELLERWATER@GMAIL.COM**

** If the Administrative Contact is also the Distribution or Treatment Operator and is not the owner or legal representative of the water system (e.g. contract operator), a signed delegation form must be submitted.
(Form can be downloaded at: wqcdcompliance.com/forms) **

Legally Responsible Water System Owner Name: **TELLER COUNTY WSD HOA**

(An individual, corporation, partnership, association, state or political subdivision thereof, municipality, or other legal entity)

Mailing Address: **PO BOX 578**

City: **WOODLAND PARK** State: **CO** Zip: **80866**

Phone: **719-687-0761** Email: **TELLERWATER@GMAIL.COM**

Emergency Contact Name: **LARRY WATTERS**

(Someone the Department can contact in an emergency if the administrative contact is unavailable)

Phone: **719-338-5429** Email: wh2osllc@gmail.com

Distribution System (DS) Operator Name: **LAWRENCE (LARRY) WATTERS**

(A certified operator designated by the owner to have ultimate responsibility for decisions regarding operational activities)

Operator ID#: **6785** (not the certificate number)

Phone: **719-338-5429** Email: wh2osllc@gmail.com

DS Operator Signature: _____

Treatment Operator Name: **LAWRENCE (LARRY) WATTERS** Same as DS? **Yes**

(A certified operator designated by the owner to have ultimate responsibility for decisions regarding operational activities)

Operator ID#: **6785** (not the certificate number)

Phone: **719-338-5429** Email: wh2osllc@gmail.com

Treatment Operator Signature: _____



ATTACHMENT 4

CROSS CONNECTION CONTROL PLAN



A-4

RSI-W0364.21002.001

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COLORADO
 Department of Public
 Health & Environment

APPENDIX A: Backflow Prevention and Cross-connection Control
TELLER COUNTY WATER & SANITAION DISTRICT#1 BPCCC Program

Purpose

This Backflow Prevention and Cross-connection Control Program outlines how the supplier of water specified below will implement its written BPCCC program and achieve compliance with Regulation 11.

Other potentially applicable backflow prevention and cross-connection control requirements are specified in Article 1-114 and Article 1-114.1 of Title 25 of the Colorado Revised Statutes and in the Colorado Plumbing Code. The Department has developed [Safe Drinking Water Program Policy 7](#) to assist public water systems achieve compliance with Regulation 11.

Public Water System Name & PWSID:	TELLER COUNTY WSD#1 - CO0160600	
Public Water System Owner:	TELLER COUNTY WSD#1	
BPCCC Administrative Contact:	LAWRENCE WATTERS	
Address:	201 PIUTE TRAIL	
	WOODLAND PARK, CO 08063	
Email:	wh2osllc@gmail.com	
Phone:	719-338-5429	
Signatures of Owner or Administrative Contact:		
Effective Date	Name	Signature
September 1, 2020	Larry Watters	Larry Watters

This BPCCC program will include and specify information regarding how this supplier identifies cross connections, performs surveys, and controls identified cross connections. This BPCCC program also address how this supplier will require that backflow prevention assemblies and methods be tested and inspected annually, how this supplier will track the installation, maintenance, and testing of assemblies and methods and how this supplier will ensure that assemblies are tested by a *Certified Cross-Connection control Technician(Regulation 11.37(1)(b))*.

****This program must be kept on file for review by the Department. It can be revised by the Department as necessary.

Water Quality Control Division

4300 Cherry Creek Drive South Denver, Colorado 80246

Backflow Prevention and Cross-connection Control Program

- (i) Process for conducting surveys.

There are residential and no commercial service connections in the water system.

- (ii) Legal authority to perform a survey of a customer's property to determine whether a cross connection is present unless the supplier controls all non-single-family residential connections to the public water system with the most protective backflow prevention assembly or backflow prevention method.

Ordinance (attach copy) User Agreements (attach copy) Other - explain below

The water treatment plant is the only potential cross connection. There are no commercial facilities.

WQCD-Policy DW007 Part 4.2 (pg 5 of 11)

- (iii) Process to select a backflow prevention assembly or backflow prevention method to control a cross connection.

Followed local building codes and

WQCD-Policy DW007 Part 4.3 (pg 5 of 11)

- (iv) Legal authorities to install, maintain, test, and inspect backflow prevention assemblies and/or backflow prevention methods and/or require customers to install, maintain, test, and inspect backflow prevention assemblies and/or backflow prevention methods.

Ordinance (attach copy) User Agreements (attach copy) Other - explain below

WQCD-Policy DW007 Part 4.3 (pg 5 of 11)

- (v) Process to track the installation, maintenance, testing, and inspection of all backflow prevention assemblies and backflow prevention methods used to control cross connections.

Track on annual calendar.

- (vi) The process the supplier will use to ensure backflow prevention assemblies are tested by a Certified Cross-Connection Control Technician.

System will use a Certified Cross-Connection Control Technician as needed.

Sample Backflow Prevention and Cross-connection Control Program

Department Notification

If we become aware of a suspected or confirmed backflow contamination event, the supplier must notify and consult with the Department on any appropriate corrective measures no later than 24 hours after learning of the backflow contamination event. The notification should be made to the **24-hour Environmental Release and Incident Report Hotline at 1-877-518-5608**.

When reporting the event, please have available the as much of the following information as possible:

- Date and time of event;
- Location of event;
- Type of threat or event;
- Public Water System Name and Identification Number;
- Water supplier contact name and phone number;
- Method of discovery (consumer complaint, witness, perpetrator, employee report);
- Response actions taken (water quality parameter testing, isolation of affected water);
- Recovery actions taken;
- Notifications made (customers, law enforcement, news media, etc.);
- Assessment of threat, if possible.

Regulation 11.39(7) requires that we notify the Department within 48 hours in any instance the supplier becomes aware of any backflow prevention and cross-connection control violation and any backflow prevention and cross-connection control treatment technique violation specified in Regulation 11.39(6).

Such notifications to the Department can be written, verbal, or made by other means. The Department can be notified via telephone at 303.692.2000 and contacting the Department's Water Quality Control Division's backflow prevention and cross connection control specialist. The Department can also be notified via email at cdphe.wqenginfo@state.co.us sent to the attention of the backflow prevention and cross-connection control specialist.

Public Notice Requirements

Regulation 11.39(7) requires that suppliers distribute Tier 2 public notice as specified in Regulation 11.33 in any instance the supplier becomes aware of any backflow prevention and cross-connection control treatment technique violation.

Regulation 11.39(7) requires that suppliers distribute Tier 3 public notice as specified in Regulation 11.33 a in any instance the supplier becomes aware of any backflow prevention and cross-connection control violation.

Please contact your Department assigned compliance officer with any questions regarding to public notice.

Sample Backflow Prevention and Cross-connection Control Program

(i) *Survey Process and Documentation*

Suppliers must survey all non-single-family-residential connections to the public water system to determine if the connection is a cross connection. The supplier must also survey all connections within the supplier's waterworks to determine if there are any cross connections present which could contaminate the public water systems or the facilities water supply system.

The supplier must identify the total number of non-single-family-residential connections to the public water system and connections within the supplier's waterworks. This number is the total number of connections to the public water distribution system that are not considered single - family connections. Acceptable survey process documentation includes the following: How the supplier will select service connections that need a survey; For example: Usage type - commercial, industrial, or multi-family; new or newly acquired connections; and/or questionnaire results.

Single-family means:

- A single dwelling which is occupied by a single family and is supplied by a separate service line;
- A single dwelling comprised of multiple living units where each living unit is supplied by a separate service line.
- If a water supplier has ownership and maintenance responsibilities of a service line up to a point of single-connections such connections may be considered a single-family-residential-connection even if this connection is to a multi-family dwelling unit. It is important to be aware that all other applicable parts of Regulation 11 will also apply to those new acquired waterworks (i.e. distribution system) and that any irrigation or other cross connections that are directly connected to the newly acquired service line would have to be controlled in accordance with Regulation 11.39.

Once the supplier has identified the total number of non-single family residential connections, the supplier must survey the connections to identify cross connections. The supplier must document the process for conducting surveys. Surveys can be performed onsite by a person designated by public water system or can be of a questionnaire type. The supplier's survey process should identify potential service connections and uses that when identified may trigger cross-connection control requirements. The supplier's process should address how the supplier will select individuals to perform the survey including experience and/or training or certification qualifications to perform a survey. Additionally the supplier must survey any waterworks and the water supply systems associated with those facilities for cross connections.

If the supplier uses questionnaires, various methods may be used to distribute the questionnaires: email surveys, web-based surveys, written surveys, or telephone surveys. Questionnaires should provide examples of common cross connections to the customer who completes the survey. Questionnaires should ask that the property-owner indicate that the information is accurate to the best of their knowledge. If the supplier does not receive a response to a questionnaire or the results are inconclusive, the supplier is required to perform an onsite survey for cross connections or control the connection with the most protective backflow prevention assembly or method.

The results of surveys should be kept in a manner that allows the supplier to demonstrate that a survey has been performed and if any action was required based on the result of the survey.

It is important that newly constructed and renovated buildings are constructed in accordance with the local plumbing code. The code is intended to protect the internal potable water system and its occupants from contamination that can be introduced via restrooms, kitchens, boilers, irrigation, HVAC systems, etc. It is equally important that the water supplier protect their distribution system from

Sample Backflow Prevention and Cross-connection Control Program

contamination that can be introduced via car washes, auxiliary water sources, fire suppression systems, irrigation and many other sources. Water suppliers need to perform cross connection identification surveys to identify potential cross connections within their distribution system.

***Note to supplier. Describe in this section how the supplier complies with the regulation and its survey requirements

(ii & iv) *Legal Authority*

The supplier must have a legally-enforceable mechanism that implements its written backflow prevention and cross connection control program as described in 11.39(2). The Department recommends that the legally-enforceable mechanisms include specific provisions identifying customer requirements under 11.39(2)(a)(ii, iv) and the associated remedies that the supplier may utilize for failure of customer(s) to comply. If the supplier does not have a legally-enforceable mechanism in place, the Department expects the supplier to perform the actions necessary to complete the indicated requirements in the regulation.

***Note to supplier. Provide a copy of the ordinance or user agreement in this section or discuss how the supplier implements the actions necessary to complete the indicated requirements in the regulation. As a reminder suppliers are prohibited from installing or permitting any uncontrolled cross connection to the distribution system or within the supplier's waterworks.

- Installing an uncontrolled cross connection means modifications or additions to waterworks or water supply systems that create a cross connection. The supplier is prohibited from intentionally performing any actions which would result in the creation of a cross connection.
- Permitting an uncontrolled cross connection in the context of Regulation 11.39 means the supplier has allowed their users or customers to continue to have an uncontrolled cross connection past the regulatory-defined timelines. If the regulatory-defined timelines have elapsed and the supplier has not taken any of following actions; control the cross connection, remove the cross connection or suspends service to the identified connection***, then the supplier is allowing, or permitting, the cross connection to exist and is in violation of Regulation 11.

*** Note to supplier. Before suspension of service can be considered appropriate action the Department expects that the supplier will confirm the following:

- The connection downstream of the valve used to suspend the service does not remain pressurized because the customer has access to an alternative source of water or a storage tank onsite
- If the cross connection is to a fire suppression system; suspension of service would not result in the building being inadequately protected from loss of life through fire. If there are service connections at the property separate from the fire suppression system causing the cross connection, a supplier may suspend service to one or all of those other service lines (e.g. domestic or irrigation) as an appropriate action.
- The supplier may receive a Department approved alternative compliance schedule for identified cross connections that have not been controlled within 120 days. Department-approval of an alternative compliance schedule means either an email or other written communication from the Department. The Department has provided in [APPENDIX C - BPCCC Rule 120-Day Cross-connection Control Extension Application](#) for such request.

- Suppliers must specify the process that the water system will use to require the installation, maintenance, testing, and inspection of all backflow prevention assemblies and backflow prevention methods used to control cross connections. Generally, this is specified in one of the following: local government ordinances, user agreements or the public water system assumes full responsibility.

Sample Backflow Prevention and Cross-connection Control Program

(iii) Identification of Cross Connections and Backflow Prevention Assembly or Backflow Prevention Method Selection

If the supplier discovers an uncontrolled cross connection and believes that a backflow contamination event has not occurred, the supplier must: first determine the type of backflow prevention assembly or backflow prevention method needed to control the cross connection and second install and maintain or require the customer to install and maintain a backflow prevention assembly or backflow prevention method at the uncontrolled cross connection, suspend service to the customer, or remove the cross connection, no later than 120 days after its discovery.

