



## STANDING ADVISORY COMMITTEE AGENDA

**Tuesday, September 5, 2017 at 3:00 p.m.**  
**Truckee Meadows Water Authority**  
**Independence Meeting Room**  
**1355 Capital Boulevard, Reno, NV 89502**

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### NOTES:

1. The announcement of this meeting has been posted at the following locations: Truckee Meadows Water Authority (1355 Capital Blvd., Reno), Reno City Hall (1 E. First St., Reno), Sparks City Hall (431 Prater Way, Sparks), Sparks Justice Court (1675 E. Prater Way, Sparks), Washoe County Courthouse (75 Court St., Reno), Washoe County Central Library (301 South Center St., Reno), Washoe County Administration (1001 East Ninth St., Reno), at <http://www.tmwa.com>, and State of Nevada Public Notice Website, <https://notice.nv.gov/>.
2. In accordance with NRS 241.020, this agenda closes three working days prior to the meeting. We are pleased to make reasonable accommodations for persons who are disabled and wish to attend meetings. If you require special arrangements for the meeting, please call 834-8002 at least 24 hours before the meeting date.
3. Staff reports and supporting material for the meeting are available at TMWA and on the TMWA website at <http://www.tmwa.com/meeting/> or you can contact Sonia Folsom at (775) 835-8002. Supporting material is made available to the general public in accordance with NRS 241.020(6).
4. The Committee may elect to combine agenda items, consider agenda items out of order, remove agenda items, or delay discussion on agenda items. Arrive at the meeting at the posted time to hear item(s) of interest.
5. Asterisks (\*) denote non-action items.
6. Public comment is limited to three minutes and is allowed during the public comment periods. The public may sign-up to speak during the public comment period or on a specific agenda item by completing a "Request to Speak" card and submitting it to the clerk. In addition to the public comment periods, the Chairman has the discretion to allow public comment on any agenda item, including any item on which action is to be taken.
7. In the event the Chairman and Vice-Chairman are absent, the remaining SAC members may elect a temporary presiding officer to preside over the meeting until the Chairman or Vice-Chairman are present (**Standing Item of Possible Action**).

1. Roll call\*
2. Public comment — limited to no more than three minutes per speaker\*
3. Approval of the agenda (**For Possible Action**)
4. Approval of the minutes of April 4, 2017 meeting (**For Possible Action**)
5. Summary of results of the 2017 Legislative Session — John Zimmerman \*
6. Water supply update — Bill Hauck\*
7. Presentation on the final FY 2018 budget and the Capital Improvement Plan for Fiscal Years 2018 through 2022 — Michele Sullivan and Joe Petrelli\*
8. Presentation on preliminary financial performance for FY 2017 — Michele Sullivan\*

9. Informational report regarding the meter retrofit fund program — John Zimmerman\*
10. Update regarding the draft Wholesale Water Service Agreement between TMWA and West Reno Water Company and request for Board authorization for General Manager to finalize and execute the agreement — John Enloe, Scott Estes and Mark Foree\*
11. Discussion and possible direction to staff regarding agenda items for future meetings (**For Possible Action**)
12. Staff Items\* (Unless otherwise listed with a topic description, this portion of the agenda is limited to announcements)
13. Committee Items\* (Unless otherwise listed with a topic description, this portion of the agenda is limited to announcements)
14. Public Comment — limited to no more than three minutes per speaker\*
15. Adjournment (**For Possible Action**)



**STANDING ADVISORY COMMITTEE**

**DRAFT** MINUTES

April 4, 2017

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The Standing Advisory Committee (SAC) met at Truckee Meadows Water Authority (TMWA) in the Independence Room, 1355 Capital Blvd., Reno, Nevada. Chair McGuire called the meeting to order at 3:06 p.m.

1. ROLL CALL

**Primary Members and Voting Alternates Present:** Ken Becker, Harry Culbert, Bruce Gescheider, Colin Hayes, Don Kowitz, Carol Litster, Neil McGuire, Mike Pidlypchak, Fred Schmidt, Mike Schulewitch, and Jerry Wager.

**Alternates Present:** Fred Arndt, Kevin Haddock, Jordan Hastings, Scot Munns, and Dale Sanderson.

**Primary Members and Alternates Absent:** Bob Chambers, Bill Hughes, Karl Katt, Ken McNeil, Jim Smith and Jonnie Pullman.

**Staff Present:** Jack Byrom, Tabitha Carlisle, Robert Charpentier, John Enloe, Scott Estes, Andy Gebhardt, Sonia Folsom, Bill Hauck, Michele Sullivan, Sandra Tozi, Steve Walker, Marci Westlake, John Zimmerman, and Legal Counsel Debbie Leonard.

2. PUBLIC COMMENT

There was no public comment.

3. APPROVAL OF THE AGENDA

**Upon motion by Member Gescheider and second by Member Hayes, and carried by unanimous consent of the members present, the Committee approved the agenda.**

#### 4. APPROVAL OF THE MINUTES OF THE MARCH 7, 2017 MEETING

Member Hastings noted a few minor edits to the March 7 draft minutes: agenda item 3 had the “#” symbol instead of a “3”; on page 2, under agenda item 5, ‘water year’ should be added to reference the amount of precipitation to date; and agenda item 7 the ‘s’ should be deleted in “Discussion followed on proposed bills AB193.”

**Upon motion by Member Wager and second by Member Pidlypchak, carried by unanimous consent of the members present, the Committee approved the minutes of the March 7, 2017 meeting with the corrections mentioned above.**

#### 5. WATER SUPPLY UPDATE

Bill Hauck, TMWA Senior Hydrologist, reported that both precipitation and snowpack are about 200% of normal; Lake Tahoe has risen 4.6 feet since October and 3.95 feet since January. It could potentially overflow, but precautionary releases are taking place; Pyramid Lake is expected to rise about eight feet.

Member Wager inquired about the timing of the Steamboat Ditch. Mr. Hauck replied that the ditches open later in a wet year and maintenance is currently being done.

Member Schmidt confirmed Lake Tahoe is 70% full. Mr. Hauck replied it is 70% of capacity.

#### 6. UPDATE ON THE 2017 LEGISLATIVE SESSION

John Zimmerman, TMWA Water Resources Manager, and Steve Walker, TMWA Lobbyist, presented on the status of the 2017 Legislative bills introduced as of March 22, which were presented to, and reviewed by, the TMWA legislative subcommittee on Friday, March 24.

Mr. Walker informed the committee that AB193, requiring Washoe County to fluoridate its water system, has not been heard since March 7, it has not been declared exempt and therefore is still subject to the April 14 deadline of Committee Passage out of the Assembly.

Vice Chair Schmidt inquired about the survey sent out to TMWA customers about AB193. Mark Foree, TMWA General Manager, replied the TMWA Board had requested the customer survey, and InfoSearch International conducted the survey and the results will be presented at the April 19 Board meeting. Andy Gebhardt, TMWA Director of Operations and Water Quality, added there were two parts to the survey: 1. A phone survey of 400 random residential customers; and 2. Email survey of three questions to all TMWA customers who have provided TMWA with email addresses.

Member Hastings inquired about the response rate for the email survey. Mr. Gebhardt replied 10%.

Discussion followed regarding various bills. This included AB298, provisions relating to water, which relates to a 3M (monitoring, management and mitigation) plans and the legal definition of “perennial yield.” TMWA has met with Southern Nevada Water Authority to discuss the legal definition of “perennial yield”; the environmental effect of the definition; and criteria of inter basin transfer.

Mr. Walker and Mr. Zimmerman also reported that the legislative subcommittee recommended that the board take a position of support for SB253, which provides protection to employees who are affected by any condition relating to pregnancy, childbirth or a related medical condition (the Board asked to support a similar bill); SB289, which requires health insurance to cover services provided by an out-of-network physician; SB384, which requires confidentiality of certain information in the records and files of public employers and public employee retirement system (prevents unwanted disclosure); and SB494, which revises provisions relating to grants for water conservation and capital improvements to certain water systems (related to funding cloud seeding programs which TMWA could possibly apply for grants).

John Enloe, TMWA Director of Natural Resources, mentioned funding is still allocated to the cloud seeding program because the Desert Research Institute (DRI) continues their research around the Tahoe Basin using drones to increase efficiencies and improve technology. DRI will report on how money was not spent in FY 2017 to offset future funding.

#### 7. PRESENTATION ON 2017 BOND REFUNDING RESULTS

Michele Sullivan, TMWA Chief Financial Officer, reported the Series 2017 Refunding Bonds was very successful and reaffirmed TMWA's credit rating of "AA2 stable outlook" from Moody's, and an upgrade in credit rating from "AA stable outlook" to "AA+ stable outlook" from Standard and Poors. A successful 2017 refunding was a key component in the forecast used for the proposed rate adjustments over the next five-years.

#### 8. PRESENTATION OF THE TENTATIVE FY 2018 BUDGET AND FUNDING SOURCES FOR CAPITAL IMPROVEMENT PROJECTS IN THE DRAFT CAPITAL IMPROVEMENT PLAN (CIP) FOR FISCAL YEARS 2018 THROUGH 2022

Ms. Sullivan reported the tentative budget was presented at last month's meeting for both the SAC and Board of Directors. The Board had questions about funding allocated for the Truckee River Fund, cloud seeding and the fire hydrant maintenance program. There were no changes to the revenues and expenses.

Vice Chair Schmidt inquired about the number of employees included in the budget. Ms. Sullivan replied 206 employees.

Discussion followed regarding the number of employees affected by the salary increases (206 employees); the average basis in step increases (MPATS and apprentices have step increases if they meet expectations); the large dollar amount allocated for the CIP (the Board is not questioning the amount); specific CIP projects such as the Mt. Rose Water Treatment Plant (necessary to improve water supply in the area); Spanish Springs Nitrate Treatment (applied research of biological treatment process to reduce nitrate levels in the area); and how TMWA has budgeted for tanks (there is a schedule for tanks to be inspected and improved.)

**No action taken.**

9. DISCUSSION AND POSSIBLE DIRECTION TO STAFF REGARDING AGENDA ITEMS FOR FUTURE MEETINGS

Member Haddock inquired about the accuracy of the residential and commercial water meters. Chair McGuire suggested he can speak with Mr. Gebhardt.

Member Gescheider suggested that the May 2 meeting be cancelled.

**June meeting:**

1. Update on the 2017 Legislative Session
2. Presentation of third quarter financials
3. Presentation on the final FY 2018 budget

**Upon motion by Member Culbert and second by Member Litster, carried by unanimous consent of the members present, the Committee approved the agenda items for future meetings and to cancel the May 2 meeting.**

10. STAFF ITEMS

Mr. Foree informed the committee that TMWA will have to renew its letter of credit in the following year and banks will be looking to do business with TMWA and they will be looking at our financials.

11. COMMITTEE ITEMS

There were no committee items.

12. PUBLIC COMMENT

There was no public comment.

13. ADJOURNMENT

With no further items for discussion, Chair McGuire adjourned the meeting at 4:15 p.m.

Approved by the Standing Advisory Committee in session on \_\_\_\_\_.

Sonia Folsom, Recording Secretary



## STAFF REPORT

**TO:** Chairman and Board Members  
**THRU:** Mark Foree, General Manager  
**FROM:** John Zimmerman, Manager of Water Resources  
**DATE:** June 12, 2017  
**SUBJECT:** **Report on the results of 2017 legislative activities and bills**

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The 2017 legislative session ended on June 5, 2017. Attached is a list of bills TMWA monitored during the session that were enacted. Staff, Mr. Walker, and Mr. Pagni will summarize key enacted legislation, the potential impacts to TMWA, and respond to any questions. Additionally, they will advise the Board regarding any relevant new information regarding the session and the upcoming interim session.