***Note to supplier. Suppliers should include in the written BPCCC program guidelines and criteria used to select the type of backflow prevention assembly or method used to control an identified cross connection. Guidelines and criteria should address examples of cross connections throughout the water systems distribution system along with the corresponding appropriate backflow prevention assembly and or backflow prevention method used to control the identified cross connection. Part 4.3 of SDWP [Policy 7](#) provides various examples of backflow prevention assemblies and methods and when the use of such assemblies and methods may be appropriate.

(v & vi) Tracking & Certified Tester Verification

Suppliers must specify the tracking mechanism it will use to verify the installation, maintenance, testing, and inspection of all backflow prevention assemblies and backflow prevention methods used to control cross connections. This section may include the process the supplier will use to ensure backflow prevention assemblies are tested by a Certified Cross-Connection Control Technician

***Note to supplier. Please provide a tracking spreadsheet or description of program or other method which the supplier is using to verify performance and compliance with Regulation 11.

- i. To be considered adequate, test reports used to document compliance with Regulation 11 must include all of the following:

Assembly or method information:

- a. Assembly or method type;
- b. Assembly or method location;
- c. Assembly make, model and serial number;
- d. Assembly size;
- e. Test date; and,
- f. Test result (pass/fail).

Certified Cross-Connection Control Technician information:

- a. Certified Cross-Connection Control Technician certification agency;
- b. Certification number;
- c. Certification expiration date or statement that certification is current;
- d. As an alternative to a-c, suppliers may provide documentation of an alternative validation process such as electronic login to reporting software where only current, certified cross-connection control technicians (or their companies) are given a login.



ATTACHMENT 5

WATER CONSERVATION PLAN – N/A



A-5

RSI-W0364.21002.001

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ATTACHMENT 6

WRITTEN DELEGATION PLAN OF OPERATOR DUTIES-N/A



A-6

RSI-W0364.21002.001

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ATTACHMENT 7

ANNUAL BUDGET SOURCE DESCRIPTIONS



A-7



RSI-W0364.21002.001



Teller County Water & Sanitation District No. 1 (60011)
Budget for 2022
Final Approved by Board December 8, 2021

Anticipated Resources January 1, 2022

Cash & Savings	\$474,200	1
Accounts Receivable & Prepaid Expenses	\$13,377	2
Less, Current Liabilities	\$11,092	3
Add, Net Fixed Assets	\$1,432,579	4
Total Resources/Fund Balance	\$1,909,064	5

Operating Budget

Operating Revenue	Budget	
4000 Water Sales	\$ 230,000	6
4001 Sewer Sales/Billing	\$ 91,464	7
4008 Late/unpaid balance fees	\$ 600	8
Subtotal Operating Revenue	\$ 322,064	9

Non-Operating Revenue

4002 Tap Fees	\$ -	10
4003 Interest Income	\$ 480	11
4004 Refund of EDB Expenses	\$ -	12
4011 Other Non-Operating Revenues	\$ 1,000	13
Subtotal Non-Operating Revenue	\$ 1,480	14
Total Revenues	\$ 323,544	15

Cost of Sales

500.00 Utilities - electricity & gas	\$ 7,800	16
501.00 System Repairs/Maintenance/Supplies	\$ 26,000	17
502.00 Sewer Disposal Charge (from City)	\$ 91,703	18
503.00 System Operator & Field Staff	\$ 20,000	19
504.00 Locating Contract	\$ 4,000	20
505.00 Regulatory Costs (utility locates, other)	\$ 400	21
506.00 Water testing	\$ 6,000	22
507.00 Software Systems Engineering	\$ 2,500	23
Subtotal Cost of Sales	\$ 158,403	24
Gross Profit	\$ 165,141	25

General & Administrative Expenses

6000 Advertising/Printing/Postage	\$ 500	26
6001 Audit - accounting	\$ 3,500	27
6120 Bank Charges	\$ 250	28
6130 Credit Card Processing Fees	\$ 5,500	29
6160 Dues/Subscriptions	\$ 1,000	30
6200 Directors Compensation	\$ 7,000	31
6300 Election expense	\$ 200	32
6310 Engineering	\$ 10,000	33
6420 Insurance - Prop and Liability	\$ 5,000	34
6430 Insurance Workers Comp	\$ 325	35
6500 Legal Services	\$ 3,000	36
6570 Postage and delivery	\$ 1,500	37
6600 Billing Office Expense	\$ 52,000	38
6605 Meter Reading/Website	\$ 1,600	39
6610 Other G&A	\$ -	40
6640 Trash Removal	\$ 256	41
6500 Miscellaneous expense	\$ -	42
6660 Storage	\$ -	43

Teller County Water & Sanitation District No. 1 (60011)
Budget for 2022
Final Approved by Board December 8, 2021
6800 Capital Improvement Projects

New meter installation & Radium Mitigation	\$ 73,510	44
Total Capital Improvement Projects	\$ 73,510	45
Subtotal G&A	\$ 165,141	46
Total, CoS + G&A	\$ 323,544	47
Total Income (Loss)	\$ -	48

Extraordinary Expenses & Income
 (USDA and Forest Service)

700 EDB Mitigation Expenses

701 System Operator & Staff	\$ 3,024	49
702 System Repairs/Maintenance/Supplies	\$ 35,000	50
703 Water Testing	\$ 925	51
704 Other/Misc	\$ 1,450	52
705 Consulting Fees	\$ 75	53
706 Engineering	\$ -	54
708 Utilities (Elect & Gas)	\$ 2,255	55
700 EDB - Other Expenses	\$ -	56
Total EDB Mitigation Expenses	\$ 42,729	57
Less, US Forest Service EDB Reimbursement	\$ 42,729	58
Net EDB Mitigation Costs	\$ -	59

Non-Operating pass-through activities

4010 Loan repayment fees	\$ 106,272	60
2001 State annual repayment	\$ 104,645	61
Administrative gain to general budget	\$ 1,627	62

Capital Development Activities

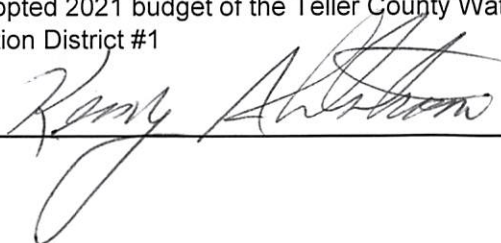
Projects Budget

Radium Mitigation	\$ 600,000	63
Subtotal Projects Budget	\$ 600,000	64
Less Capital Project Reimbursements		
Loan Proceeds	\$ 600,000	65
Subtotal Capital Project Reimbursements	\$ 600,000	66
Net Capital Projects	\$ -	67

Total Resources, Carried Forward plus Revenues	\$ 2,232,608	68
Total Expenses - Operations & Capital Development	\$ 323,544	69
Estimated Resources/Fund Balance, December 31, 2021	\$ 1,909,064	70

Reserve for Emergencies (3 months Op Expenses)	\$ 80,886	71
---	------------------	----

I, Kerry Ahlstrom, certify that this is a true and accurate copy of the adopted 2021 budget of the Teller County Water & Sanitation District #1



BUDGET MESSAGE

(Pursuant to 29-1-103(1)(e), C.R.S.)

Teller County Water & Sanitation District #1

The attached 2022 Budget for Teller County Water & Sanitation District #1, “the District”, includes these important features:

This budget encompasses expected revenues and costs for 2022. The District expects to begin a capital project for radium mitigation. The estimated cost of this project is approximately \$600,000, which will be funded via a State Revolving Fund (SRF) loan. Additionally, EDB expenses (reimbursed annually by the USFS) are projected.

The budgetary basis of accounting timing measurement method used is:

- Cash basis
- Modified accrual basis
- Encumbrance basis
- Accrual

The services to be provided/delivered during the budget year are the following:

The District provides water and sewer services to residential and commercial customers.

RESOLUTION/ORDINANCE TO APPROPRIATE SUMS OF MONEY

(Pursuant to Section 29-1-108, C.R.S.)

A RESOLUTION/AN ORDINANCE APPROPRIATING SUMS OF MONEY TO THE VARIOUS FUNDS AND SPENDING AGENCIES, IN THE AMOUNT AND FOR THE PURPOSE AS SET FORTH BELOW, FOR TELLER COUNTY WATER & SANITATION DISTRICT #1, COLORADO, FOR THE 2022 BUDGET YEAR.

WHEREAS, the Board of Directors has adopted the annual budget in accordance with the Local Government Budget Law, on December 8th, 2021, and;

WHEREAS, the Board of Directors has made provision therein for revenues in an amount equal to or greater than the total proposed expenditures as set forth in said budget, and;

WHEREAS, it is not only required by law, but also necessary to appropriate the revenues and reserves or fund balances provided in the budget to and for the purposes described below, thereby establishing a limitation on expenditures for the Board of Directors operations of Teller County Water & Sanitation District #1.

NOW, THEREFORE, BE IT RESOLVED/ORDAINED BY THE BOARD OF DIRECTORS OF TELLER COUNTY WATER & SANITATION DISTRICT #1, COLORADO:

Section 1. That the following sums are hereby appropriated from the revenue of each fund, to each fund, for purposes stated:

GENERAL FUND:

Current Operating Expenses	\$145,389
Capital Outlay	\$ 73,510
Debt Service	\$104,645
TOTAL GENERAL FUND	\$323,544

ADOPTED THIS 8TH day of December, 2021.

Attest: Fritz Voeltz
Fritz Voeltz, Board President

Attest: Kerry Ahlstrom
Kerry Ahlstrom, Board Treasurer

RESOLUTION/ORDINANCE TO ADOPT BUDGET
(Pursuant to 29-1-108, C.R.S.)

A RESOLUTION/AN ORDINANCE SUMMARIZING EXPENDITURES AND REVENUES FOR EACH FUND AND ADOPTING A BUDGET FOR **TELLER COUNTY WATER & SANITATION DISTRICT #1**

COLORADO, FOR THE CALENDAR YEAR BEGINNING ON THE FIRST DAY OF JANUARY, 2022 AND ENDING ON THE LAST DAY OF DECEMBER, 2022.

WHEREAS, the Board of Directors of Teller County Water & Sanitation District #1 (the District) has appointed Lisa M. Rector CPA PC to prepare and submit a proposed budget to said governing body at the proper time; and WHEREAS, Lisa Rector, CPA, has submitted a proposed budget to this governing body on November, 10, 2021 for its consideration, and;

WHEREAS, upon due and proper notice, published or posted in accordance with the law, said proposed budget was open for inspection by the public on the Teller County Water & Sanitation District #1 website and at the water treatment plant, a public hearing was held on December 8, 2021, and interested taxpayers were given the opportunity to file or register any objections to said proposed budget, and;

WHEREAS, whatever increases may have been made in the expenditures, like increases were added to the revenues or planned to be expended from reserves/fund balances so that the budget remains in balance, as required by law.

NOW, THEREFORE, BE IT RESOLVED BY THE of the Board of Directors of Teller County Water & Sanitation District #1, Colorado:

Section 1. That the budget as submitted, amended, and summarized by fund, hereby is approved and adopted as the budget Teller County Water & Sanitation District #1 for the year stated above.

Section 2. That the budget hereby approved and adopted shall be signed by the Board President and Board Treasurer and made part of the public records of the District.