Content	Description	Sponsor	Tags	Board/Committee Position	Effective Date
AB5	Provides for the creation of certain local improvement districts. (BDR 22-233)	Committee on Government Affairs	Energy, Governance	1/3 WATCH, NEUTRAL	July 1, 2017
AB8	Revises provisions governing the collection of delinquent municipal utility charges. (BDR 21-323)	Committee on Government Affairs	Financial, Risk Management, Governance	11/21 WATCH, SUPPORT	October 1, 2017
AB11	Revises provisions governing the operation of unmanned aerial vehicles. (BDR 44-137)	Committee on Transportation	Emergency Mgmt, Safety, Motor Vehicles, Governance	11/21 WATCH, NEUTRAL	May 19, 2017
AB26	Revises provisions governing the dissemination of certain records of criminal history to certain persons by the Central Repository for Nevada Records of Criminal History. (BDR 14-138)	Committee on Corrections, Parole, and Probation	Human Resources	1/4 WATCH, NEUTRAL	May 26, 2017
AB32	Revises provisions governing pest control. (BDR 49-176)	Committee on Natural Resources, Agriculture, and Mining	Governance	1/9 WATCH, NEUTRAL	July 1, 2017
AB34	Revises provisions relating to government land. (BDR 26-179)	Committee on Natural Resources, Agriculture, and Mining	Property	12/20 WATCH, NEUTRAL	July 1, 2017
AB36	Revises the Charter of the City of Reno. (BDR S-448)	Committee on Legislative Operations and Elections	Governance, Open Meeting, Records, Boards and Elections	1/6 WATCH, NEUTRAL	July 1, 2017
AB50	Revises provisions relating to the imposition of certain fees, civil penalties and administrative fines by the State Environmental Commission. (BDR 40-181)	Committee on Natural Resources, Agriculture, and Mining	Financial, Risk Management, Governance	12/29 WATCH	May 22, 2017
AB54	Revises provisions relating to reports of certain accidents or motor vehicle crashes by employers. (BDR 53-160)	Committee on Commerce and Labor	Emergency Mgmt, Safety, Motor Vehicles	1/6 WATCH, NEUTRAL	October 1, 2017
AB79	Revises provisions relating to economic development. (BDR S-404)	Committee on Government Affairs	Financial, Risk Management, Water Rights (Resources, Conservation)	1/6 WATCH, NEUTRAL	May 19, 2017
AB83	Makes various changes relating to insurance. (BDR 57-159)	Committee on Commerce and Labor	Financial, Risk Management	1/6 WATCH, NEUTRAL	January1, 2018
AB106	Revises provisions governing state governmental procurement. (BDR 27-295)	Spiegel	Governance	2/9: WATCH	January1, 2018
AB107	Provides for the sealing of records relating to eviction under certain circumstances. (BDR 3-689)	Bilbray-Axelrod	Financial, Risk Management, Governance	2/10: WATCH	October 1, 2017
AB113	Requires certain employers to make certain accommodations for a nursing mother. (BDR 23-7)	Spiegel	Human Resources	2/9: WATCH, SUPPORT	July 1, 2017
AB114	Revises provisions governing irrigation districts. (BDR 48-639)	Titus	Water Rights (Resources, Conservation)	2/9: WATCH, SUPPORT	July 1, 2017
AB138	Authorizes the de minimus collection of precipitation under certain circumstances. (BDR 48-445)	Carlton	Water Rights (Resources, Conservation)	2/10: WATCH, NEUTRAL	July 1, 2017
AB169	Revises provisions governing certain fees collected by county recorders. (BDR 20-832)	Jauregui, Brooks and Carrillo	Governance, Open Meeting, Records, Boards and Elections	2/17 WATCH	October 1, 2017
AB209	Revises provisions governing the forfeiture of water rights. (BDR 48-308)	Oscarson	Water Rights (Resources, Conservation)	2/15 WATCH	July 1, 2017
AB227	Makes changes relating to domestic partnerships. (BDR 11-784)	Carrillo	Human Resources	2/17 WATCH	July 1, 2017
AB246	Revises provisions relating to the creation of a local improvement district and tax increment area. (BDR 22-705)	Kramer, Benitez-Thompson, Daly, Hansen and Titus	Governance	3/2: WATCH	July 1, 2017
AB249	Requires the State Plan for Medicaid and all health insurance plans to provide certain benefits relating to contraception. (BDR 38-858)	Frierson, Bilbray-Axelrod, Sprinkle, Benitez-Thompson, Yeager, Elliot Anderson, Araujo, Brooks, Bustamante Adams, Carlton, Carrillo, Cohen, Daly, Diaz, Flores, Fumo, Jauregui, Joiner, McCurdy II, Miller, Monroe-Moreno, Neal, Ohrenschall, Spiegel, Swank, Thompson and Watkins	Human Resources	3/2: WATCH	January1, 2018



AB276	Revises provisions relating to employment practices. (BDR 53-289)	Assemblymen Spiegel, Joiner, Diaz, Bilbray-Axelrod, Carlton, Cohen, Miller, Swank, Thompson and Yeager; Senators Parks, Manendo and Segerblom	Human Resources	3/16: WATCH	June 3, 2017
AB280	Revises provisions relating to preferences in bidding for certain contracts for businesses based in this State. (BDR 27-1060)	Assemblymen Frierson, Carrillo, Monroe-Moreno, Sprinkle, Neal, Araujo, Benitez-Thompson, Bilbray-Axelrod, Carlton, Cohen, Daly, Fumo, Jauregui, Joiner, McCurdy II, Miller, Ohrenschall, Spiegel, Thompson, Tolles, Watkins and Yeager; Senators Ford and Cannizzaro	Public Works	3/29: WATCH	July 1, 2017
AB334	Prohibits a driver from operating a motor vehicle in the extreme left lane of a controlled-access highway under certain circumstances. (BDR 43-154)	Ellison and Edwards	Emergency Mgmt, Safety, Motor Vehicles	3/20: WATCH	July 1, 2017
AB375	Allows the imposition of certain taxes, fees, rates, charges, levies or assessments in a county to fund approved flood management projects of a flood management authority based on the recommendations of a flood control project needs committee. (BDR S-473)	Sprinkle, Benitez-Thompson, Joiner and Daly	Emergency Mgmt, Safety, Motor Vehicles, Governance, Water Rights (Resources, Conservation)	3/20: WATCH	June 12, 2017
AB379	Authorizes certain local governments to create a parks, trails and open space district. (BDR 25-211)	Joiner	Water Rights (Resources, Conservation)	3/24: SUPPORT	July 1, 2017
AB380	Revises provisions relating to real property. (BDR 10-340)	Assemblyman Yeager; Senators Cannizzaro, Denis, Ford, Gustavson, Harris, Roberson and Segerblom	Property	3/21: WATCH	October 1, 2017
AB384	Revises provisions governing the consideration of the criminal history of an applicant for employment by the State or a county, city or unincorporated town. (BDR 23-33)	Assemblymen Thompson, McCurdy II, Flores, Araujo, Carrillo, Bilbray-Axelrod, Brooks, Bustamante Adams, Carlton, Daly, Frierson, Fumo, Miller, Monroe-Moreno, Neal, Ohrenschall, Sprinkle and Yeager; Senators Ford, Atkinson, Spearman, Cancela, Parks, Denis, Segerblom and Woodhouse	Human Resources	3/21: WATCH	January 1, 2018
AB458	Revises provisions governing industrial insurance. (BDR 53-489)	Committee on Commerce and Labor	Human Resources	3/29: WATCH	July 1, 2017
SB10	Revises provisions governing the publication of information concerning unclaimed and abandoned property. (BDR 10-407)	Committee on Judiciary	Property	11/21 WATCH, NEUTRAL	June 4, 2017
SB26	Makes certain changes concerning governmental entities that contract with or invest in companies that boycott Israel. (BDR 27-418)	Committee on Government Affairs	Governance	11/21 WATCH, NEUTRAL	July 1, 2017
SB47	Makes various changes relating to the appropriation of water. (BDR 48-499)	Committee on Natural Resources	Water Rights (Resources, Conservation)	1/6 WATCH, SUPPORT	June 9, 2017
SB51	Makes various changes relating to the adjudication of vested water rights. (BDR 48-180)	Committee on Natural Resources	Water Rights (Resources, Conservation)	12/29 WATCH, NEUTRAL	May 26, 2017
SB53	Revises provisions relating to the installation, operation and maintenance of telecommunications facilities. (BDR 18-234)	Committee on Transportation	Information Tech	1/6 WATCH	May 26, 2017
SB69	Revises provisions relating to state government. (BDR 54-229)	Committee on Commerce, Labor and Energy	Governance, Human Resources, Open Meeting, Records, Boards and Elections	1/5 WATCH, NEUTRAL	June 16, 2017

SB74	Revises provisions relating to water. (BDR 48-178)	Committee on Natural Resources	Water Rights (Resources, Conservation)	12/29 WATCH	June 9, 2017
SB78	Revises provisions relating to local government financial administration. (BDR 31-403)	Committee on Government Affairs	Financial, Risk Management	1/9 WATCH, NEUTRAL	July 1, 2017
SB84	Makes various changes relating to ethics in government. (BDR 23-250)	Committee on Legislative Operations and Elections	Governance	1/6 WATCH	January1, 2018
SB138	Authorizes the creation of a local improvement district for a waterfront maintenance project. (BDR 22-678)	Hardy	Financial, Risk Management, Property, Water Rights (Resources, Conservation)	2/17 WATCH	July 1, 2017
SB188	Revises provisions prohibiting certain discriminatory acts. (BDR 18-106)	Parks, Cannizzaro and Ford	Human Resources	2/17 WATCH	July 1, 2017
SB197	Extends the deadline for issuing certain bonds for certain environmental improvement projects in the Lake Tahoe Basin. (BDR S-493)	Committee on Government Affairs	Governance	3/2 WATCH	May18, 2017
SB198	Extends the deadline for issuing certain bonds relating to the property and natural resources of Nevada approved by the voters in 2002. (BDR S-494)	Committee on Government Affairs	Governance	3/2 WATCH	May18, 2017
SB230	Makes various changes relating to judgments. (BDR 2-512)	Committee on Judiciary	Financial, Risk Management, Human Resources	3/2 WATCH	October 1, 2017
SB233	Requires the State Plan for Medicaid and certain health insurance plans to provide certain benefits. (BDR 38-817)	Senators Ratti, Cancela, Spearman, Cannizzaro, Woodhouse, Atkinson, Denis, Ford, Manendo, Parks and Segerblom; Assemblymen Benitez-Thompson and Frierson	Human Resources	3/2 WATCH	January1, 2018
SB239	Revises provisions relating to common-interest communities. (BDR 10-471)	Harris	Governance, Water Rights (Resources, Conservation)	3/15: WATCH	October 1, 2017
SB246	Revises provisions relating to public works. (BDR 28-667)	Manendo, Hardy, Parks, Settlemeyer, Hammond, Atkinson, Denis and Farley	Public Works	3/16: WATCH	July 1, 2017
SB253	Establishes the Nevada Pregnant Workers' Fairness Act to provide protections to female employees and applicants for employment who are affected by a condition of the employee or applicant relating to pregnancy, childbirth or a related medical condition. (BDR 53-773)	Cannizzaro, Ratti, Woodhouse, Cancela, Ford, Denis, Farley, Hardy, Manendo, Parks, Segerblom and Spearman	Human Resources	3/24: SUPPORT	October 1, 2017
SB270	Revises provisions relating to water. (BDR 48-359)	Committee on Natural Resources	Water Rights (Resources, Conservation)	3/16: WATCH	January 1, 2028
SB312	Revises provisions relating to driving under certain conditions. (BDR 43-94)	Manendo	Emergency Mgmt, Safety, Motor Vehicles	3/20: WATCH	October 1, 2017
SB460	Revises provisions governing the membership of the Local Government Employee-Management Relations Board. (BDR 23-556)	Committee on Government Affairs	Human Resources	3/28: WATCH	July 1, 2017
SB462	Authorizes a board of county commissioners to create a committee to review general improvement districts. (BDR 20-496)	Committee on Government Affairs	Governance	3/28: WATCH	July 1, 2017
SB502	Makes various changes relating to the Public Employees' Benefits Program and the Public Employees' Deferred Compensation Program. (BDR 18-979)	Committee on Government Affairs	PERS, PEBS	3/28: WATCH	July 1, 2017
SB513	Increases the limit on the assessment for water distribution expenses. (BDR 48-905)	Committee on Natural Resources	Financial, Risk Management, Water Rights (Resources, Conservation)	3/28: WATCH	July 1, 2017

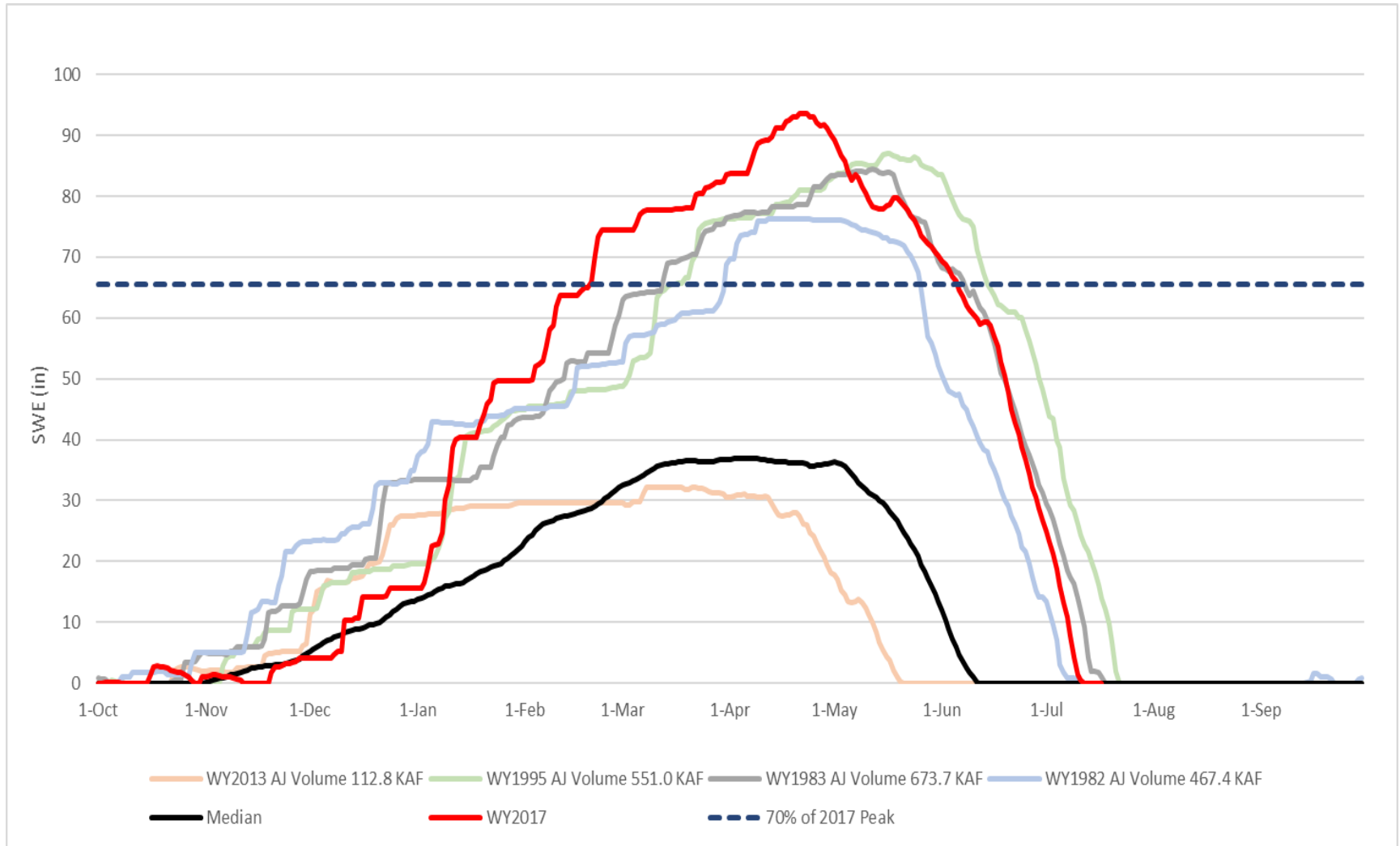


## Water Supply Update

Bill Hauck, Senior Hydrologist  
Standing Advisory Committee Meeting

September 5, 2017

# Mount Rose Snotel – 2017 Snow Water Equivalent



**Thank you!**  
Questions?

Bill Hauck, Senior Hydrologist  
Email: [bhauck@tmwa.com](mailto:bhauck@tmwa.com)  
O: (775) 834-8111 M: (775) 250-1333



**TO:** Board of Directors  
**THRU:** Mark Foree, General Manager  
**FROM:** Michele Sullivan, Chief Financial Officer  
**DATE:** May 3, 2017  
**SUBJECT:** **Discussion and action on request for adoption of Resolution No. 252: A Resolution to adopt the final budget for the Fiscal Year Ending June 30, 2018 and the 2018-2022 Five-Year Capital Improvement Plan**

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### **Recommendation**

That the TMWA Board approve the revised Tentative Budget as the adopted Final Budget for the fiscal year ending June 30, 2018 and direct staff to file the adopted Final Budget and related 2018-2022 Capital Improvement Plan with the State of Nevada Department of Taxation as required by statute.

### **Summary**

TMWA has prepared the revised Tentative Budget for final consideration and approval by the TMWA Board. Changes to the tentative budget presented originally at the March 15, 2017 board meeting result in a favorable increase in the change in net position of \$0.7M, from \$14.3M to \$15.0M. This is mainly due to reduction in funding related to the Truckee River Fund (TRF) from \$850K to \$450K, elimination of funding for cloud seeding of \$210K, reduction in river monitoring fees paid of \$348K, and additional savings of \$293K in interest expense related to the refunding of TMWA's 2007 Revenue Bonds in April, 2017. Offsetting is an increase in employee benefits of \$596K. This additional expense is related to adoption of GASB 75. Adoption was previously included in the FY 2017 budget, but the standard will be adopted in fiscal year 2018. CIP spending for 2018-2022 increased from \$169.5M to \$172.8M, or \$3.3M due to delays in projects due to be completed in 2017. As discussed at the April 19, 2017 board meeting, total CIP spending funded by customer rates through 2022 is the same as was included in the most recent funding plan. Cash and cash equivalents balances decreased an additional \$2M in FY 2018 due to higher redemptions of commercial paper based on greater 2017 water will serve sales. Cash at the beginning of the fiscal year is higher than the tentative budget estimate due to the receipt of insurance settlement on the Farad Hydro plant.

### **Discussion**

TMWA has prepared the revised Tentative Budget for final consideration and approval by the TMWA Board. A Tentative Budget report was presented at the March 15, 2017 board meeting

and a comparison of the revised Tentative Budget to the original approved Tentative Budget is accompanying this report in *Attachments A and B*. A draft CIP document was presented at the March 15, 2017 board meeting, and an updated draft was presented at the April 19, 2017 board meeting. The final CIP document is accompanying this report in *Attachment C* and spending totals have not changed from the April 19, 2017 CIP document. There are changes to the original presented Tentative Budget as a result of Board member comments, further management evaluation and adjustments to final results from a refunding (refinancing) of TMWA's 2007 Revenue Bonds as follows:

- TRF funding reduced by \$400,000
- Cloud seeding funding eliminated for \$210,000
- River Monitoring expenses reduced by \$348,000 as these expenses related to TROA implementation are not expected to be paid by TMWA until FY 2019.
- Employee benefits increased \$596,460 for implementation of GASB 75 (this item moves out of the FY 2017 budget and into FY 2018)
- Interest expense decreased \$293,256 for actual versus estimated results of the 2017 Bond refunding.
- Additional paydown of commercial paper by \$2 million is based on higher sales of water will serve commitments in FY 2017

Certain members at the April 19, 2017 board meeting also requested information on TMWA's Vehicle and Equipment Replacement Policies. TMWA's vehicle replacement policy is included in this report in *Attachment V*.

**TRUCKEE MEADOWS WATER AUTHORITY**  
**(TMWA)**

**RESOLUTION NO. 252**

A RESOLUTION ADOPTING THE FINAL BUDGET FOR THE FISCAL YEAR ENDING  
JUNE 30, 2018 AND  
THE 2018-2022 CAPITAL IMPROVEMENT PLAN FOR THE  
TRUCKEE MEADOWS WATER AUTHORITY AFTER PUBLIC HEARING

WHEREAS, pursuant to NRS 354.596, TMWA is required to hold a public hearing on its tentative budget to allow interested persons to be heard; and

WHEREAS, pursuant to NRS 354.596, TMWA scheduled and held a public hearing on the tentative budget and Capital Improvement Plan as prescribed on May 17, 2017, the third Wednesday in May; and

WHEREAS, the tentative budget and Capital Improvement Plan have been presented to the interested public and the Board; and

WHEREAS, the Board has considered and approved the revisions to the tentative budget and Capital Improvement Plan and has heard and considered comments from the public.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Truckee Meadows Water Authority to adopt the tentative budget as the final budget for the fiscal year ending June 30, 2018 and adopt the 2018-2022 Capital Improvement Plan and to direct staff to submit the final budget and Capital Improvement Plan to the State of Nevada Department of Taxation.

Upon motion of \_\_\_\_\_, seconded by \_\_\_\_\_, the foregoing Resolution was passed and adopted on May 17, 2017 by the following vote of the Board:

Ayes: \_\_\_\_\_

Nays: \_\_\_\_\_

Abstain: \_\_\_\_\_ Absent: \_\_\_\_\_

Approved: \_\_\_\_\_

\_\_\_\_\_  
Geno Martini, Chairman



Truckee Meadows Water Authority  
Resolution 252 (continued)

STATE OF NEVADA,        )  
                                      : ss.  
COUNTY OF WASHOE.    )

On this 17th day of May, 2017, Geno Martini, Chairman of the Board of Truckee Meadows Water Authority, personally appeared before me, a Notary Public in and for said County and State, and acknowledged that he executed the above instrument freely and voluntarily and for the purposes therein mentioned.