Adopted this 8th day of December 2021

Attest: 
Fritz Voeltz, Board President

Attest: 
Kerry Ahlstrom, Board Treasurer

Teller County Water & Sanitation District #1
Revenue & Expenditure Summary: Proprietary Fund

Revenue	Actual 2020	Adopted Budget 2021	Year-End Projection 2021	FINAL Budget 2022
Cash Balance				
BEGINNING of Year Jan 1	\$ 290,991	\$ 406,566	\$ 406,566	\$ 474,200
Operating Revenue				
Water Sales	240,901	230,000	240,810	230,000
Sewer Sales	89,064	91,908	91,441	91,464
Tap Fees	7,589	-	-	-
Late Fees	1,435	2,582	594	600
Total Operating Revenue	338,989	324,490	332,845	322,064
Non-Operating Revenue				
Interest Income	456	480	578	480
EDB Refund	8,450	7,724	7,221	42,729
Loan Repayment Fee	106,236	106,272	106,128	106,272
Account Transfer Fee	612	1,000	578	1,000
Total Non-Operating Revenue	115,754	115,476	114,505	150,481
Total Revenue	\$ 454,743	\$ 439,966	\$ 447,350	\$ 472,545
Expenditure				
Operating Expense				
Utilities–Electric/Gas	7,001	7,800	7,358	7,800
System Repair/Maintenance	16,430	46,843	14,310	26,000
Sewer Disposal Charge	87,160	89,562	89,194	91,703
System Operator & Field Staff	20,234	20,000	15,846	20,000
Locate Contract	3,265	2,400	3,535	4,000
Regulatory Costs	308	350	282	400
Water Testing	2,745	5,000	4,766	6,000
Software System Engineering	-	-	1,375	2,500
Total Operating Expense	\$ 137,143	\$ 171,955	\$ 136,666	\$ 158,403

Teller County Water & Sanitation District #1
Revenue & Expenditure Summary: Proprietary Fund

Expenditure	Actual 2020	Adopted Budget 2021	Year-End Projection 2021	FINAL Budget 2022
Non-Operating Expense				
Advertising/Printing	699	-	86	500
Auditing/Accounting	2,800	3,500	2,950	3,500
Bank Charges	2,745	65	65	250
Credit Card Processing	3,248	4,500	4,947	5,500
Dues & Subscriptions	863	750	719	1,000
Director's Compensation	6,600	6,000	6,100	7,000
Engineering Expense	-	-	16,750	10,000
Election Expense	35	-	-	200
Insurance - Property & Liability	3,993	4,920	4,243	5,000
Insurance - Workers Comp	234	325	151	325
Legal Fees	-	3,000	-	3,000
Postage & Delivery	1,313	1,400	1,338	1,500
Billing Office Expense	64,721	50,400	49,736	52,000
Meter Readings/Website	1,464	1,538	1,062	1,600
Trash Removal	215	256	215	256
Debt Service (Int & Princ)	104,645	104,645	104,645	104,645
Capital Expenditures	-	70,264	42,822	73,510
EDB Expenses				
EDB System Operator	3,774	3,024	3,024	3,024
EDB Repairs & Maint	-	-	-	35,000
EDB Water Testing	767	923	860	925
EDB Other/Misc.	2,019	1,450	1,465	1,450
EDB Consulting Fees	-	72	-	75
EDB Utilities	1,890	2,255	1,872	2,255
Total Non-Operating Expense	\$ 202,025	\$ 259,287	\$ 243,050	\$ 312,515
Summary				
		Adopted Budget 2021	Year-End Projection 2021	FINAL Budget 2022
Total				
Revenue	454,743	439,966	447,350	472,545
Expenditures	339,168	431,242	379,716	470,918
Excess	\$ 115,575.00	\$ 8,724.00	\$ 67,634.00	\$ 1,627.00
Cash Balance				
END of Year Dec 31	\$ 406,566	\$ 415,290	\$ 474,200	\$ 475,827



ATTACHMENT 8

20-YEAR CASH FLOW PROJECTION



A-8



RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC



Teller County Water & Sanitation District #1
20 Year Cash Flow Projection

CASH FLOWS FROM OPERATING ACTIVITIES	2022	2023	2024	2025	2026	2027	2028	2029
Cash Received from Customers & Users	\$ 332,064	\$ 346,838	\$ 362,296	\$ 373,165	\$ 384,360	\$ 395,891	\$ 407,767	\$ 420,000
Cash Paid to Suppliers & Lenders								
Suppliers	(223,161)	(232,087)	(241,371)	(251,026)	(261,067)	(271,509)	(282,370)	(293,665)
Lender (Existing Loan)	(18,455)	(16,723)	(14,955)	(13,153)	(11,314)	(9,438)	(7,524)	(5,572)
Lender (SRF Loan)	(6,000)	(11,631)	(11,130)	(10,619)	(10,097)	(9,566)	(9,024)	(8,471)
Net Cash Provided by Operating Activities	84,448	86,397	94,840	98,367	101,882	105,377	108,849	112,293
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	2022	2023	2024	2025	2026	2027	2028	2029
SRF Loan	600,000	-	-	-	-	-	-	-
Purchase of Capital Assets								
Radium Mitigation	(600,000)							
Misc Capital Costs	(500)	(520)	(541)	(562)	(585)	(608)	(633)	(658)
1-5 Year Capital Costs	(25,500)	(69,000)	(16,000)					
5-10 Year Capital Costs						(75,000)	(35,000)	(28,000)
10 - 20 Year Capital Costs								
Net Cash Used by Capital and Related Financing Activities	(26,000)	(69,520)	(16,541)	(562)	(585)	(75,608)	(35,633)	(28,658)
CASH FLOWS FROM NON-OPERATING ACTIVITIES	2022	2023	2024	2025	2026	2027	2028	2029
Interest Received	607	637	669	703	738	775	813	854
Loan Repayment Fee	106,272	106,272	106,272	106,272	106,272	106,272	106,272	106,272
Cash Paid to Reduce Debt (Existing Loan)	(86,190)	(87,923)	(89,690)	(91,493)	(93,332)	(95,208)	(97,122)	(99,074)
Cash Paid to Reduce Debt (SRF Loan)	(12,273)	(24,916)	(25,417)	(25,928)	(26,449)	(26,981)	(27,523)	(28,076)
EDB Mitigation Expense Recovery	7,222	42,729	53,038	8,360	8,778	9,217	9,678	10,162
EDB Mitigation Expense	(42,729)	(53,038)	(8,360)	(8,778)	(9,217)	(9,678)	(10,162)	(10,670)
Net Cash Used by Non-Operating Activities	(27,091)	(16,239)	36,512	(10,864)	(13,210)	(15,603)	(18,044)	(20,532)
CASH	2022	2023	2024	2025	2026	2027	2028	2029
Beginning of Year	474,200	505,557	506,195	621,006	707,946	796,033	810,199	865,372
End of Year	\$ 505,557	\$ 506,195	\$ 621,006	\$ 707,946	\$ 796,033	\$ 810,199	\$ 865,372	\$ 928,475
Increase/(Decrease)	31,357	638	114,811	86,940	88,087	14,166	55,173	63,103

Teller County Water & Sanitation District #1
20 Year Cash Flow Projection

CASH FLOWS FROM OPERATING ACTIVITIES	2030	2031	2032	2033	2034	2035	2036
Cash Received from Customers & Users	\$ 432,600	\$ 445,578	\$ 458,946	\$ 472,714	\$ 486,896	\$ 501,502	\$ 516,547
Cash Paid to Suppliers & Lenders							
Suppliers	(305,411)	(317,628)	(330,333)	(343,546)	(357,288)	(371,579)	(386,443)
Lender (Existing Loan)	(3,580)	(1,549)					
Lender (SRF Loan)	(7,906)	(7,331)	(6,743)	(6,144)	(5,533)	(4,910)	(4,274)
Net Cash Provided by Operating Activities	115,703	119,071	121,870	123,024	124,075	125,013	125,831
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	2030	2031	2032	2033	2034	2035	2036
SRF Loan	-	-	-	-	-	-	-
Purchase of Capital Assets							
Radium Mitigation							
Misc Capital Costs	(684)	(712)	(740)	(770)	(801)	(833)	(866)
1-5 Year Capital Costs							
5-10 Year Capital Costs	(27,000)						
10 - 20 Year Capital Costs			(250,000)	(115,000)	(55,000)		
Net Cash Used by Capital and Related Financing Activities	(27,684)	(712)	(250,740)	(115,770)	(55,801)	(833)	(866)
CASH FLOWS FROM NON-OPERATING ACTIVITIES	2030	2031	2032	2033	2034	2035	2036
Interest Received	897	942	989	1,038	1,090	1,144	1,202
Loan Repayment Fee	106,272	106,272	-	-	-	-	-
Cash Paid to Reduce Debt (Existing Loan)	(101,065)	(103,096)	-	-	-	-	-
Cash Paid to Reduce Debt (SRF Loan)	(28,640)	(29,216)	(29,803)	(30,403)	(31,014)	(31,637)	(32,273)
EDB Mitigation Expense Recovery	10,670	11,203	11,763	12,352	12,969	13,618	14,298
EDB Mitigation Expense	(11,203)	(11,763)	(12,352)	(12,969)	(13,618)	(14,298)	(154,298)
Net Cash Used by Non-Operating Activities	(23,070)	(25,659)	(29,403)	(29,983)	(30,573)	(31,173)	(171,071)
CASH	2030	2031	2032	2033	2034	2035	2036
Beginning of Year	928,475	993,424	1,086,124	927,851	905,123	942,824	1,035,831
End of Year	\$ 993,424	\$ 1,086,124	\$ 927,851	\$ 905,123	\$ 942,824	\$ 1,035,831	\$ 989,725
Increase/(Decrease)	64,949	92,700	(158,273)	(22,728)	37,702	93,007	(46,106)

Teller County Water & Sanitation District #1
20 Year Cash Flow Projection

CASH FLOWS FROM OPERATING ACTIVITIES	2037	2038	2039	2040	2041	2042	Total
Cash Received from Customers & Users	\$ 532,044	\$ 548,005	\$ 564,445	\$ 581,379	\$ 598,820	\$ 616,785	\$ 9,778,643
Cash Paid to Suppliers & Lenders							
Suppliers	(401,900)	(417,976)	(434,695)	(452,083)	(470,167)	(488,973)	(7,134,279)
Lender (Existing Loan)							(102,263)
Lender (SRF Loan)	(3,625)	(2,964)	(2,289)	(1,600)	(896)	(181)	(130,934)
Net Cash Provided by Operating Activities	126,519	127,065	127,461	127,695	127,758	127,630	2,411,167
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	2037	2038	2039	2040	2041	2042	Total
SRF Loan	-	-	-	-	-	-	600,000
Purchase of Capital Assets							
Radium Mitigation							(600,000)
Misc Capital Costs	(900)	(936)	(974)	(1,013)	(1,053)	(1,096)	(15,985)
1-5 Year Capital Costs							(110,500)
5-10 Year Capital Costs							(165,000)
10 - 20 Year Capital Costs							(420,000)
Net Cash Used by Capital and Related Financing Activities	(900)	(936)	(974)	(1,013)	(1,053)	(1,096)	(711,485)
CASH FLOWS FROM NON-OPERATING ACTIVITIES	2037	2038	2039	2040	2041	2042	Total
Interest Received	1,262	1,325	1,391	1,461	1,534	1,610	21,678
Loan Repayment Fee	-	-	-	-	-	-	1,062,720
Cash Paid to Reduce Debt (Existing Loan)	-	-	-	-	-	-	(944,193)
Cash Paid to Reduce Debt (SRF Loan)	(32,922)	(33,583)	(34,258)	(34,947)	(35,649)	(18,092)	(600,000)
EDB Mitigation Expense Recovery	154,298	15,013	15,764	16,552	17,380	18,249	473,313
EDB Mitigation Expense	(15,013)	(15,764)	(16,552)	(17,380)	(18,249)	(19,161)	(485,252)
Net Cash Used by Non-Operating Activities	107,625	(33,009)	(33,655)	(34,314)	(34,984)	(17,394)	(471,734)
CASH	2037	2038	2039	2040	2041	2042	Total
Beginning of Year	989,725	1,222,968	1,316,087	1,408,919	1,501,288	1,593,007	20,138,154
End of Year	\$ 1,222,968	\$ 1,316,087	\$ 1,408,919	\$ 1,501,288	\$ 1,593,007	\$ 1,702,148	\$ 21,366,102
Increase/(Decrease)	233,243	93,119	92,832	92,369	91,720	109,141	1,227,948

Teller County Water & Sanitation District #1
Estimated Operating & Maintenance Costs

1 - 5 Year Capital Costs

Tank Cleaning/Inspection	\$ 3,500
Chlorine Analyzers (Purchase/Install/Program)	14,000
Meters in Water Treatment Plant	14,000
SCADA Upgrades	10,000
Flow Control Valve	5,500
Chemical Feed Pump (Replacement)	7,000
Chemical Feed Tank (Replacement)	1,000
Perimeter Fencing at Water Treatment Plant	55,000
Total 1 - 5 Year Capital Costs	<u>\$ 110,000</u>

1 - 5 Year Reimbursed Costs (EDB)

GAC Exchange	\$ 25,000
GAC Hose Replacement	45,000
Total 1 - 5 Year Reimbursed Costs (EDB)	<u>\$ 70,000</u>

5 - 10 Year Capital Costs

SCADA Software/PLC Upgrades	\$ 75,000
Well Pump/Motor Replacement	28,000
VFD Control Unit x2	27,000
Water Tank Roof (Replacement)	35,000
Total 5 - 10 Year Capital Costs	<u>\$ 165,000</u>

20 Year Capital Costs

Water Meter Replacement	\$ 115,000
Water Main Replacement (Small Laterals)	250,000
Water Tank Liner	55,000
Total 20 Year Capital Costs	<u>\$ 420,000</u>

20 Year Reimbursed Costs (EDB)

GAC Vessel Rehab/Replacement	140,000
Total 20 Year Reimbursed Costs (EDB)	<u>140,000</u>

Teller County Water & Sanitation District #1
Revenue & Expenditure Summary: Proprietary Fund
3 Year Financial Plan

Revenue	2022 Projected	2023 Projected	2024 Projected
Operating Revenue			
Water Sales	240,000	252,000	264,600
Sewer Sales	91,464	94,208	97,034
Tap Fees	-	-	-
Late Fees	600	630	662
Total Operating Revenue	332,064	346,838	362,296

Non-Operating Revenue			
Interest Income	480	504	529
EDB Reimbursement	42,729	53,115	8,360
Loan Repayment Fee	106,272	106,272	106,272
Account Transfer Fee	1,000	1,000	1,000
SRF Loan - 20 yrs @2%	600,000	-	-
Total Non-Operating Revenue	750,481	160,891	116,161

Total Revenue	\$	1,082,545	\$	507,729	\$	478,457
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Expenditure	2022 Projected	2023 Projected	2024 Projected			
Operating Expense						
Utilities—Electric/Gas	7,800	8,190	8,600			
System Repair/Maintenance						
Tank Cleaning & Inspection	3,500	-	-			
Chlorine Analyzers	14,000	-	-			
Chemical Feed Pumps & Tank	8,000	-	-			
Meters in Water Treatment Plant	-	14,000	-			
SCADA Upgrades	-	-	10,000			
Flow Control Valve	-	-	5,500			
Fencing at Water Treatment Plant		55,000				
Miscellaneous	500	6,240	6,749			
Sewer Disposal Charge	91,703	94,913	98,235			
System Operator & Field Staff	20,000	21,000	22,050			
Locate Contract	4,000	4,200	4,410			
Regulatory Costs	400	420	441			
Water Testing	6,000	6,300	4,766			
Software System Engineering	2,500	2,625	4,766			
Total Operating Expense	\$	158,403	\$	212,888	\$	165,516

Teller County Water & Sanitation District #1
Revenue & Expenditure Summary: Proprietary Fund
3 Year Financial Plan

Expenditure	2022 Projected	2023 Projected	2024 Projected
Non-Operating Expense			
Advertising/Printing	500	520	541
Auditing/Accounting	3,500	3,640	3,786
Bank Charges	250	260	270
Credit Card Processing	5,500	5,720	5,949
Dues & Subscriptions	1,000	1,040	1,082
Director's Compensation	7,000	7,280	7,571
Engineering Expense	10,000	10,400	10,816
Election Expense	200	208	216
Insurance - Property & Liability	5,000	5,200	5,408
Insurance - Workers Comp	325	338	352
Legal Fees	3,000	3,120	3,245
Postage & Delivery	1,500	1,560	1,622
Billing Office Expense	52,000	54,080	56,243
Meter Readings/Website	1,600	1,664	1,731
Trash Removal	256	266	277
Debt Service (Int & Princ)	104,645	104,645	104,645
SRF 2022 Debt Service (Int & Princ)	18,273	36,547	36,547
Capital Expenditures			
Radium Mitigation	600,000	-	-
EDB Expenses			
EDB System Operator	3,024	3,145	3,271
EDB Repairs & Maint	-	-	-
GAC Exchange	35,000	-	-
GAC Hose Replacement	-	45,000	-
EDB Water Testing	925	962	1,000
EDB Other/Misc.	1,450	1,508	1,568
EDB Consulting Fees	75	78	81
EDB Utilities	2,255	2,345	2,439
Total Non-Operating Expense	\$ 857,278	\$ 289,526	\$ 248,660

Summary	2022 Projected	2023 Projected	2024 Projected
Total			
Revenue	1,082,545	507,729	478,457
Expenditures	1,015,681	502,414	414,176
Excess	\$ 66,864	\$ 5,315	\$ 64,281



ATTACHMENT 9

AUDIT EXEMPTION



A-9



RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC





OFFICE OF THE STATE AUDITOR • LOCAL GOVERNMENT AUDIT DIVISION
KERRI L. HUNTER, CPA • STATE AUDITOR

July 13, 2021

Board Of Directors
Teller County Water And Sanitation District No. 1
212 S. Chesnut St.
Woodland Park, CO 80866

RE: 2954.00

To Whom it May Concern:

We have reviewed the *Application for Exemption from Audit* of the Teller County Water And Sanitation District No. 1. Based on our review, the application for the year ended 12/31/2020 is approved.

If we may be of any assistance to you, please feel free to call us at 303-869-3000. For further resources see our web site at: www.colorado.gov/auditor

Sincerely,

Crystal L. Dorsey, CPA
Local Government Audit Manager



ATTACHMENT 10

LIABILITY INSURANCE



A-10



RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/12/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER F&W Insurance Assoc 10901 West 120th Ave Suite 100 Broomfield CO 80021		CONTACT NAME: PHONE (A/C, No, Ext): 303-444-4666 FAX (A/C, No): 303-444-8481 E-MAIL ADDRESS:	
		INSURER(S) AFFORDING COVERAGE	
		INSURER A: Pinnacol Assurance Company	NAIC # 41190
INSURED Teller Cty Water/San Dist #1 PO Box 578 Woodland Park CO 80866		INSURER B: National Union Fire Insurance Company of Pittsburg	19445
		INSURER C:	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES

CERTIFICATE NUMBER: 328852160

REVISION NUMBER:

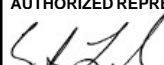
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			GPNUFP002679001000	12/17/2021	12/17/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 3,000,000 PRODUCTS - COMP/OP AGG \$ 3,000,000 \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			4025766	1/1/2022	1/1/2023	<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 100,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
B	Property Crime			GPNUFP002679001000	12/17/2021	12/17/2022	Blanket Building & BPP \$1,383,613 Employee theft \$10,000 Deductible \$1,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Position Bond - \$15,000; Treasurer (1) @ \$10,000, Board Members (5) @ \$1,000 each

CERTIFICATE HOLDER**CANCELLATION**

Informational Purposes PO Box 578 Woodland Park CO 80866	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	--

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ATTACHMENT 11

ADDITIONAL WATER SOURCE DESCRIPTIONS — N/A



A-11

RSI-W0364.21002.001





ATTACHMENT 12

EXISTING WATER RIGHTS



A-12



RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC



MacDOUGALL & WOLDRIDGE, P.C.
1586 S. 21st Street, Suite 200
Colorado Springs, CO 80904

jwoldridge@waterlaw.tv

Julianne M. Woldridge

Telephone
(719) 520-9288

September 4, 2018

Teller County Water & Sanitation Dist. No. 1
P.O. Box 578
Woodland Park, CO 80866

Re: City of Woodland Park

Ladies and Gentlemen:

Pursuant to the Stipulations between the City of Woodland Park and Teller County Water & Sanitation District No. 1 dated 9/22/2003 in Case Nos. 02CW253 and 02CW254, on behalf of the City of Woodland Park I am providing you with a copy of a water court application for diligence findings and to make absolute in part some water rights, copy enclosed.

If you have any questions, please feel free to contact me or Kip Wiley of Woodland Park.

Sincerely,



For the firm

JMW
Enc.
C: Kip Wiley

DATE FILED: August 31, 2018 11:33 AM
FILING ID: 96DA678B98028
CASE NUMBER: 2018CW3139

District Court, Water Division No. 1, Colorado Court Address: 901 9 th Ave. P.O. Box 2038 Greeley, CO 80631	
CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE CITY OF WOODLAND PARK In the South Platte River or its Tributaries IN TELLER COUNTY	COURT USE ONLY
Attorneys for Applicant: MacDougall & Woldridge, P.C. Julianne M. Woldridge, # 17772 1582 So. 21 st St., Suite 200 Colorado Springs, CO 80904 Phone No. (719) 520-9288 Email: jwoldridge@waterlaw.tv	Case Number: _____ (02CW253)
APPLICATION FOR FINDINGS OF REASONABLE DILIGENCE AND TO MAKE ABSOLUTE IN PART	

1. Name, address, and telephone number of applicant: the City of Woodland Park, CO, 220 W. South Ave., P.O. Box 9007, Woodland Park, CO 80866, (719) 687-5212.

2. Names of structures and description of conditional water rights: The following conditional water rights were confirmed in Case No. 02CW253 on August 8, 2012 for municipal, irrigation, domestic, commercial and industrial purposes within the City's municipal water service area, generally described as Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 23, 24, 25, and 26, T.12S. R.69W, 6th P.M. and Sections 6, 7, 18, 19, 30, and 31, T.12S. R.68W., 6th P.M., and as such service area may expand in the future:

a. the following underground water rights, tributary to Trout Creek, a tributary of the South Platte River:

1). Reserve Well #2 (Permit No. 214746): location: SW1/4NW1/4, Sec. 12, T.12S., R.69W., 6th P.M., 3,060 feet from the South section line and 727 feet from the West section line; amount: 0.1 c.f.s., conditional; appropriation date: December 17, 1998; approximate depth 652 feet;

2). Golf Course Hole #11 (Permit No. 62681-F): location: SW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 2,163 feet from the North section line and 2,455 feet from the East section line; amount: 0.25 c.f.s., conditional; appropriation date: September 19, 2002; approximate depth 60 feet;

3). Lucky Lady No. 5 (no permit): location: SW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 2,503 feet from the North section line and 1,782 feet from the East section line; amount: 0.25 c.f.s, conditional; appropriation date: September 19, 2002;

4). Lucky Lady No. 6 (no permit): location: SW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 2,328 feet from the North section line and 1,760 feet from the East section line; amount: 0.25 c.f.s., conditional; appropriation date: September 19, 2002;

5). Lucky Lady No. 7 (no permit): location: SW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 2,238 feet from the North section line and 1,742 feet from the East section line; amount: 0.25 c.f.s., conditional; appropriation date: September 19, 2002;

6). Golf Course No. 1 (no permit): location: NW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 740 feet from the North section line and 2,325 feet from the East section line; amount: 0.25 c.f.s., conditional; appropriation date: September 19, 2002;

7). Golf Course No. 2 (Permit No. 247307): location: NW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., 660 feet from the North section line and 2,505 feet from the East section line; amount: 0.25 c.f.s., conditional; appropriation date: September 19, 2002; approximate depth 50 feet;

b. The following surface water rights:

1). Trout Creek Surface Diversion No. 1: location: SW1/4NE1/4, Sec. 11, T.12S., R.69W., 6th P.M., approximately 2,610 feet from the North section line and approximately 1,990 feet from the East section line; amount: 0.50 c.f.s.,

conditional; source: Trout Creek, a tributary of the South Platte River;
appropriation date: October 3, 2002;

2). Trout Creek Surface Diversion No. 2: location: SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 2, T.12S.,
R.69W., 6th P.M., approximately 257 feet from the South section line and 2,183
feet from the West section line; amount: 1.5 c.f.s., conditional; source: Trout
Creek, a tributary of the South Platte River; appropriation date: October 31,
2002;

3). Mule Creek Surface Diversion No. 1: location: SE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 3, T.12S.,
R.69W., 6th P.M., approximately 20 feet from the South section line and
approximately 180 feet from the East section line; amount: 0.40 c.f.s., conditional;
source: Mule Creek, a tributary of Trout Creek, a tributary of the South Platte
River; appropriation date: October 3, 2002;

4). Mule Creek Surface Diversion No. 2: location: NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 3, T.12S.,
R.69W., 6th P.M., approximately 2,100 feet from the South section line and
approximately 180 feet from the East section line; amount: 0.40 c.f.s., conditional;
source: Mule Creek, a tributary of Trout Creek, a tributary of the South Platte
River; appropriation date: October 3, 2002;

c. The following water storage rights:

1). North Water Storage Pond No. 1: location: SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 2, T.12S.,
R.69W., 6th P.M. (off stream); amount: 20 acre-feet, fill and refill, conditional;
source: Trout Creek, a tributary of the South Platte River via the Trout Creek
Surface Diversion No. 2 described above or fully consumable wastewater effluent
exchanged from applicant's Woodland Park Wastewater Treatment Plant outfall
in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 2, T.12S., R.69W., 6th P.M. through a separately applied
for exchange; appropriation date: October 31, 2002; berm height: 0-20 feet;
berm length: 570 feet; current active capacity: 20 a.f.; and

2). North Water Storage Pond No. 2: location: SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 2, T.12S.,
R.69W., 6th P.M. (off stream); amount: 20 acre-feet, fill and refill, conditional;
source: Trout Creek, a tributary of the South Platte River via the Trout Creek
Surface Diversion No. 2 described above or fully consumable wastewater effluent
exchanged from applicant's Woodland Park Wastewater Treatment Plant outfall

in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 2, T.12S., R.69W., 6th P.M. through a separately applied for exchange; appropriation date: October 31, 2002; berm height: 0-25 feet; berm length: 950 feet; current active capacity: 20 a.f.