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Notary Public

**TRUCKEE MEADOWS WATER AUTHORITY  
 FINAL BUDGET  
 SCHEDULE OF REVENUES, EXPENSES AND CHANGES IN NET POSITION  
 FOR THE FISCAL YEAR ENDING JUNE 30, 2018**

	Presented Tentative Fiscal Year 2018 Total	Proposed Final Fiscal Year 2018 Total	Increase (Decrease)
<b>OPERATING REVENUES</b>			
Charges for water sales	\$ 94,303,278	\$ 94,303,278	\$ -
Hydroelectric sales	2,990,391	2,990,391	-
Other operating sales	3,131,500	3,131,500	-
Total Operating Revenues	100,425,169	100,425,169	-
<b>OPERATING EXPENSES</b>			
Salaries and wages	19,024,704	19,024,704	-
Employee benefits	8,708,062	9,303,274	(595,212)
Services and supplies	26,662,211	25,704,211	958,000
Total Operating Expenses before Depreciation	54,394,977	54,032,189	362,788
Depreciation	34,061,148	34,061,148	-
Total Operating Expenses	88,456,125	88,093,337	362,788
Operating Income	11,969,044	12,331,832	362,788
<b>NONOPERATING REVENUES (EXPENSES)</b>			
Investment earnings	1,342,692	1,342,692	-
Unrealized gain on investments	-	-	-
Gain (Loss) on disposal of assets	-	-	-
Amortization of bond/note issuance costs	(468,624)	(468,624)	-
Interest expense	(13,687,272)	(13,394,016)	293,256
Other non-operating revenue	-	-	-
Other non-operating expenses	-	-	-
Total Nonoperating Revenues (Expenses)	(12,813,204)	(12,519,948)	293,256
Income (Loss) before Capital Contributions	(844,160)	(188,116)	656,044
<b>CAPITAL CONTRIBUTIONS</b>			
Grants	200,004	200,004	-
Water meter retrofit program	781,488	781,488	-
Developer infrastructure contributions	-	-	-
Developer will-serve contributions (net of refunds)	5,034,744	5,034,744	-
Developer capital contributions-other	4,345,296	4,345,296	-
Developer facility charges (net of refunds)	4,826,436	4,826,436	-
Contributions from others	-	-	-
Contributions from other governments	-	-	-
Net Capital Contributions	15,187,968	15,187,968	-
Change in Net Position	14,343,808	14,999,852	656,044
<b>NET POSITION , BEGINNING OF YEAR</b>	<b>\$ 589,950,588</b>	<b>\$ 589,950,588</b>	<b>\$ -</b>
<b>NET POSITION, END OF YEAR</b>	<b>\$ 604,294,396</b>	<b>\$ 604,950,440</b>	<b>\$ 656,044</b>

**TRUCKEE MEADOWS WATER AUTHORITY  
 FINAL BUDGET  
 STATEMENTS OF CASH FLOWS  
 FOR THE FISCAL YEAR ENDING JUNE 30, 2018**

	<b>Presented Tentative Fiscal Year 2018 Total</b>	<b>Proposed Final Fiscal Year 2018 Total</b>	<b>Change</b>
<b>INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>			
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Cash received from customers	\$ 100,425,169	\$ 100,425,169	\$ -
Cash paid to employees	(27,732,766)	(28,327,978)	(595,212)
Cash paid to suppliers	(26,662,211)	(25,704,211)	958,000
Net Cash Provided by Operating Activities	<u>46,030,192</u>	<u>46,392,980</u>	<u>362,788</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>			
Acquisition and construction of capital assets	(42,605,000)	(43,032,000)	(427,000)
Interest paid on financing	(17,225,410)	(17,225,410)	-
Principal paid on financing	(2,739,695)	(2,637,285)	102,410
Redemptions of commercial paper notes	(7,200,000)	(9,200,000)	(2,000,000)
Contributions for water meter retrofit program	781,488	781,488	-
Contributions from developers-will-serve letters	5,034,744	5,034,744	-
Contributions from developers-other	4,345,296	4,345,296	-
Contributions from developers-facility charges	4,826,436	4,826,436	-
Grants	200,000	200,000	-
Commercial Paper issuance costs	(468,624)	(468,624)	-
Net Cash (Used) by Capital and Related Financing Activities	<u>(55,050,765)</u>	<u>(57,375,355)</u>	<u>(2,324,590)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Interest received	<u>1,342,692</u>	<u>1,342,692</u>	<u>(1,961,802)</u>
Net Increase (Decrease) in Cash and Cash Equivalents	<u>(7,677,881)</u>	<u>(9,639,683)</u>	<u>(1,961,802)</u>
<b>CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR</b>	<u>\$ 160,000,000</u>	<u>\$ 171,000,000</u>	<u>\$ 11,000,000</u>
<b>CASH AND CASH EQUIVALENTS, END OF YEAR</b>	<u><u>\$ 152,322,119</u></u>	<u><u>\$ 161,360,317</u></u>	<u><u>\$ 9,038,198</u></u>

**Attachemnt B**



June 2018



## *Five Year Capital Improvement Plan*

### *Fiscal Year 2018 - 2022*

*Truckee Meadows Water Authority is a not-for-profit, community-owned water utility, overseen by elected officials and citizen appointees from Reno, Sparks, and Washoe County*



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## INTRODUCTION

The Truckee Meadows Water Authority's (TMWA's) Five-Year Capital Improvement Plan 2018 – 2022 (CIP), describes all infrastructure construction and major capital outlays that will take place between July 1, 2017 and June 30, 2022. Guidance for identifying and scheduling projects in the 2018-2022 CIP is provided by TMWA's 2010-2030 Water Facility Plan (WFP) and the 2016-2035 Water Resource Plan (WRP). The WRP Plan was formally updated in calendar year 2016 and the WFP will be updated in calendar year 2017. The updated Plans will reflect a fully consolidated utility including the former Washoe County Water Utility (WCWU) and the former South Truckee Meadows General Improvement District (STMGID) and will be the cornerstone of future CIPs.

The Authority is a joint powers authority formed in November 2000, pursuant to a Cooperative Agreement (as amended and restated as of February 3, 2010, the "Cooperative Agreement") among the City of Reno, Nevada ("Reno"), the City of Sparks, Nevada ("Sparks") and Washoe County, Nevada (the "County"). The Authority owns and operates a water system (the "Water System") and develops, manages and maintains supplies of water for the benefit of the Truckee Meadows communities. On January 1, 2015, TMWA, the WCWU and STMGID consolidated to create a regional water system under TMWA. TMWA has a total of 154 square miles of service area, which includes the cities of Reno and Sparks and other surrounding populated areas of the County (except certain areas in the vicinity of Lake Tahoe and other small areas bordering California). The Authority has no authority to provide water service outside of its Service Area; however, the Authority may provide service in the future to developments that are annexed into its Service Area. The 2018-2022 CIP incorporates a comprehensive compilation of water system improvements for TMWA. A major feature of the 2018-2022 CIP is the construction of a number of projects that will expand the conjunctive use of the region's water resources. The philosophy behind conjunctive use of local water resources is to maximize the use of surface water while preserving the integrity of groundwater resources which are preserved and can be drawn upon during periods of persistently dry weather. Another aspect of the 2018-2022 CIP is to expand the Aquifer Storage and Recovery Program (ASR Program) which is the recharge of groundwater basins with treated surface water. This activity is normally performed during the winter months when there is excess surface water treatment capacity.

The 2018-2022 CIP constitutes an essential component in TMWA's system of planning, monitoring and managing the activities of purveying water and generating hydroelectric power. This introduction will summarize projects and capital outlays for the ensuing five years including the explanation of prioritization of projects, and methodology for assigning the cost of projects to existing customers, development, also referred to as new and expanded service, or drawing on cash reserves transferred from WCWU and STMGID. A condition of consolidating STMGID into TMWA was that the former STMGID treasury be used only for infrastructure improvements in the former STMGID service area. The current 2018-2022 CIP is incorporated into a broader, constantly-updated Five-Year Funding Plan (FP) for a comparable period. This Funding Plan (FP) will determine adequate levels and sources of funding for projects contained in the 2018-2022-Year CIP.

The 2018-2022 FP indicates that TMWA can fund the CIP in light of diminished water sales. This situation is the result of significant reductions in water demands resulting from the drought. Otherwise there appears to be adequate treasury and revenues from various sources to fund operations, pay principal and interest on existing debt, principal and interest on future financing activities, and capital improvements as presented in the 2018-2022 CIP.

The 2018-2022 CIP envisions a total of \$172.8 million of spending with approximately 74.9% or \$129.5 million of this total amount dedicated to upgrades or replacement of existing infrastructure, and approximately 17.2% or \$29.8 million allocated to construction of new water system capacity projects, conjunctive use construction projects, retrofit of remaining unmetered services, and potential opportunistic acquisition of water rights. Construction/capital outlays associated with the former STMGID service area are estimated to be approximately 6.4% or \$11 million of total spending over the fiscal year 2018-2022 period. There are sufficient STMGID transferred reserves to fund the next five years of capital improvements in this category. Of the total projected spending over the next five years 13.8% or \$23.9 million is considered contingency spending which is dependent on certain events occurring to trigger spending. The \$172.8 million in projected spending is categorized in ten broad categories of improvements and spending outlays. These ten categories are:

1. Raw Water Supply Improvements
2. Groundwater Supply Development
3. Treatment Plant & Water Quality (WQ) Improvements
4. Distribution System Improvements
  - a. Pressure Improvements
  - b. Water Main Distribution & Service Line Improvements
5. Potable Water Storage Improvements
6. Hydroelectric Improvements
7. Customer Service Outlays
8. Administrative Outlays
9. Special Projects Funded by Development
10. Former STMGID System Improvements

The ninth category, *Special Programs Funded by Development* programs, are separated from a presentation standpoint because in the case of water right acquisitions, spending is currently driven by pricing opportunity and is part of the contingency spending. The completion of the water meter retrofit project may occur during the current five-year planning horizon since TMWA is seeing increasing contributions from developers to fund the few remaining meter installations. TMWA is seeking matching grant funding to combine with existing water meter retrofit cash reserves which together should be sufficient to complete the program. The tenth category, *Former STMGID System Improvements*, are separated from a presentation standpoint because projects in this category are funded by the STMGID reserve, which TMWA acquired through the acquisition of former STMGID.

A broad description of each category is provided next with detailed project descriptions to be found in the Project Description Section of the 2018-2022 CIP.

The first category, *Raw Water Supply Improvements*, contains 3.5% or approximately \$6.1 million of total spending in the 2018-2022 CIP. Projects focus on improvements to the Highland Canal/Siphon raw water conveyance infrastructure, upstream storage improvements for Donner and Independence Lakes where TMWA stores its Privately-Owned Stored Water (POSW) and expenses associated with the storage and implementation of the Truckee River Operating Agreement (TROA). Implementation of TROA is invaluable to TMWA since it now allows for the modification of river operations to expand upstream storage in the federal reservoir system for increased drought storage. TROA was implemented on December 1, 2015. TMWA is now storing water in the federal reservoir system under this new river operating regime.

The second category, *Ground Water Supply Improvements*, contains 8.5% or approximately \$14.6 million of total spending in the 2018-2022 CIP. These projects focus on preserving existing well capacities, drilling and equipping of new wells and at times complete replacement of existing wells.

The third category, *Treatment Plant Improvements*, contains 14.9% or approximately \$25.7 million of total spending in the 2018-2022 CIP. This spending targets fix and finish projects with the primary focus on the Chalk Bluff and Glendale Surface Water Treatment Plants located on the Truckee River. Another significant planned investment is the Mt. Rose Surface Water Treatment Plant which will provide additional critical conjunctive use water supplies on the Mt. Rose/Galena Fan with water sourced from local creeks. Other improvements focus on satellite water system treatment upgrades and a complete upgrade of the Supervisory Control and Data Acquisition (SCADA) system which provides centralized automated system control and data storage for the distribution system.

The fourth category, *Distribution System Improvements*, contains 40.2% or approximately \$69.4 million of total spending and is the most significant spending category in the 2018-2022 CIP. This spending is bifurcated into pressure improvements and water main and service line improvements. Pressure improvements include pump station rebuilds and new construction, correction of pressure or fire flow deficiencies, pressure regulating station rebuilds and new construction, as well as reconstruction of pressure regulating valves. Water main improvements include replacement of aged water mains reaching end of service life, installation of new mains for new and expanded service, water main oversizing and extensions, and the remaining two of three major conjunctive use projects to extend surface water supplies to the areas that rely heavily on year round groundwater pumping. The last set of projects furthers the conjunctive use philosophy of water resource management.

The fifth category, *Potable Water Storage Improvements*, contains 11.8% or approximately \$20.3 million of total spending in the 2018-2022 CIP. These projects are comprised mainly of new treated water storage tank construction to serve new and expanded service, some replacement of existing treated water tank capacity as well as systematic recoating of treated water tank interiors and exteriors to extend service life of these facilities.

The sixth category, *Hydroelectric Improvements*, contains 2.3% or approximately \$4.1 million of total spending in the 2018-2022 CIP. These improvements center on the three run-of-river

hydroelectric facilities currently owned by TMWA. Efforts on these facilities focus primarily on flume, forebay, diversion and canal improvements as well as equipment upgrades.

The seventh category, *Customer Service Outlays*, contains 4.7% or approximately \$8.1 million of total spending in the 2018-2022 CIP. Spending in this category focuses on meter reading device replacements and meter replacement if required. This spending is on an as needed basis. Also in this category is a spending provision for new business meters which is funded by development.

The eighth category, *Administrative Outlays*, contains 6.5% or approximately \$11.3 million of total spending in the 2018-2022 CIP. These outlays are primarily for Information Technology equipment, licenses, and desktop computer replacements as required. Included in this category of spending are fleet upgrades for heavy and light vehicles as well as excavation equipment.

The ninth category, *Special Projects Funded by Development*, contains 1.3% or approximately \$2.3 million of total spending in the 2018-2022 CIP. These outlays are for water meter retrofit and opportunistic water right purchases.

The tenth category, *Former STMGID System Improvement*, contains 6.4% or approximately \$11.0 million of total spending in the 2018-2022 CIP. Improvements in this category focus on conjunctive use, well replacement and improvements, and tank recoats. Also as meter pit failures occur in the former STMGID water system service areas those meter pits are converted to TMWA material standards.

## DEFINITIONS

### Capital Improvement Program Definitions

The Five-Year CIP is a planning and budgeting tool, which provides information about TMWA's infrastructure needs for a five-year time frame. Each year, the list of projects is reviewed for cost and priority. New projects may be added and other projects delayed or deleted entirely. Since most projects are mandatory or necessary, deletion of a project would be rare with the exception of contingency spending. However, capital spending plans must remain flexible, and it is often necessary to take revisions to the approved fiscal year's CIP back to the TMWA Board for approval. If construction or outlays can be deferred, TMWA will defer spending in order to preserve cash reserves, regardless whether or not there are difficult economic times. These decisions are made on a case by case basis.

Generally, capital improvements/outlays are defined as physical assets, constructed or purchased, that have a useful life of one year or longer and a cost of \$5,000 or more.

## Definition of Capital Outlays

"Capital Outlays," which are in TMWA's capital budget, include such things as furniture, computer equipment and software, vehicles, and heavy equipment needed to support TMWA's operations. These items are generally found in the Administrative category of projects. For Customer Service category, these outlays involve meter installations, and acquiring meter reading equipment.

## PRIORITIZATION OF PROJECTS/OUTLAYS

TMWA may not have sufficient funding to meet all its capital needs each year or may divert funding to meet unexpected capital improvements. If such conditions arise, projects are prioritized based on the effect each project has on TMWA's ability to meet customer demand and maintain water system reliability. TMWA's updated Five-Year FP is used to analyze overall total spending, identify various funding alternatives, and help determine whether or not water rate adjustments will be required.

The priority categories represent a relative degree of need for any particular project and are described below.

- \* **PRIORITY 1 MANDATORY:** These are considered absolutely required, and are the highest priority of all capital projects. Mandatory projects include those in final design or already under construction, or those required by legislation, or regulation for protection of public health and safety. These projects are generally found in the first fiscal year of the 2018-2022 CIP. Water demands or infrastructure conditions are such that if the project is not completed TMWA runs the risk of eventually being unable to reliably provide water service to its existing customers and/or new and expanded service, or incur extended outages.
- \* **PRIORITY 2 NECESSARY:** A project that is important for providing water service to customers, yet timing of construction or spending outlay is not as critical as a mandatory project. These projects are required and are generally found in the last four years of the 2018-2022 CIP. External factors such as the pace of new development or the condition of existing infrastructure may delay or accelerate the timing of project construction. When return on investment is a determining factor, projects in this category must have a payback of less than five years. A rate of return may not be applicable to projects whose economic/financial benefits cannot be easily quantified.
- \* **PRIORITY 3 CONTINGENCY:** These projects or capital outlays are not immediately critical to the operation of the water system. Expenditures in this category generally require a business case study or specific criteria to be met before spending can occur. If such criteria are not met, then spending may or may not be justified. Also, some projects are deferrable if spending is required in an area of higher priority. Even though these projects and outlays are in the 2018-2022 CIP the likelihood spending will occur may be remote and is based upon future conditions that are difficult to predict.



## **FUNDING OF CAPITAL SPENDING**

### **Funding Sources**

The 2018-2022 CIP will rely on various funding sources to pay for capital projects/capital outlays. TMWA relies heavily on revenues generated from water sales, hydroelectric, and other operating sales to fund the majority of projects. Developer contributions have historically been an important funding source for certain construction projects for new and expanded water system capacity. Investment income is also available to augment other revenue sources but is minor in relation to other funding sources. Collection of developer fees have been at historical lows since the inception of TMWA. TMWA has not been reliant on these fees to fund operations or fund annual principal and interest payments on TMWA's outstanding debt. In fiscal year 2017 residential, and commercial development activity, has accelerated in a meaningful manner providing financial resources to fund projects listed in the 2018-2022 CIP for new and expanded service. TMWA may rely on the issuance of new money debt to fund large levels of capital spending in a particular period. The 2018-2022 CIP does not anticipate reliance on funding from new money at this time. TMWA has relied on a number of new money debt issuances in the past to fund capital spending.

### **Developer Contributions**

TMWA looks to the development community for developer contributions in the form of system development charges or direct reimbursements to fund capital expenditures related to new or expanded water service, including pump station construction or expansions and feeder main extension projects. In June 2003, the TMWA Board adopted facility charges to pay for new treatment/supply capacity projects and new storage capacity projects. TMWA began collecting these facility charges in January 2004. Under TMWA's Rule 5 these proceeds are used to support new capacity construction. Rule 7 governs the purchase of water rights and reimbursement by developers for issuance of will-serve commitments for water service. However, because of the timing of certain growth driven capital projects, additional financial resources may be called upon as needed. The TMWA Board updated the system development charges in March 2005, in October 2006, in February 2008 (effective March 1, 2008) and finally in July 2013. In January 2015, TMWA created new area fees for the former Washoe County Department of Water Resources. In June 2015 TMWA revised fees for Areas 14 and 15 and in June 2016 TMWA Board approved consolidating Area 10 fees for Areas 8A, 10, 13 and 13B and Storage Fee were revised. These fees are subject to periodic review for funding adequacy.

### **Bonds and Other Financing/Funding Tools**

New money revenue bond issuance has been historically an integral part of funding construction spending. TMWA prefers to not use senior lien debt, but rather rely on subordinated debt financing obtained through the Drinking Water State Revolving Loan Fund and the tax-exempt commercial paper program due to lower cost of capital and

repayment subordination features of these funding vehicles. Customer water sales and various developer fees may not be immediately sufficient to pay for construction spending and capital outlays so there may be some reliance on new money debt and reliance on future tax-exempt commercial paper note sales.

At the time of the acquisition of the water assets of Sierra Pacific Resources (SPR), TMWA established a \$40.1 million capital improvement project fund from proceeds of Series 2001-A acquisition bonds issuance. Since inception, TMWA has primarily relied upon operating cash flow, investment income and developer fees to fund capital projects. However, during fiscal year 2005, TMWA was able to utilize a low cost *Drinking Water State Revolving Fund (DWSRF)* loan for \$4.8 million to fund arsenic removal projects and to issue \$40.0 million in additional senior lien bonds to fund various capital improvements. The \$40.0 million Series 2005 Revenue bond proceeds (totaling a net \$37.2 million to apply to construction) were fully expended before the end of fiscal year 2008. TMWA inaugurated a tax-exempt commercial paper program in August 2006; initially to fund water right purchases with two issues that totaled \$43 million. Moreover, the program provides another resource to draw upon for additional funding for capital projects and water rights acquisitions. Market conditions were extremely favorable in February 2008, at which time TMWA took the opportunity to issue an additional \$25 million at an initial rate of 1.59% which includes letter of credit fees and commercial paper remarketing costs. TMWA has taken advantage of 0% interest rate federal stimulus funding and obtained a \$2.3 million loan through the DWSRF program to partially fund the Mogul Bypass Siphon Project. In December 2009 TMWA obtained an \$8.5 million DWSRF loan authorization to construct the Glendale Raw Water Diversion and Intake Structure which was completed in fiscal year 2011. TMWA drew only \$4.4 million on this facility and de-obligated the remaining authorization. TMWA extended its tax-exempt commercial paper program in fiscal year 2012 and completed the process of extending the direct pay liquidity facility with two banks, Wells Fargo N.A and J.P. Morgan N. A. to substitute Lloyds TSB, the originator of the first liquidity facility. Subsequently in fiscal year 2014 TMWA extended the tax-exempt commercial paper program again and replaced Wells Fargo N.A and J.P. Morgan N. A. liquidity facility with an expanded Liquidity facility with Bank of Tokyo-Mitsubishi UFJ. The new liquidity facilities provide for a direct-pay letter of credit to support remarketing of TMWA's commercial paper and also supports an A-1/P-1 rating (highest rating) for TMWA's short term variable rate debt program. This has resulted in favorable interest rates, ranging from less than 1/10 of 1% to 1% which was continually experienced throughout the last three years. In the fourth quarter of fiscal year 2015, TMWA applied for a DWSRF Loan for \$15.0 million to fund the construction phase of the North Valleys Integration Project. Draws on this loan were used to fund the North Valleys Integration Pipeline Project.

### **Rule 5 and Rule 7 Fees**

These fees are collected from the development community. Rule 5 fees are paid by developers to TMWA for the construction of new water feeder mains, new treatment/supply capacity, new storage capacity, and for new or rebuilt pump stations to

meet demand resulting from new and expanded service. Rule 7 Fees are derived from will-serve sales to development. TMWA historically purchased water rights on the open market and reserves these rights for will-serve letters to be sold to development. TMWA also recovers a modest amount of administrative and financing costs with the sale of each will-serve. The title to water rights are retained by and dedicated to TMWA. TMWA has sufficient inventory of water rights to meet the demands for new and expanded service for the foreseeable future.

### **Water Meter Retrofit Fees**

TMWA has been retrofitting flat rate water services with meter boxes, setters and meters. The intent is to meter the entire water system which is now in the final stage. To accomplish this task TMWA collects \$1,830 for each surface acre-foot of demand when will-serve commitments are issued for new or expanded service. Proceeds from the \$1,830 per surface acre-foot fee are used to fund the water meter retrofit project. TMWA expects to complete the water meter retrofit program over the course of the next several years

### **Capital Contributions from Other Governments**

TMWA is a water wholesaler to the Sun Valley General Improvement District (SVGID). From time to time, new infrastructure must be constructed to service this retail water-service provider. There are no expectations of any need for reimbursement from this source in the 2018-2022 CIP although historically SVGID has made contributions to TMWA.

### **Reserves from the Water Utility Consolidation**

TMWA, the WCWU and STMGID consolidated on January 1, 2015. As a result of the consolidation, the respective treasuries of the WCWU and STMGID were transferred to TMWA. The WCWU treasury that was transferred to TMWA amounted to approximately \$43.4 million after the final transfer of funds while the STMGID treasury transferred to TMWA was approximately \$15.7 million. These cash and investment reserves will be used to make necessary improvements in the former water utility service areas including conjunctive use enhancements.