3. Applicant seeks a determination that 0.16 c.f.s. of the Golf Course Hole #11 water right and 1.15 a.f. of the North Water Storage Pond No. 2 storage have been made absolute. The Golf Course Hole #11 water right was diverted in varying amounts in every month of the diligence period through June of 2018, with the maximum diversion rate of 0.16 c.f.s. in August of 2015. Water was stored in the North Water Storage Pond No. 2 in several months of the diligence period, with the maximum amount stored of 1.15 a.f. in October of 2015. The water diverted and the water stored was placed to beneficial use in Applicant's municipal water system service area for municipal, domestic, irrigation, commercial, and industrial uses. Out-of-priority diversions were augmented pursuant to the augmentation plan decreed in Case No. 02CW254. Summaries of diversions for the water rights are attached as Exhibit A.
4. Applicant seeks findings that it has been reasonably diligent toward or for completion of these conditional appropriations and application of the water to beneficial uses as decreed. These water rights are part of Applicant's unified and integrated water supply system and Applicant continues to include these water rights in its water supply plan. Activities related to the unified system are evidence of diligent efforts on behalf of each individual water right, and during the diligence period included maintenance and diversion and use of existing water supplies and associated structures, operation of the augmentation plans approved in Case Nos. 86CW376 and 02CW254, prosecution of applications in Case Nos. 11CW217 and 17CW3157 to make absolute and for findings of diligence for other water rights within the City's system, securing augmentation water supplies, and monitoring water court applications that could adversely affect Applicant's water rights. Since the entry of the decree in Case No. 02CW253 and including the diligence period to date Applicant has and continues to maintain those structures identified as Reserve Well #2, Golf Course Hole #11, Golf Course No. 2, Mule Creek Surface Diversion Nos. 1 and 2, and North Water Storage Pond Nos. 1 and 2. The remaining structures have not yet been constructed. Since August 2012, Applicant expended approximately \$3,400.00 for standard operation of these existing structures including for electricity and operation. From January 2012 to date, Applicant expended approximately \$11,263,600.00 in connection with operation and maintenance of its integrated water system.
5. Names and addresses of owners of land upon which the diversion or storage structures are or will be constructed: Applicant and the following:

Application for Findings of Reasonable Diligence and To Make Absolute in Part
City of Woodland Park
Page 5 of 6

Shining Mountain Enterprises
565 N Magnolia Ave
El Cajon, CA 92020-3608

Reserve Homeowners Association
P.O. Box 7003
Woodland Park, CO 80866

Applicant requests a determination that 0.16 c.f.s. of the Golf Course Hole #11 water right and 1.15 a.f. of the North Water Storage Pond No. 2 storage right are absolute, and findings that it has exercised reasonable diligence in the development and completion of the remaining conditional water rights and continuing them in full force and effect.

Dated: August 31, 2018.

MacDougall & Woldridge, P.C.



By: _____
Julianne M. Woldridge, # 17772
Counsel for Applicant

Exhibit A - diversions and storage

GOLF COURSE HOLE 11	2012	2013	2014	2015	2016	2017	2018
January		8.80	8.91	9.09	8.86	6.95	6.18
February		7.83	8.05	8.12	8.15	6.21	7.10
March		8.77	7.87	8.84	8.70	6.96	7.99
April		8.66	6.44	8.88	8.88	5.86	7.64
May		8.33	9.15	9.28	8.40	6.14	5.05
June		8.96	8.26	8.73	7.74	6.51	3.39
July		9.12	9.10	9.21	8.04	6.87	0.00
August	9.31	8.38	9.29	9.62	8.17	5.79	
September	9.02	9.05	8.72	9.26	6.69	0.32	
October	8.99	9.36	8.97	9.11	5.88	4.16	
November	8.56	9.10	8.77	8.37	7.05	7.88	
December	8.80	9.11	9.11	8.91	6.86	7.59	
TOTALS	44.68	105.47	102.64	107.34	93.05	71.24	37.35

DATE FILED: August 31, 2018 11:33 AM
 FILING ID: 96DA876898028
 CASE NUMBER: 2018CW3139

	<u>AF</u>	<u>GPD</u>	<u>GPM</u>	<u>cfs</u>
Aug-12	9.31	97860.42	67.96	0.15 cfs
Sep-12	9.02	97972.53	68.04	0.15 cfs
Oct-12	8.99	94496.79	65.62	0.15 cfs
Nov-12	8.56	92976.15	64.57	0.14 cfs
Dec-12	8.80	92499.64	64.24	0.14 cfs
Jan-13	8.80	92499.64	64.24	0.14 cfs
Feb-13	7.83	91121.9	63.28	0.14 cfs
Mar-13	8.77	92184.3	64.02	0.14 cfs
Apr-13	8.66	94062.32	65.32	0.15 cfs
May-13	8.33	87559.32	60.81	0.14 cfs
Jun-13	8.96	97320.83	67.58	0.15 cfs
Jul-13	9.12	95863.26	66.57	0.15 cfs
Aug-13	8.38	91021.05	63.21	0.14 cfs
Sep-13	9.05	98298.39	68.26	0.15 cfs
Oct-13	9.36	98385.98	68.32	0.15 cfs
Nov-13	9.10	98841.47	68.64	0.15 cfs
Dec-13	9.11	95758.15	66.50	0.15 cfs
Jan-14	8.91	93655.88	65.04	0.14 cfs
Feb-14	8.05	93682.16	65.06	0.14 cfs
Mar-14	7.87	82724.11	57.45	0.13 cfs
Apr-14	6.44	69949.35	48.58	0.11 cfs
May-14	9.15	96178.6	66.79	0.15 cfs
Jun-14	8.26	89717.64	62.30	0.14 cfs
Jul-14	9.10	98841.47	68.64	0.15 cfs
Aug-14	9.29	97650.19	67.81	0.15 cfs
Sep-14	8.72	94714.02	65.77	0.15 cfs

Oct-14	8.97	94286.56	65.48	0.15 cfs	
Nov-14	8.77	95257.11	66.15	0.15 cfs	
Dec-14	9.11	95758.15	66.50	0.15 cfs	
Jan-15	9.09	95547.92	66.35	0.15 cfs	
Feb-15	8.12	94496.79	65.62	0.15 cfs	
Mar-15	8.84	92920.09	64.53	0.14 cfs	
Apr-15	8.80	95582.96	66.38	0.15 cfs	
May-15	9.28	97545.07	67.74	0.15 cfs	
Jun-15	8.73	94822.64	65.85	0.15 cfs	
Jul-15	9.21	96809.28	67.23	0.15 cfs	
Aug-15	9.62	101118.92	70.22	0.16 cfs	Highest cfs
Sep-15	9.26	100579.34	69.85	0.16 cfs	Highest cfs
Oct-15	9.11	95758.15	66.50	0.15 cfs	
Nov-15	8.37	90912.43	63.13	0.14 cfs	
Dec-15	8.91	93655.88	65.04	0.14 cfs	
Jan-16	8.86	93130.32	64.67	0.14 cfs	
Feb-16	8.15	94845.92	65.87	0.15 cfs	
Mar-16	8.70	91448.51	63.51	0.14 cfs	
Apr-16	8.51	92433.07	64.19	0.14 cfs	
May-16	8.40	88295.11	61.32	0.14 cfs	
Jun-16	7.74	84069.56	58.38	0.13 cfs	
Jul-16	8.04	84511.03	58.69	0.13 cfs	
Aug-16	8.17	85877.51	59.64	0.13 cfs	
Sep-16	6.69	72664.77	50.46	0.11 cfs	
Oct-16	5.88	61806.58	42.92	0.10 cfs	
Nov-16	7.05	76574.99	53.18	0.12 cfs	
Dec-16	6.86	72107.67	50.07	0.11 cfs	
Jan-17	6.95	73053.69	50.73	0.11 cfs	
Feb-17	6.21	72269.1	50.19	0.11 cfs	
Mar-17	6.96	73158.81	50.80	0.11 cfs	
Apr-17	5.86	63649.56	44.20	0.10 cfs	
May-17	6.14	64539.52	44.82	0.10 cfs	
Jun-17	6.51	70709.67	49.10	0.11 cfs	
Jul-17	6.87	72212.79	50.15	0.11 cfs	
Aug-17	5.79	60860.56	42.26	0.09 cfs	
Sep-17	0.32	3475.74	2.41	0.01 cfs	
Oct-17	4.16	43727.1	30.37	0.07 cfs	
Nov-17	7.88	85590.2	59.44	0.13 cfs	
Dec-17	7.59	79780.94	55.40	0.12 cfs	
Jan-18	6.18	64959.97	45.11	0.10 cfs	
Feb-18	7.10	82626.5	57.38	0.13 cfs	
Mar-18	7.99	83985.47	58.32	0.13 cfs	
Apr-18	7.64	82983.39	57.63	0.13 cfs	
May-18	5.05	53082.18	36.86	0.08 cfs	
Jun-18	3.39	36821.16	25.57	0.06 cfs	
Jul-18	0.00	0	0.00	0	

NORTH WATER STORAGE POND 2

	2012	2013	2014	2015	2016
January		0.00	0.00	0.00	0.00
February		0.00	0.00	0.00	0.00
March		0.00	0.00	0.00	0.00
April		0.00	0.00	0.00	0.00
May		0.00	0.00	0.00	0.00
June		0.00	0.00	0.00	0.00
July		0.90	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00
September	0.80	0.00	0.00	0.00	0.00
October	0.00	0.00	0.39	1.15	0.00
November	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00



ATTACHMENT 13

EXISTIG PROCESS FLOW DIAGRAM



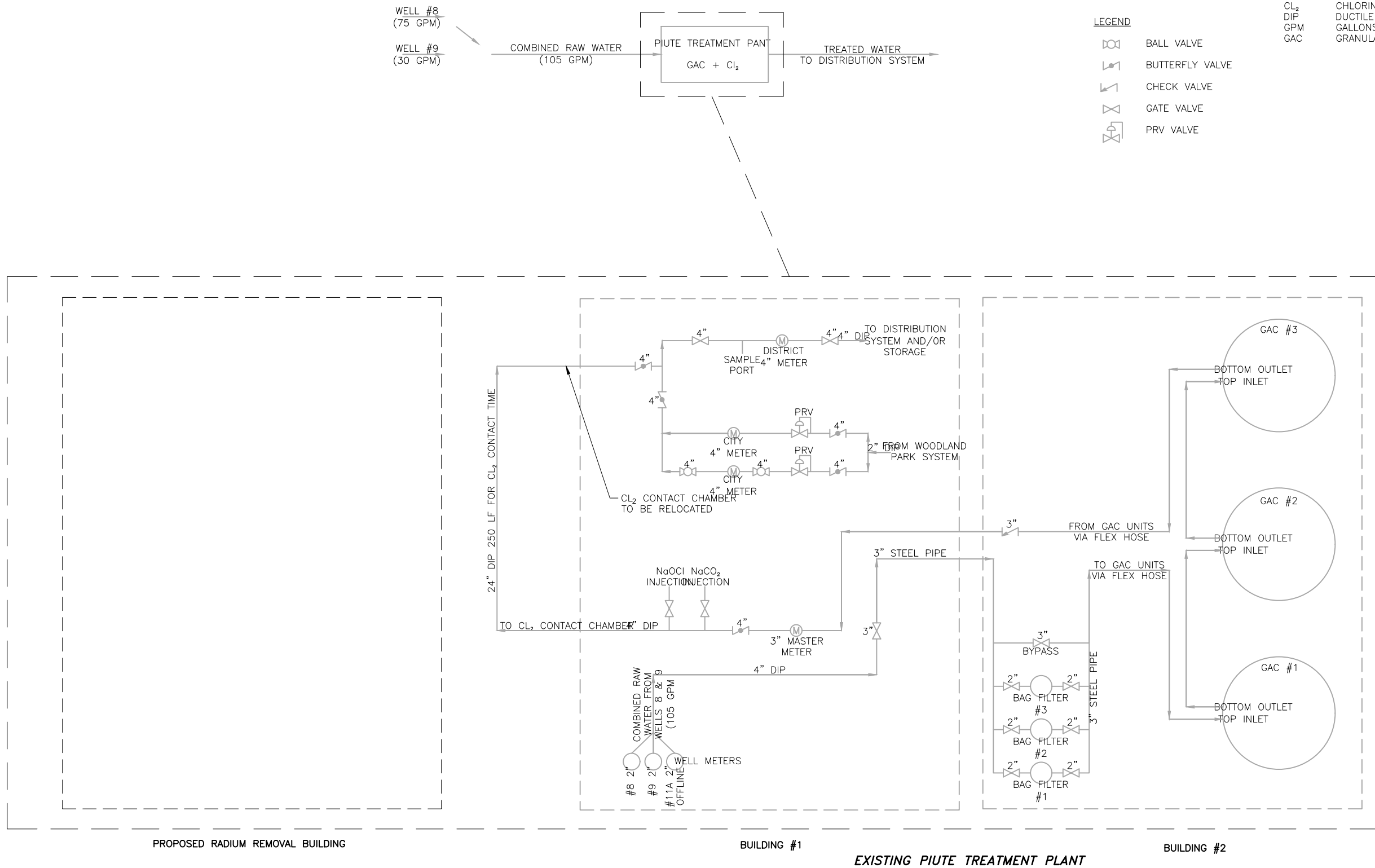
A-13



RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC





PROPOSED RADIUM REMOVAL BUILDING

BUILDING #1

EXISTING PIUTE TREATMENT PLANT

BUILDING #2

NOTE:
 1. ONLY 2 GAC UNITS OPERATE IN SERIES AT ALL TIMES. THE THIRD GAC UNIT WILL REMAIN OFFLINE UNTIL BRAKTHROUGH OCCURS IN THE PRIMARY VESSEL. ONCE BRAKTHROUGH OCCURS, THE SECOND GAC FILTER BECOMES THE PRIMARY UNIT, AND THE THIRD UNIT WILL BE CONNECTED TO THE PRIMARY UNIT, AND THE ORIGINAL UNTIL UNIT WILL BE RACTIVATED AND WILL REMAIN OFFLINE