### **Other Resources**

One method of generating additional funds for capital improvements is to increase existing fees/charges or to add new fees/charges. However, future increases will be provisional if TMWA is able to meet revenue requirements and maintain bond coverage ratios that will suffice to maintain strong investment-grade credit ratings. TMWA has obtained many benefits of Aa1/AA+ credit ratings with positive/stable outlooks. The Board ultimately decided up through fiscal year 2009 to forego any potential customer rate increases since the last rate increase that occurred in March 2005. The TMWA Board did approve a 4.5% general rate increase for fiscal year 2010 and another 4.4% general

rate increase for fiscal year 2011. The TMWA Board has approved and implemented a 3.5% general rate increase that was put into effect February 1, 2012 and another general 3.4% water rate increase in February 2014. As a consequence of the water utility consolidation any review of water rate adjustments was forestalled until TMWA had at least one full year of operating history as a consolidated water utility. Water rate increases are essential for TMWA to maintain sound credit ratings, to ensure that the liquidity facility that supports TMWA's commercial paper program can be successfully extended, and to preserve access to other opportunities in the capital markets. TMWA should also fund rehabilitative capital projects in a meaningful manner due to water delivery being an essential municipal service.

## **FISCAL YEAR 2018 CAPITAL SPENDING-THE CAPITAL BUDGET**

TMWA expects to spend \$43.0 million for fiscal year 2018, the first year of the FY 2018-2022 CIP. Of this total 77.2% or \$33.2 million will be focused on water system rehabilitation while 19.3% or \$8.3 million is dedicated to water system expansion, limited opportunistic acquisition of water rights and some water meter retrofit activities. Distribution system improvements are expected to account for approximately 35.0% or \$15.1 million of the total projected spending for fiscal year 2018. The Verdi Main Extension Project for \$2.2 million is the largest single project in this category. Groundwater supply improvements are expected to account for approximately 7.7% or \$3.3 million of annual spending. Other activities include activities on existing wells and various rehabilitation projects to preserve well capacities. Treatment plant improvements are expected to account for approximately 24.8% or \$10.7 million of total projected annual spending. Water treatment plant rehabilitation and system control upgrades are expected to be \$2.3 million with construction of a new surface water treatment plant on the Mt. Rose Fan for \$6.0 million. System controls and associated telemetry transport is reaching its technological service life and upgrades will be necessary to stay current but not to the extent of being cutting edge technology. All other capital spending and outlays are expected to be 3.5% or \$1.5 million among a number of various smaller projects to improve water quality. Residential-housing growth and commercial-construction activity declined to a virtual standstill in fiscal years 2009 through 2013. Some residential and commercial construction activity revived in fiscal year 2015. Based on current new business applications, growth accelerated in fiscal year 2016 which is now driving more attention to projects for new and expanded service.

## **SUMMARY OF PROJECTS FOR THE FISCAL YEAR 2018 BUDGET**

Total construction spending, acquisition spending, and capital outlays are expected to be \$43.0 million for the fiscal year 2018. TMWA has established the following projects for the capital budget in fiscal year 2018:

### **Category 1 Raw Water Supply Improvements \$2,875,000:**

- Highland Canal Upgrades – Downstream of Chalk Bluff – \$225,000
- Highland Canal Upgrades – Diversion to Chalk Bluff – \$100,000
- Donner Dam Improvements – \$300,000
- Independence Lake Permitting Study - \$100,000
- Indirect Potable Reuse – \$100,000
- TROA Drought Storage / Implementation – \$150,000
- Mesa Park Drainage - \$1,900,000

### **Category 2 Groundwater-Development \$3,305,000:**

- Well Rehabilitation and Improvements – \$1,050,000
- Sunrise Well #3 Replacement – \$500,000
- Bedell Flat Water Bank – \$50,000
- Well Fix & Finish – \$150,000
- Well Plugging / Conversion - \$110,000
- NDEP Monitoring Wells - \$110,000
- Spanish Springs Nitrate Treatment - \$400,000
- Fish Springs Ranch Monitoring Well Rehabilitation - \$25,000
- Well Head TTHM Mitigation - \$200,000
- Desert Springs 1 & 2 and Spring Creek 5 Aquifer Storage Recovery Retrofit - \$710,000

### **Category 3 Treatment-Improvements \$10,654,000:**

- Chalk Bluff Treatment Plant Fix & Finish - \$845,000
- Glendale Treatment Plant Fix & Finish - \$405,000
- Longley Lane Treatment Plant Fix & Finish - \$145,000
- Chalk Bluff Pump Building Air Handler - \$850,000
- Truckee Canyon Water Treatment Improvements – \$65,000
- Lightning W Treatment Improvements – \$60,000
- SCADA Rehab / Plant Operating Software – \$1,339,000
- Mt. Rose Surface Water Treatment Plant – \$6,000,000
- Longley Lane Water Treatment Plant Assessment/Retrofit - \$55,000
- Terminal Tank PH Adjustment - \$290,000
- Glendale Diversion Emergency Flood Repairs - \$600,000

### **Category 4 Distribution-Improvements \$15,078,000:**

#### **Pressure Improvements Subtotal \$4,878,000**

- Pressure Regulator Rehabilitation – \$400,000
- Pressure Reducing Valve (Roll Seal) Removal & Replacement– \$400,000
- Land Acquisitions – \$250,000
- Paloma Pressure Regulating Station/Main - \$1,000,000

- Pump Station Oversizing – \$250,000
- Pump Station Rehabilitation – \$900,000
- D’Andrea #3 Pump Station (developer reimbursed) – \$619,000
- Standby Generators – \$150,000
- Generator Additions – Lightning W, Sunrise Estates, and Old Washoe - \$79,000
- Mogul Booster Pump Station - \$500,000
- Yellow Pine Main Pressure Regulating Station - \$330,000

**Water Main Distribution Service Line Improvements Subtotal \$10,200,000**

- Street & Highway Main Replacements – \$3,000,000
- 4<sup>th</sup> and Prater Replacement / Modification - \$2,000,000
- South Virginia / Midtown Main Plumb to Liberty - \$1,100,000
- Pyramid Way Transmission Main - \$800,000
- California-Marsh 24" Main Replacement – \$100,000
- Arrowcreek-Mt Rose Conjunctive Use Phase 2 – \$400,000
- Arc Flash Improvements – \$100,000
- General Waterline Extensions – \$100,000
- Galvanized/Polybutylene Service Replacements – \$400,000
- Verdi Main Extension – \$2,200,000

**Category 5 Storage–Improvements \$3,510,000:**

- Peavine Tank Replacement – \$ 2,500,000
- Zone 11 Tank - \$150,00
- Storage Tank Recoats, Access & Drainage Improvements– \$860,000

**Category 6 Hydroelectric – Improvements \$345,000:**

- Forebay, Diversion and Canal Improvements – \$45,000
- Flume Rehabilitation - \$300,000

**Category 7 Customer Service \$1,785,000:**

- Meter Reading Equipment - \$60,000
- New Business Meters – \$350,000
- Mueller Pit Replacements (former Washoe County service area) – \$125,000
- Meter ERT-RTR Replacements – \$1,250,000

**Category 8 Administrative \$4,255,000:**

- GIS/GPS System Mapping Equipment - \$40,000
- Desktop Computer Upgrades – \$100,000
- Network Server / Storage Upgrades – \$175,000
- Network Security Upgrades – \$150,000
- Disaster Recovery Improvements - \$215,000
- Furniture, Office Equipment – \$50,000
- Crew Trucks-Vehicles – \$825,000
- Security-Emergency Response (ER) Projects – \$150,000
- Emergency Operations Annex (Design) – \$500,000
- Corporate Office Expansion– \$1,800,000
- System Wide Asphalt Rehabilitation - \$250,000

**Category 9 Special Projects Funded by Development \$450,000:**

- Water Meter Retrofit – \$300,000
- Water Right Purchases – \$150,000

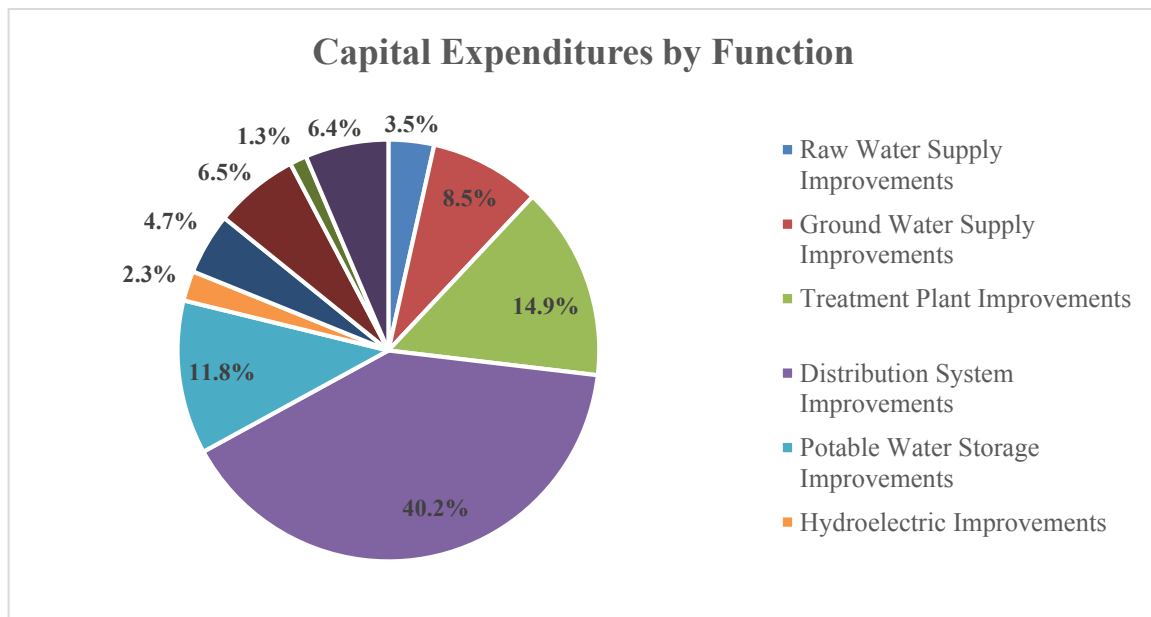
**Category 10 Former STMGID System Improvements \$775,000:**

- STMGID Well Bypass & Chlorine Room Improvements - \$400,000
- STMGID Well Fix & Finish - \$150,000
- STMGID Conjunctive Use Facilities - \$150,000
- STMGID Mueller Pit Replacements - \$75,000

Detailed project descriptions are provided for all projects in the 2018-2022 CIP. These descriptions cover the fiscal year 2018 capital budget as well as the four additional years from 2019-2022.

### CAPITAL EXPENDITURES BY FUNCTION (Amounts in thousands of dollars)

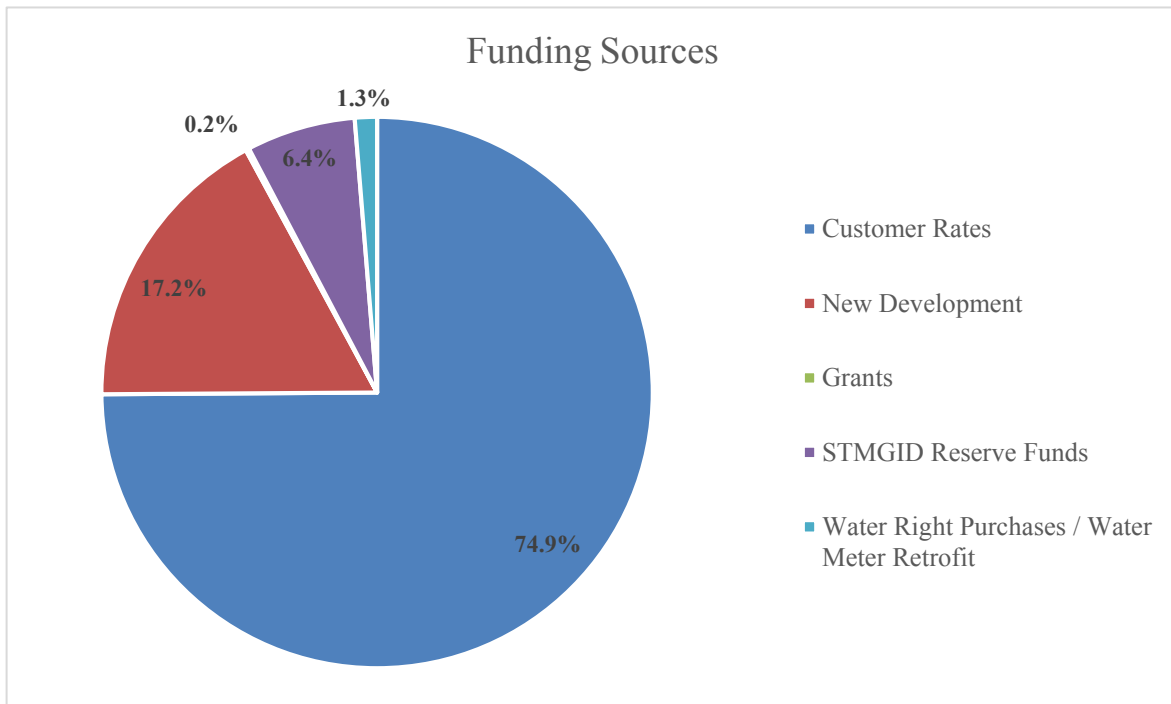
Summary of Capital Expenditures by Function	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Five Year CIP Total
Raw Water Supply Improvements	2,875	575	575	1,475	575	6,075
Ground Water Supply Improvements	3,305	2,385	3,575	3,175	2,175	14,615
Treatment Plant Improvements	10,654	6,967	5,187	1,795	1,089	25,692
Distribution System Improvements	15,078	12,600	13,630	16,200	11,590	69,398
Potable Water Storage Improvements	3,510	3,950	3,450	2,900	6,500	20,310
Hydroelectric Improvements	345	1,055	1,000	1,000	650	4,050
Customer Service Outlays	1,785	1,725	1,610	1,475	1,535	8,130
Administrative Outlays	4,255	2,835	1,350	1,415	1,465	11,320
Water Meter Retrofit/ Water Right Purchases	450	450	450	450	450	2,250
<b>Sub-Total TMWA Construction Spending &amp; Outlays</b>	<b>42,257</b>	<b>32,842</b>	<b>30,827</b>	<b>29,885</b>	<b>26,029</b>	<b>161,840</b>
Former STMGID System Improvements	775	3,520	3,300	2,900	500	10,995
<b>Total Projected Capital Spending, Including STMGID</b>	<b>43,032</b>	<b>36,362</b>	<b>34,127</b>	<b>32,785</b>	<b>26,529</b>	<b>172,835</b>





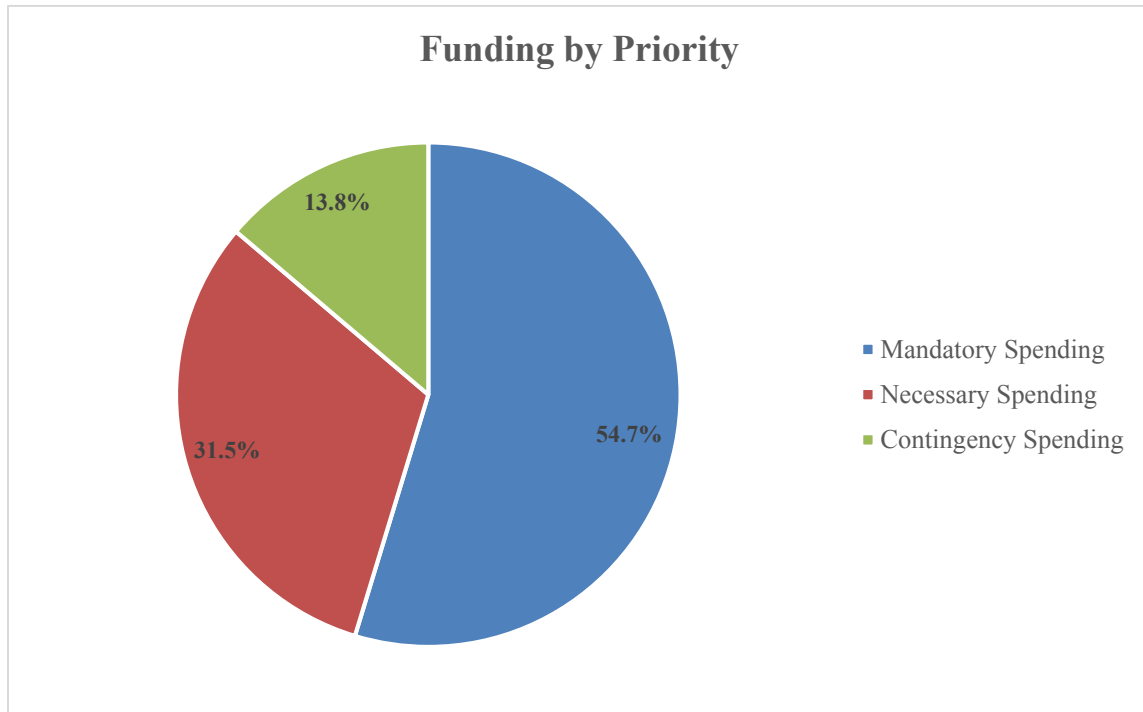
## PRELIMINARY FUNDING PLAN FUNDING SOURCES (Amounts in thousands of dollars)

Summary of Funding Sources	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Five Year CIP Total
Capital Improvements Funded by Customer Rates	33,223	26,798	25,205	23,845	20,464	129,534
Capital Improvements Funded by Development	8,284	5,595	5,173	5,590	5,115	29,756
Capital Improvements Funded by Grants	300	-	-	-	-	300
Capital Improvements Funded with former STMGID Reserve Funds	775	3,520	3,300	2,900	500	10,995
Water Meter Retrofit/ Water Right Purchases	450	450	450	450	450	2,250
<b>Total Projected Capital Spending</b>	<b>43,032</b>	<b>36,362</b>	<b>34,127</b>	<b>32,785</b>	<b>26,529</b>	<b>172,835</b>



### FUNDING BY PRIORITY (Amounts in thousands of dollars)

Summary of Funding by Priority	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Five Year CIP Total
Priority 1 – Mandatory Spending, Projects in Progress, Regulatory	31,572	24,917	13,842	12,830	11,299	94,460
Priority 2 – Necessary Spending	9,875	8,425	17,360	12,885	5,970	54,515
Priority 3 – Contingency Spending	1,585	3,020	2,925	7,070	9,260	23,860
<b>Total Projected Capital Spending</b>	<b>43,032</b>	<b>36,362</b>	<b>34,127</b>	<b>32,785</b>	<b>26,529</b>	<b>172,835</b>





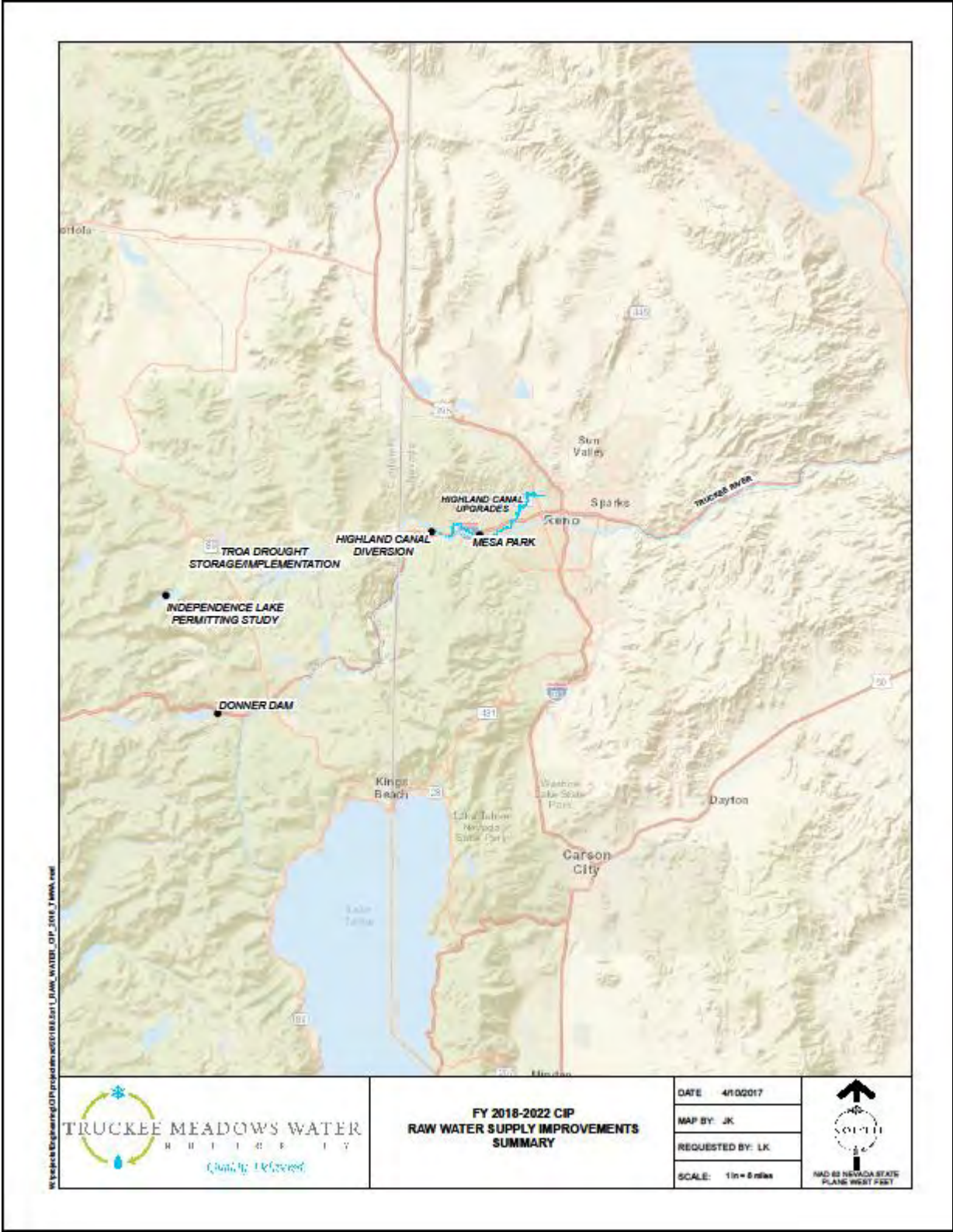
## PROJECT FUNCTIONS AND DESCRIPTIONS

### RAW WATER SUPPLY IMPROVEMENTS

#### Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Highland Canal- Upgrades-Downstream	225	225	225	225	225	1,125
1	Customer Rates	Highland Canal- Upgrades-Diversion to Chalk Bluff	100	100	100	1,000	100	1,400
1	Customer Rates	Donner Dam Improvements	300	-	-	-	-	300
2	Customer Rates	Independence Lake Permitting Study	100	-	-	-	-	100
2	Customer Rates	Indirect Potable Reuse	100	100	100	100	100	500
1	Customer Rates	TROA Drought Storage/Implementation	150	150	150	150	150	750
1	Customer Rates	Mesa Park Drainage	1,900					
<b>Subtotal</b>			<b>2,875</b>	<b>575</b>	<b>575</b>	<b>1,475</b>	<b>575</b>	<b>6,075</b>

**Project Locations:** Map of all *Raw Water Supply Improvements* projects are highlighted in the following map.



## Raw Water Supply Improvements Highland Canal-Upgrades-Downstream FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Highland Canal – Upgrades - Downstream	225	225	225	225	225	1125

**PROJECT DESCRIPTION:** The improvements reflected in this capital project item are for betterments along the canal downstream of the Chalk Bluff Water Treatment Plant to the Rancho San Rafael Park. Approximately 2,000 feet of “smart ditch” (a molded plastic trapezoidal channel section) has been installed downstream of Chalk Bluff in recent years. This product reduces leakage and maintenance and it is planned to continue to extend the installation in the future. Other efforts are rehabilitative in nature and may address access and security concerns.