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				



ATTACHMENT 14

DISCHARGE PERMIT(S) – N/A



A-14



RSI-W0364.21002.001

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A Division of RESPEC Company, LLC





ATTACHMENT 15

PRESSURE MAP – N/A



A-15



RSI-W0364.21002.001

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CONSULTANTS, INC.
A Division of RESPEC Company, LLC





ATTACHMENT 16

PROJECT AREA MAP

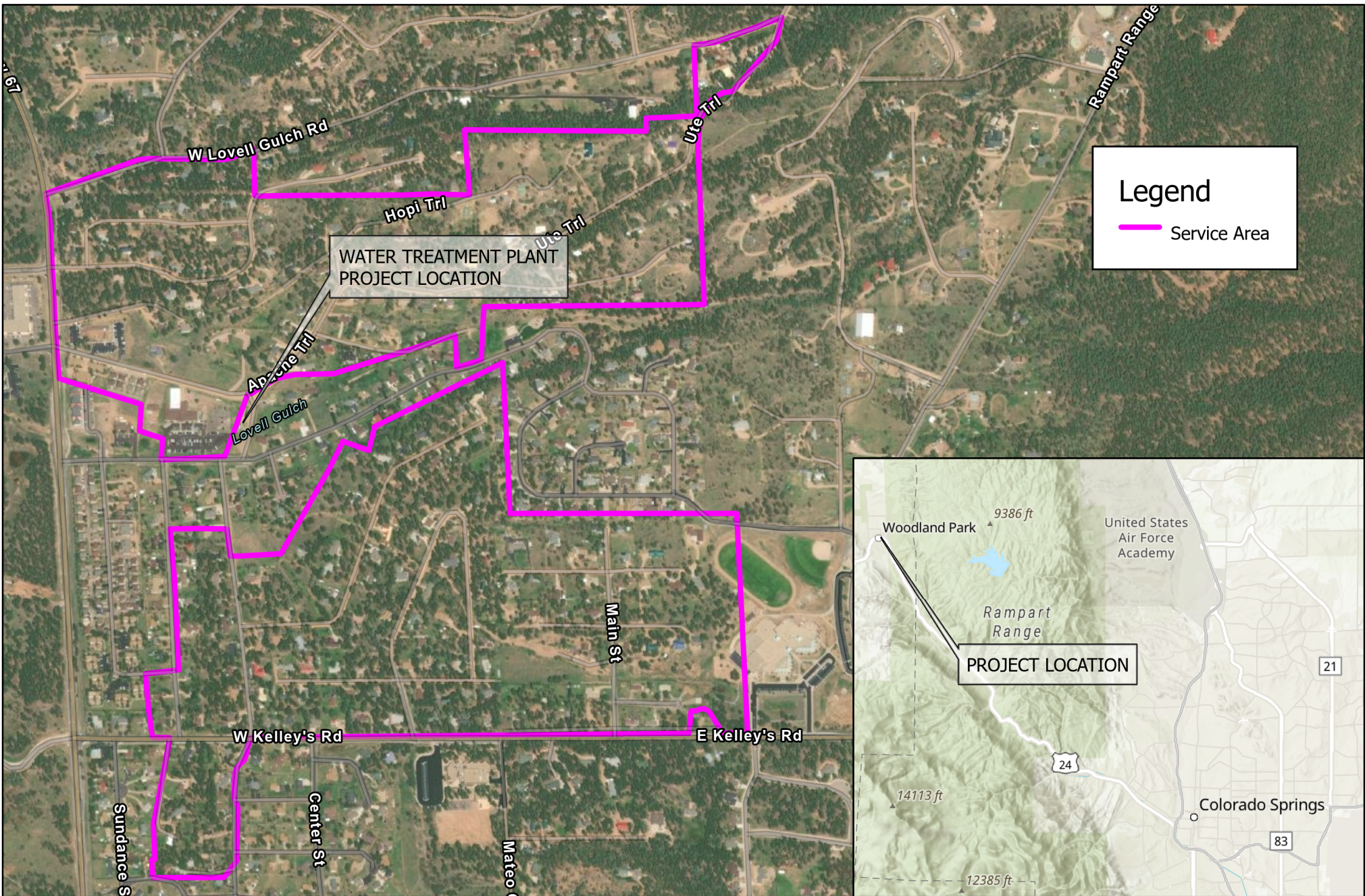


A-16

RSI-W0364.21002.001

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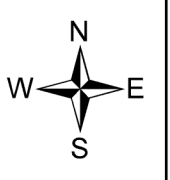
Legend

— Service Area

WATER TREATMENT PLANT
PROJECT LOCATION

PROJECT LOCATION

0 400 800
FEET
Scale: 1" = 800'



TELLER COUNTY WATER AND SANITATION
PROJECT LOCATION
EXHIBIT

JDS-HYDRO
CONSULTANTS, INC.
a Division of RESPEC Company LLC



ATTACHMENT 17

POPULATION AND WATER DEMAND PROJECTIONS



A-17

RSI-W0364.21002.001





ATTACHMENT 18

DOCUMENTATION OF WATER RIGHTS



A-18

RSI-W0364.21002.001

JDS-HYDRO
CONSULTANTS, INC.
A Division of RESPEC Company, LLC





ATTACHMENT 19

ADDITIONAL ALTERNATIVES DESCRIPTION



A-19

RSI-W0364.21002.001



Teller County Water & Sanitation District #1

Alternative 4: Addition of Hydrous Manganese Oxide (HMO) and Filtration

Description: Hydrous Manganese Oxide would be injected after treatment through pressure sand filters for the purpose of radium removal from the source water by adsorbing to the manganese. After contact time between chemical addition and raw water is achieved, the precipitate of radium manganese precipitate is filtered through a back washable sand or engineered media filter. Once the filters are fouled, they would be backwashed into a backwash tank where they would be fed at a controlled rate to the sanitary sewer system or the water treatment residual could be reconcentrated, vacuumed out and hauled to a certified and licensed TENORM landfill facility.

Capital and Operation and Maintenance Costs:

Capital Costs will be significant with this alternative. Due to the limited space in the existing water treatment building, a new structure may need to be constructed to house the chemical addition of HMO as well as the filtration system and backwash tank.

Operation and maintenance costs will be similar to the regenerable ion exchange process as there will be chemical to mix, and a pumping system to maintain. The operator will have more time in the facility than a single use resin.

Advantages and Disadvantages: The advantage of TCWSD#1 installing an HMO system that filters radium/manganese precipitate and then contracts for the water treatment residuals to be hauled to a landfill is that the District has control over their costs to the ability they can negotiate said costs. The disadvantage to TCWSD#1 operating their own radium treatment system is in the additional capital, operation, and maintenance costs. There is always the question of the cost of TENORM disposal and the unknown future costs to do so.

Overall Operation and Maintenance Considerations

TENORM regulation Part 20 will have some effect on water producers and waste receivers. The long term option should consider what operation changes will be required and the system flexibility.



ATTACHMENT 20

PROPOSED PROCESS FLOW DIAGRAM



A-20



RSI-W0364.21002.001

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CONSULTANTS, INC.
A Division of RESPEC Company, LLC

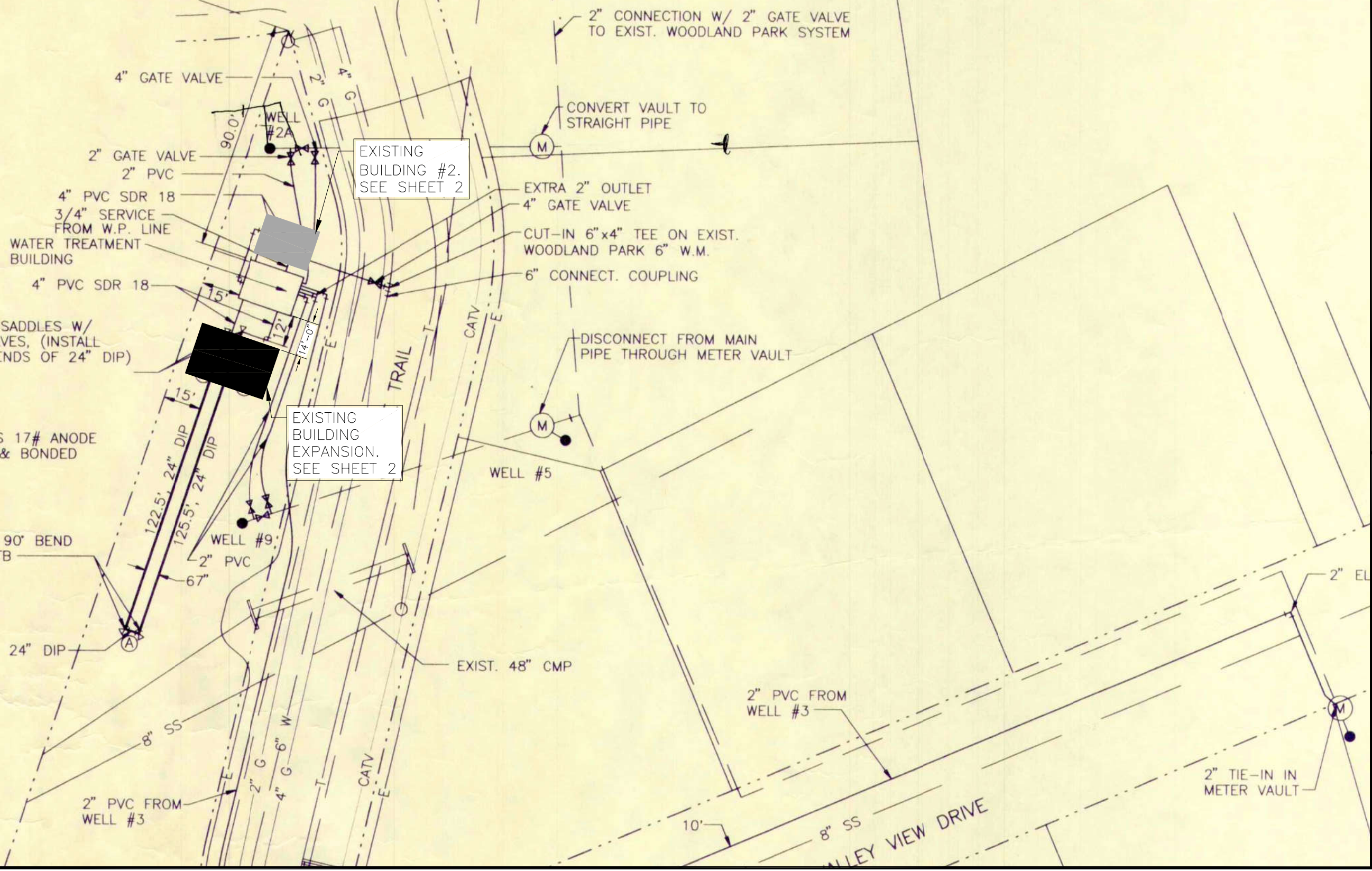


NOTE:
 1. AERIAL IMAGERY IS NOT ACCURATELY SCALED AND SHOULD BE UTILIZED FOR REFERENCE ONLY (SOURCE: THE CITY OF WOODLAND PARK - SITE AND PIPING PLANS, PAINT PONY WATER TREATMENT FACILITY BY KIOWA ENGINEERING DATED 09/28/1993)

SCALE: 1" = 40'



APACHE TRAIL



Ⓐ INDICATES 17# ANODE BAGGED & BONDED

EXISTING BUILDING #2. SEE SHEET 2

EXISTING BUILDING EXPANSION. SEE SHEET 2

JDS-HYDRO CONSULTANTS, INC.
 5540 TECH CENTER DR., SUITE 100
 COLORADO SPRINGS, COLORADO 80919
 (719) 227-0072
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

TELLER COUNTY WSD
 PNA
 SITE PLAN

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

EXHIBIT

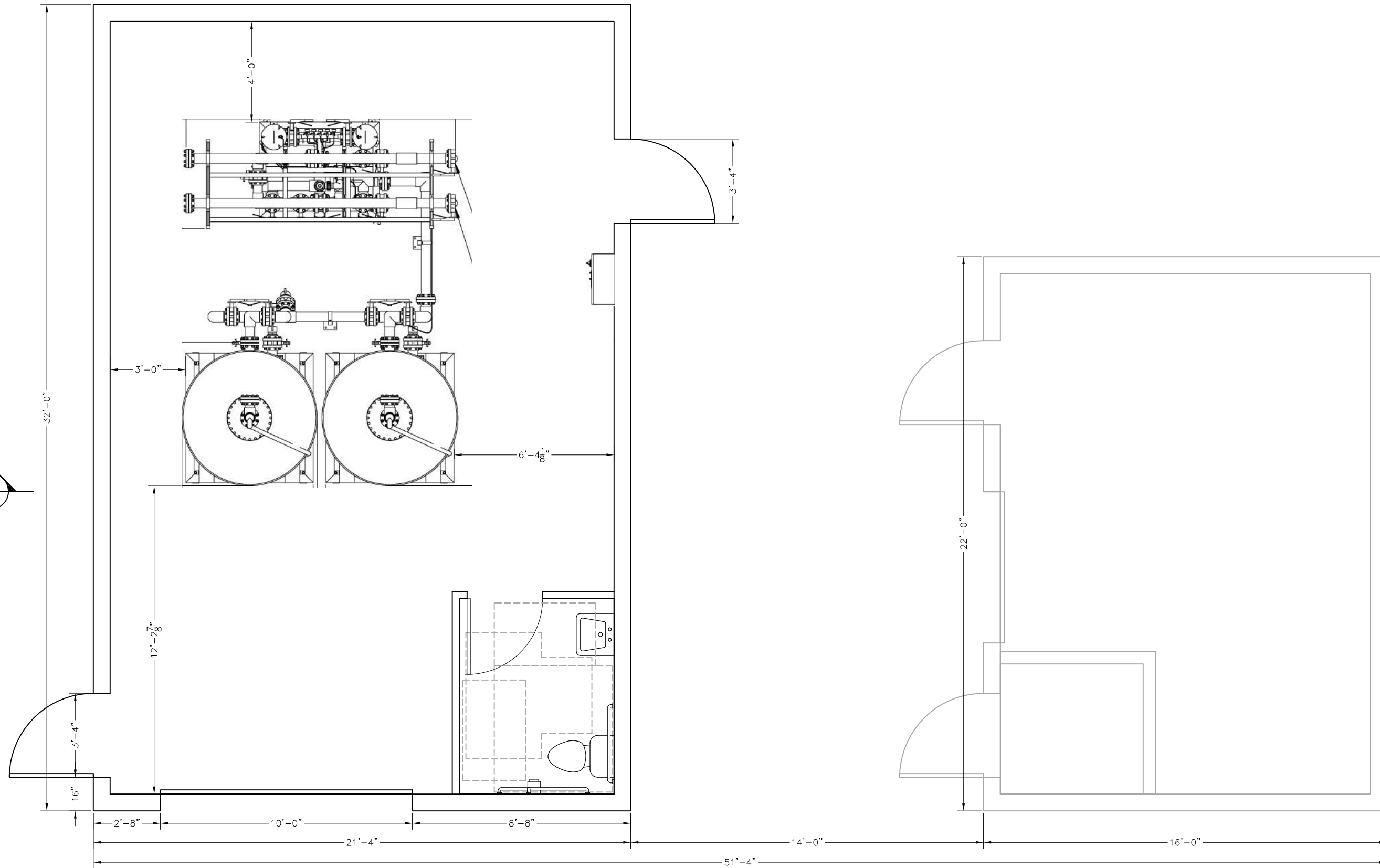
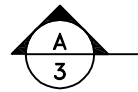
Project No.: 364.02
 Date: 02/04/22
 Design: MDV
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2022/02/04 11:57 AM By: Andrew Hood



EXISTING BUILDING EXPANSION PLAN
SCALE: 1/4"=1'-0"

NOTE:

- TREATMENT SYSTEM IS BASED OFF MANUFACTURER'S DRAWINGS AND MAY NOT BE ACCURATELY SCALED AND IS TO BE USED FOR REFERENCE ONLY.

JDS-HYDRO CONSULTANTS, INC.
5540 TECH CENTER DR., SUITE 100
COLORADO SPRINGS, COLORADO 80919
(719) 227-0072
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

TELLER COUNTY WSD
PNA

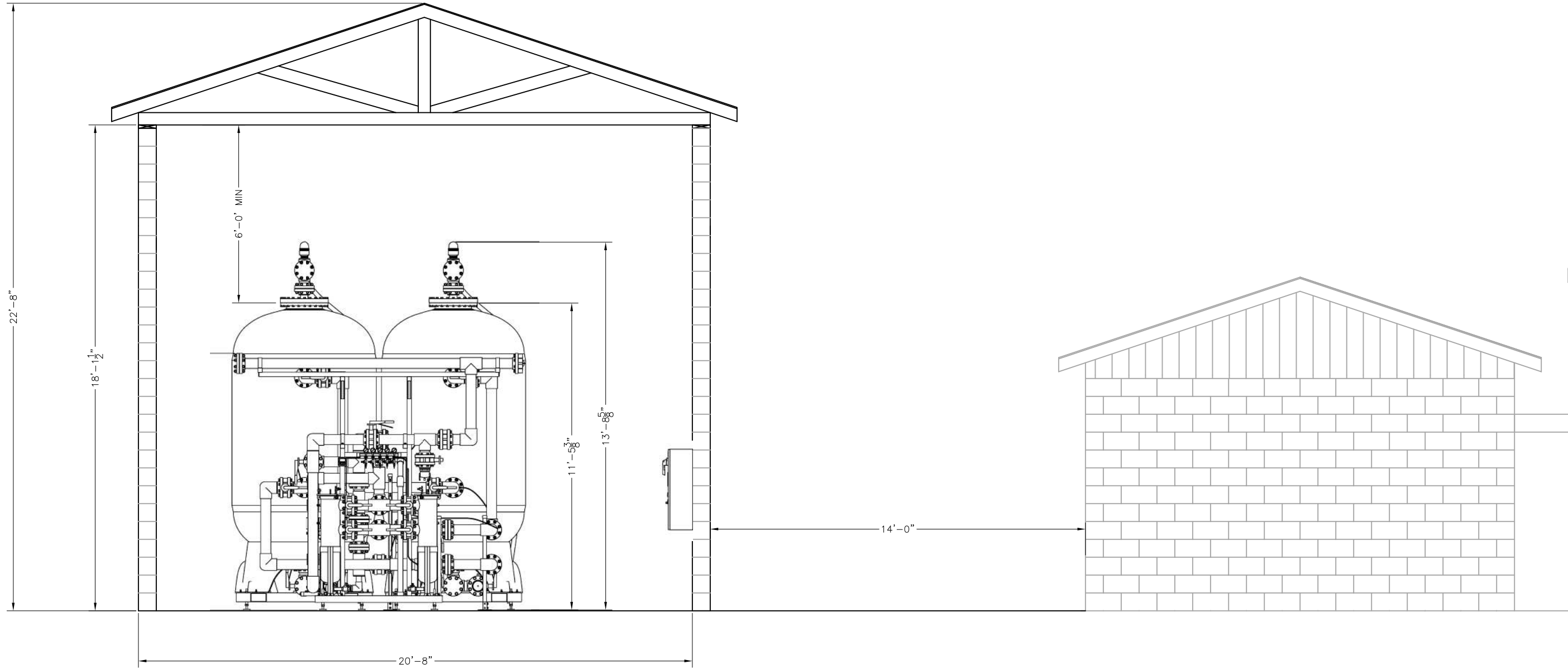
EXISTING BUILDING EXPANSION
OPTION 1 - WRT SINGLE USE EXCHANGE

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Date: 02/04/22
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A
3 BUILDING ADDITION SECTION
SCALE: 1/4"=1'-0"

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TELLER COUNTY WSD
PNA
BUILDING ADDITION SECTION

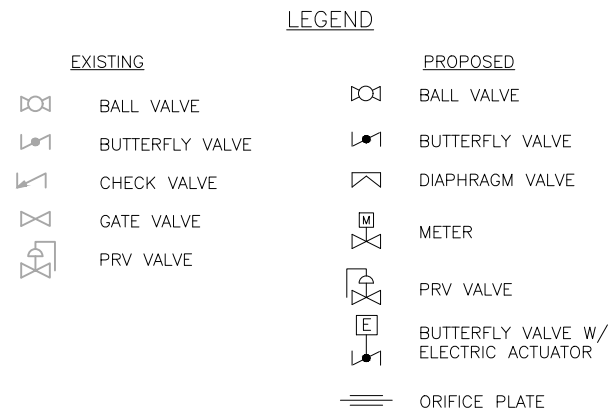
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PRELIMINARY

Project No.: 364.02
Date: 01/31/22
Design: MDV
Drawn: ACH
Check: MDV

3
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2022/03/30 1:10 PM By: Shelby West NA\Projects\364 Teller County WSD\364.02 PNA\Drawings\Working\36402_PFD.dwg



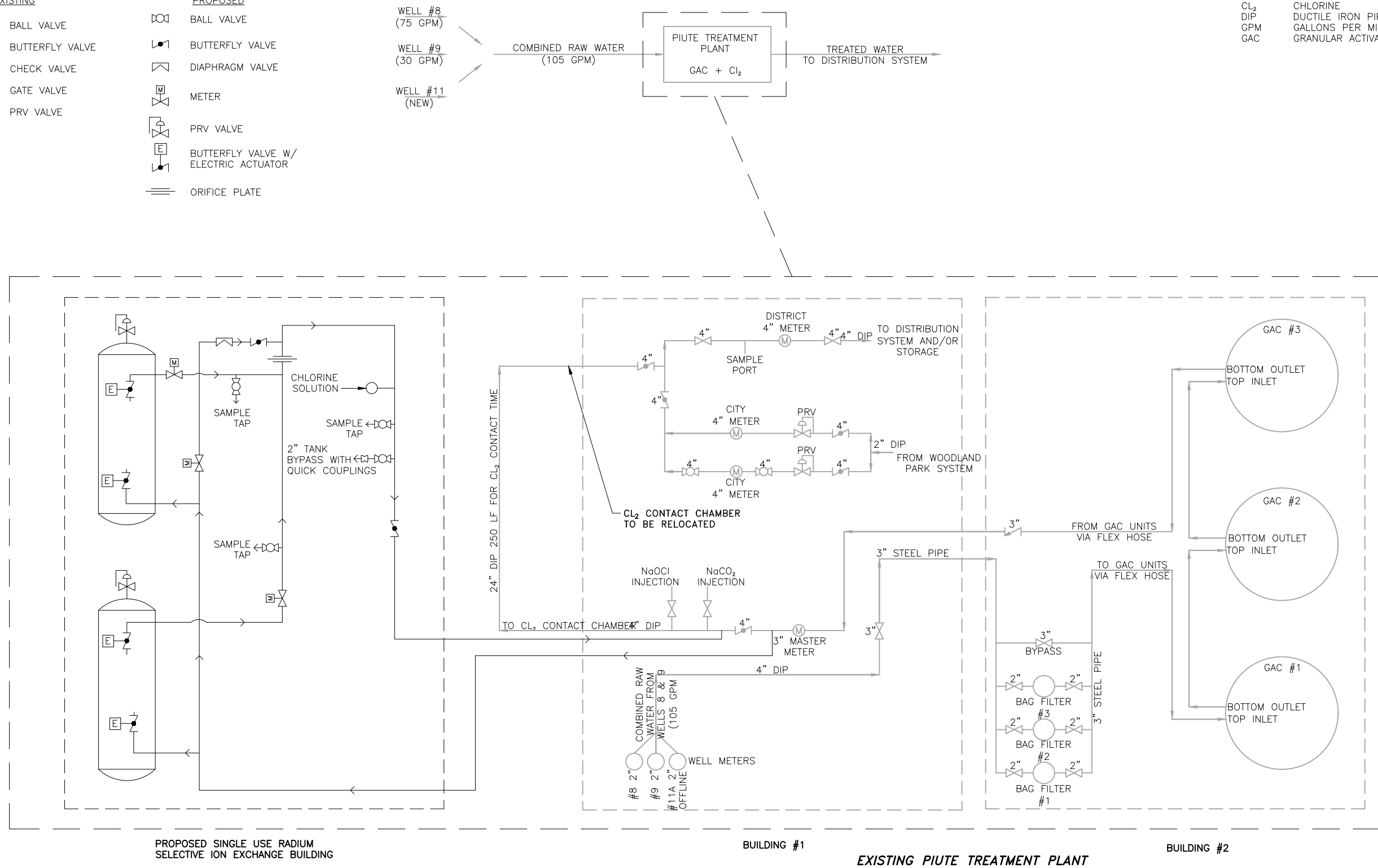
ABBREVIATIONS
 CL₂ CHLORINE
 DIP DUCTILE IRON PIPE
 GPM GALLONS PER MINUTE
 GAC GRANULAR ACTIVATED CARBON

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TELLER COUNTY WSD
 PNA

PROCESS FLOW DIAGRAM



NOTE:
 1. ONLY 2 GAC UNITS OPERATE IN SERIES AT ALL TIMES. THE THIRD GAC UNIT WILL REMAIN OFFLINE UNTIL BRAKTHROUGH OCCURS IN THE PRIMARY VESSEL. ONCE BRAKTHROUGH OCCURS, THE SECOND GAC FILTER BECOMES THE PRIMARY UNIT, AND THE THIRD UNIT WILL BE CONNECTED TO THE PRIMARY UNIT, AND THE ORIGINAL UNIT WILL BE RACTIVATED AND WILL REMAIN OFFLINE

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EXHIBIT

Project No.: 364.02
 Date: 02/04/22
 Design: MDV
 Drawn: ACH
 Check: MDV



ATTACHMENT 21

GREEN BUSINESS CASE – N/A



A-21



RSI-W0364.21002.001

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ATTACHMENT 22

ENVIRONMENTAL CHECKLIST



A-22

RSI-W0364.21002.001

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A Division of RESPEC Company, LLC



ENVIRONMENTAL CHECKLIST

Use the Discussion and References space at the end of each section to document your responses. For example, explain how you determined the level of impact and document the reasoning if checking PA (possible adverse) for any resource. Attach additional pages if necessary.

1. Brief project description, including identification of selected alternative:
2. Describe if the project will improve or maintain water quality, and if the project addresses a TMDL, and/or Watershed Management Plan.
3. Provide latitude and longitude of the proposed project (if a transmission / distribution / collection line identify the center point not the whole line):
4. Provide discharge (WW) or source (DW) information: N/A
5. Provide NPDES/PWSID number:
6. Provide primary waterbody name and waterbody ID, secondary name (if available), and State designated surface water use:

7. Did your analysis consider how this project impacts community planning efforts in other areas (i.e. transportation, housing, etc.)?

Y = Yes N = No PA = Possible Adverse

1. Physical Aspects - Topography, Geology and Soils

- Y ___ N ___ PA ___ a. Are there physical conditions (e.g., steep slopes, shrink-swells soils, etc.) that might be adversely affected by or might affect construction of the facilities?
- Y ___ N ___ PA ___ b. Are there similar limiting physical conditions in the planning area that might make development unsuitable?
- Y ___ N ___ PA ___ c. Are there any unusual or unique geological features that might be affected?
- Y ___ N ___ PA ___ d. Are there any hazardous areas (slides, faults, etc.) that might affect construction or development?

Discussion and References:

2. Climate

- Y ___ N ___ PA ___ a. Are there any unusual or special meteorological constraints in the planning area that might result in an air quality problem?
- Y ___ N ___ PA ___ b. Are there any unusual or special meteorological constraints in the planning area that might affect the feasibility of the proposed alternative?

Discussion and References:

3. Population

- Y ___ N ___ PA ___ a. Are the proposed growth rates excessive (exceeding State projections, greater than 6% per annum for the 20 year planning period)?
- Y ___ N ___ PA ___ b. Will additional growth be induced or growth in new areas encouraged as a result of facilities construction?
- Y ___ N ___ PA ___ c. Will the facilities serve areas which are largely undeveloped areas at present?

Discussion and References:

4. Housing, Industrial and Commercial Development and Utilities

- Y ___ N ___ PA ___ a. Will existing homes or business be displaced as a result of construction of this property?
- Y ___ N ___ PA ___ b. Will new housing serviced by this facility affect existing facilities, transportation patterns, environmentally sensitive areas, or be in special hazard or danger zones?
- Y ___ N ___ PA ___ c. Will new housing create strains on other utilities and services - policies, power, water supply, schools, hospital care, etc.?

Discussion and References:

5. Economics and Social Profile

Y ___ N ___ PA ___ a. Will certain landowners benefit substantially from the development of land due to location and size of the facilities?

Y ___ N ___ PA ___ b. Will the facilities adversely affect land values?

Y ___ N ___ PA ___ c. Are any poor or disadvantaged groups especially affected by this project?

Discussion and References:

6. Land Use

Y ___ N ___ PA ___ a. Will projected growth defeat the purpose of local land use controls (if any)?

Y ___ N ___ PA ___ b. Is the location of the facilities incompatible with local land use plans?

Y ___ N ___ PA ___ c. Will inhabited areas be adversely impacted by the project site?

Y ___ N ___ PA ___ d. Will new development have adverse effects on older existing land uses (agriculture, forest land, etc.)?

Y ___ N ___ PA ___ e. Will this project contribute to changes in land use in association with recreation (skiing, parks, etc.), mining or other large industrial or energy developments?

Discussion and References:

7. Floodplain Development

Y ___ N ___ PA ___ a. Does the planning area contain 100 year floodplains?

If yes -

Y ___ N ___ PA ___ b. Will the project be constructed in a 100 year floodplain?

Y ___ N ___ PA ___ c. Will the project serve direct or indirect development in a 100 year floodplain anywhere in the planning area?

Discussion and References:

8. Wetlands

Y ___ N ___ PA ___ a. Does the planning area contain wetlands as defined by the U.S. Fish and Wildlife Service?

If yes -

Y ___ N ___ PA ___ b. Will any structure of the facility be located in wetlands?

Y ___ N ___ PA ___ c. Will the project serve growth and development which will directly or indirectly affect wetlands?

Discussion and References:

9. Wild and Scenic Rivers

Y ___ N ___ PA ___ a. Does the planning area contain a designated or proposed wild and scenic river? If yes -

Y ___ N ___ PA ___ b. Will the project be constructed near the river?



- Y ___ N ___ PA ___ c. Will projected growth and development take place contiguous to or upstream from the river segment?
- Y ___ N ___ PA ___ d. Will the river segment be used for disposal of effluent?
- Discussion and References:

10. Cultural Resources (Archeological/Historical)

- Y ___ N ___ PA ___ a. Are there any properties (historic, architectural, and archeological) in the planning area which are listed on or eligible for listing on the National Register of Historic Places?
- If yes -
- Y ___ N ___ PA ___ b. Will the project have direct or indirect adverse impacts on any listed or eligible property?
- Discussion and References:

11. Flora and Fauna (including endangered species)

- Y ___ N ___ PA ___ a. Are there any designated threatened or endangered species or their habitat in the planning area?
- Y ___ N ___ PA ___ b. Will the project have direct or indirect adverse impacts on any such designated species?
- Y ___ N ___ PA ___ c. Will the project have direct or indirect adverse impacts on fish, wildlife or their habitat including migratory routes, wintering or calving areas?
- Y ___ N ___ PA ___ d. Does the planning area include a sensitive habitat area designed by a local, State or Federal wildlife agency?
- Discussion and References:

12. Recreation and Open Space

- Y ___ N ___ PA ___ a. Will the project eliminate or modify recreational open space, parks or areas of recognized scenic or recreational value?
- Y ___ N ___ PA ___ b. Is it feasible to combine the project with parks, bicycle paths, hiking trails, waterway access and other recreational uses?
- Discussion and References:

13. Agricultural Lands

- Y ___ N ___ PA ___ a. Does the planning area contain any environmentally significant agricultural lands (prime, unique, statewide importance, local importance, etc.) as defined in the EPA Policy to Protect Environmentally Significant Agricultural Lands dated September 8, 1978?
- Y ___ N ___ PA ___ b. Will the project directly or indirectly encourage the irreversible conversion of Environmentally Significant Agricultural Lands to uses which result in the loss of these lands as an environmental or essential food production resource?
- Discussion and References:

14. Air Quality

- Y ___ N ___ PA ___ a. Are there any direct air emissions from the project (e.g., odor controls, sludge incinerator) which do not meet Federal and State emission standards contained in the State Air Quality Implementation Plan (SIP)?
- Y ___ N ___ PA ___ b. Is the project service area located in an area without an approved or conditionally approved SIP?
- Y ___ N ___ PA ___ c. Is the increased capacity of the project greater than 1 mgd?
- Y ___ N ___ PA ___ d. Do the population projections used in the facilities plan exceed the State or area wide projections in the SIP by more than 5%?
- Y ___ N ___ PA ___ e. Does the project conform to the requirements of the SIP? (See EPA regulations under Section 316 of the Clean Air Act.)
- Y ___ N ___ PA ___ f. Is the project inconsistent with the SIP of an adjoining State that may be impacted by the Project?
- Y ___ N ___ PA ___ g. Does the project violate national ambient Air Quality Standards in an attainment or unclassified area?
- Y ___ N ___ PA ___ h. Will the facilities create an odor nuisance problem?

Discussion and References:

15. Water Quality and Quantity (Surface/Groundwater)

- Y ___ N ___ PA ___ a. Are present stream classifications in the receiving stream being challenged as too low to protect present or recent uses?
- Y ___ N ___ PA ___ b. Is there a substantial risk that the proposed discharge will not meet existing stream standards or will not be of sufficient quality to protect present or recent stream uses?
- Y ___ N ___ PA ___ c. Will construction of the project and development to be served by the project result in non-point water quality problems (sedimentation, urban stormwater, etc.)?
- Y ___ N ___ PA ___ d. Will water rights be adversely affected by the project?
- Y ___ N ___ PA ___ e. Will the project cause a significant amount of water to be transferred from one sub-basin to another (relative to the 7-day, 10 year flow of the diverted basin)?
- Y ___ N ___ PA ___ f. Will stream habitat be affected as a result of the change in flow or stream bank modification?
- Y ___ N ___ PA ___ g. Are stream conditions needed for deciding upon the required limitations inadequately specified in the 208 Plan? If so, have the wasteload allocations calculations been performed and approved by the State and EPA?
- Y ___ N ___ PA ___ h. Is an Antidegradation Review required?
- Y ___ N ___ PA ___ i. Will the project adversely affect the quantity or quality of a groundwater resource?
- Y ___ N ___ PA ___ j. Does the project adversely affect an aquifer used as a potable drinking water supply?
- Y ___ N ___ PA ___ k. Are there additional cost effective water conservation measures that could be adopted by community to reduce sewage generation?

Discussion and References:

16. Public Health

- Y ___ N ___ PA ___ a. Will there be adverse direct or indirect noise impacts from the project?
- Y ___ N ___ PA ___ b. Will there be a vector problem (e.g., mosquito) from the project?

Y ___ N ___ PA ___ c. Will there be any unique public health problems as a result of the project (e.g., increased disease risks)?

Discussion and References:

17. Solid Waste (Sludge Management)

Y ___ N ___ PA ___ a. Will sludge disposal occur in an area with inadequate sanitary landfills or on land unsuitable for land application?

Y ___ N ___ PA ___ b. Are there special problems with the sludge that makes disposal difficult (hazardous, difficult to treat)?

Y ___ N ___ PA ___ c. Is the technology selected for sludge disposal controversial?

Discussion and References:

18. Energy

Y ___ N ___ PA ___ a. Are there additional cost effective measures to reduce energy consumption or increase energy recovery which could be included in this project?

Discussion and References:

19. Land Application

Y ___ N ___ PA ___ a. Has a new or unproven technique been selected?

Y ___ N ___ PA ___ b. Is there considerable public controversy about the project?

Y ___ N ___ PA ___ c. Will the project require additional water rights or impact existing water Rights?

Y ___ N ___ PA ___ d. Is the project multi-purpose?

Discussion and References:

20. Regionalization

Y ___ N ___ PA ___ a. Are there jurisdictional disputes or controversy over the project?

Y ___ N ___ PA ___ b. Is conformance with the 208 plan in question?

Y ___ N ___ PA ___ c. Is the proliferation of small treatment plants and septic systems creating a significant health problem?

Y ___ N ___ PA ___ d. Have inter-jurisdictional agreements been signed?

Discussion and References:

21. Public Participation

Y ___ N ___ PA ___ a. Is there a substantial level of public controversy?

Y ___ N ___ PA ___ b. Is there adequate evidence of public participation in the project?

Discussion and References:

22. Environmental Laws

Y ___ N ___ PA ___ a. Does the project threaten to violate any State, Federal or local law or requirement imposed to protect the environment?

Discussion and References:

Prepared By: ___Mark Valentine, Project Manager, RESPEC, Engineer_____

Name, Title, and Affiliation

Date: _4/5/2022_____





ATTACHMENT 23

DOCUMENTATION OF PUBLIC MEETING



A-23

RSI-W0364.21002.001