**SCHEDULE:** Projects are identified and prioritized on an annual basis.

**PROJECT:**



## Raw Water Supply Improvements

### Highland Canal – Upgrades – Diversion to Chalk Bluff FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Highland Canal – Upgrades-Diversion to Chalk Bluff	100	100	100	1,000	100	1,400

**PROJECT DESCRIPTION:** These improvements are for the stretch of canal between the diversion on the Truckee River and Chalk Bluff Water Treatment Plant. The proposed spending is to secure the canal from trespass to enhance public safety and prevent encroachment on TMWA property. Due to swift flows in the Highland Canal TMWA will also complete fencing along the canal for public safety, install security cameras and access barriers. The proposed FY 2021 budget is for replacement of the existing 54” siphon pipe under the Truckee River just downstream of the diversion installed in 1954.

**SCHEDULE:** Projects are identified and prioritized on an annual basis.

**PROJECT:**



## Raw Water Supply Improvements Donner Dam Improvements FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Donner Dam Improvements	300	-	-	-	-	300

**PROJECT DESCRIPTION:** During the annual inspection of the Donner Dam facility the Division of Safety of Dams (DSOD) noted areas of the structure that are suffering from deteriorating concrete. TMWA completed repairs to the dam in FY 2016 but still needs to make repairs to the concrete railings and deck. In addition, several safety and operational improvements are needed which became apparent during the January 2017 flood. Monies are budgeted to perform a project scoping and permitting strategy assessment.

**SCHEDULE:** Project scoping and permitting strategy assessment to be performed in FY 2018.

**PROJECT:**





## Raw Water Supply Improvements Independence Lake Permitting Study FY2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Independence Lake Permitting Study	100	-	-	-	-	100

**PROJECT DESCRIPTION:** TROA calls for the use of storage at Independence Lake before TMWA can access its Credit Water Storage. There is a provision in TROA to provide fish passage between the natural lakes in the event of a substantial reservoir drawdown. The purpose of this project is to begin a dialogue with the appropriate permitting agencies to proactively develop a strategy to understand the future implementation steps to satisfy the fish passage requirement.

**SCHEDULE:** Permitting strategy to be developed in FY 2018.

**PROJECT:**



## Raw Water Supply Improvements Indirect Potable Reuse FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Indirect Potable Reuse	100	100	100	100	100	500

**PROJECT DESCRIPTION:** NDEP has approved new regulations for future reuse in Nevada, including urban, agricultural (food and non-food crops), impoundments, environmental, industrial, and indirect potable reuse (IPR). IPR is a process whereby the purified water is stored in an environmental buffer such as a lake or aquifer before re-entering the drinking water supply.

Conceptually, an IPR project might be well suited for areas such as the North Valleys or the South Truckee Meadows. IPR in these locations could improve the utilization of existing water resources and water rights, since the Water Reclamation Facilities for these areas do not return the treated water to the Truckee River. The purified water could be recharged using infiltration basins or injection wells in areas generally isolated from domestic wells, blended with ambient groundwater, and eventually recovered using TMWA’s municipal wells.

**SCHEDULE:** Planning, permitting, design and operation of an advanced treatment pilot / demonstration project with UNR over the next 3-5 year time frame, with funding support from Reno, Sparks, Washoe County, WRWC and TMWA.

**PROJECT:**



## Raw Water Supply Improvements TROA Drought Storage/Implementation FY2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	TROA Drought Storage / Implementation	150	150	150	150	150	750

**PROJECT DESCRIPTION:** TROA became effective and TMWA began implementation officially on December 1, 2015.

Ongoing budget under TROA implementation is for additional stream gages in new locations as required, as well as improving the monitoring capabilities of existing gages as needed on an annual basis. Other smaller capital improvements related to the operation of reservoir sites such as:

- Improvements to existing and/or construction of remote power source for Independence outlet gates and PLC
- Improvements to existing and/or new satellite service provider to improve communication reliability
- Independence and Donner Lake spillway channel maintenance dredging

**PROJECT:**



## Raw Water Supply Improvements Mesa Park Drainage FY2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Mesa Park Drainage	1,900	-	-	-	-	1,900

**PROJECT DESCRIPTION:** The project involves construction of new large diameter storm drain facilities to capture surface drainage that previously flowed into the Highland Canal which delivers the raw water supply to the Chalk Bluff Water Treatment Plant. Not only were these discharges a significant source of raw water turbidity, the drainage areas included several large animal corrals and pens. The project includes boring and jacking of a new large diameter storm drain pipeline railroad crossing; installation of storm drain pipeline crossing under the Highland Canal; relocation and construction of a new sanitary sewer pipeline and appurtenances; restoration and construction of new surface improvements, including asphalt paving, concrete curb, gutter and driveway aprons.

**SCHEDULE:** Construction of the improvements began in FY17 and will continue into FY18.

**PROJECT TYPE:**



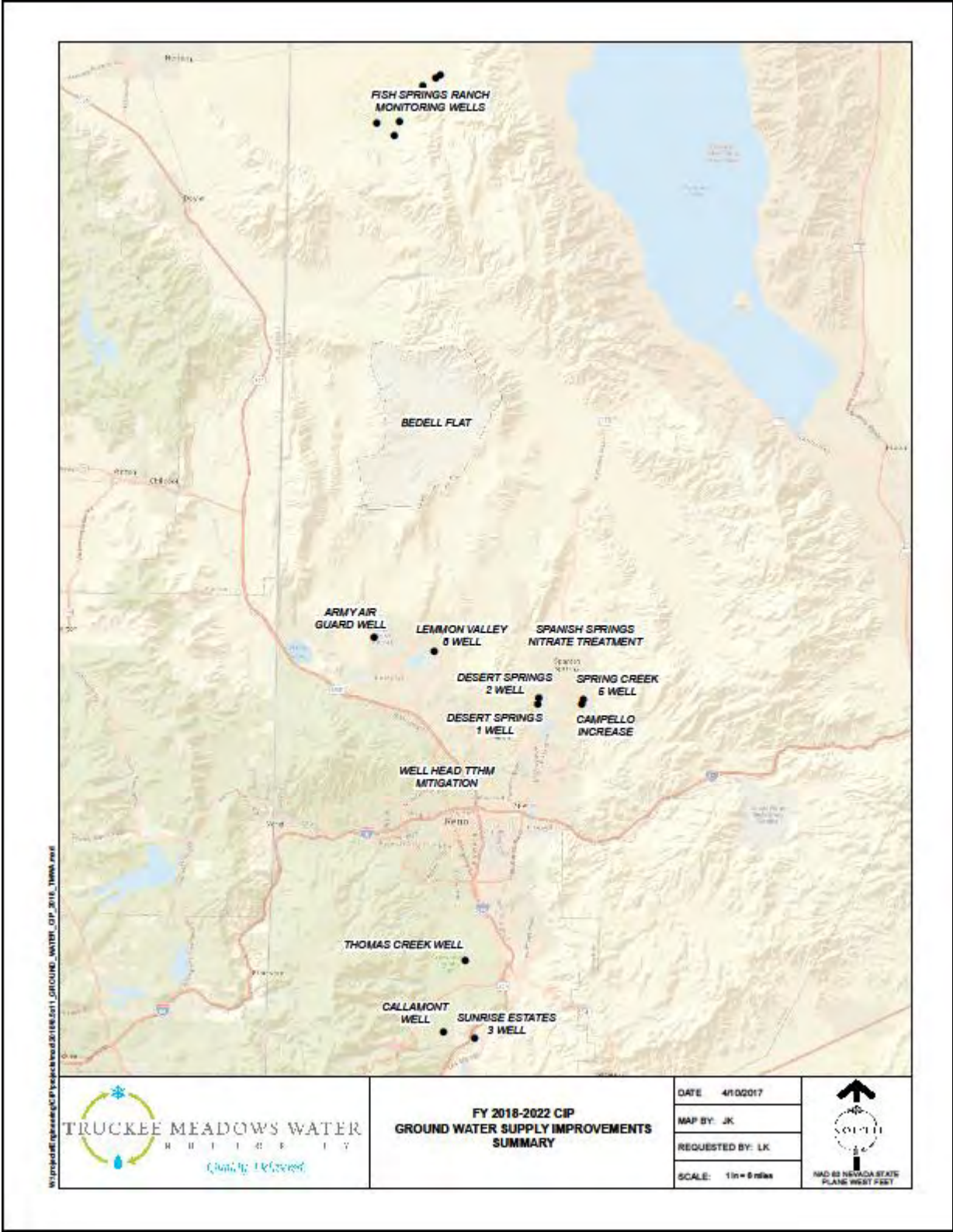


## GROUND WATER SUPPLY IMPROVEMENTS

### Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	1,050	725	925	925	925	4,550
2	Customer Rates	Campello Capacity Increase	-	-	150	-	-	150
2	Developer Fees	Callamont Well South Equip	-	-	-	1,000	-	1,000
2	Customer Rates	Air Guard Well Replacement	-	-	1,000	-	-	1,000
1	Customer Rates	Sunrise #3 Replacement	500	900	-	-	-	1,400
3	Customer Rates	Bedell Flat Water Bank	50	100	100	100	100	450
2	Customer Rates	Lemmon Valley Well #8 Replacement	-	-	-	-	1,000	1,000
1	Customer Rates	Well Fix & Finish	150	150	150	150	150	750
2	Customer Rates	Well Plugging / Conversion	110	-	-	-	-	110
1	Customer Rates	NDEP Monitoring Wells	110	-	-	-	-	110
2	Customer Rates	Thomas Creek Well Replacement	-	-	1,250	1,000	-	2,250
1	Customer Rates	Spanish Springs Nitrate Treatment	400	-	-	-	-	400
2	Customer Rates	Fish Springs Ranch Monitoring Well Rehabs	25	-	-	-	-	25
2	Customer Rates	Well Head TTHM Mitigation	200	-	-	-	-	200
2	Customer Rates	Spring Creek Well #7 Recharge	-	500	-	-	-	500
1	Grant	Desert Springs 1 & 2 and Spring Creek 5 ASR Retrofit	710	10	-	-	-	720
<b>Subtotal</b>			<b>3,305</b>	<b>2,385</b>	<b>3,575</b>	<b>3,175</b>	<b>2,175</b>	<b>14,615</b>

**Project Locations:** Map of all *Ground Water Supply Improvements* projects are highlighted in the following map.



## Ground Water Supply Improvements Well Rehabilitation Improvements FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	1,050	725	925	925	925	4,550

**PROJECT DESCRIPTION:** Funds are budgeted to rehabilitate TMWA production wells as required. Typically for subgrade rehabilitation efforts, six to eight wells are inspected, tested and evaluated every year to determine if rehabilitation is required. Typical subgrade rehab activities include but are not limited to: pump and pump column pipe replacements; rehabilitation of well casing and screen; and other enhancements to maintain well quality and capacities. Spending in fiscal years 2018-2022 will include improvements at several wells to provide general above grade well equipment and building upgrades including upgrades to electrical and telemetry equipment. TMWA has over 80 water production wells operating throughout the water system. TMWA relies on these wells to provide drought and emergency supply and as a supplemental source to meet peak demands on the water system.

**SCHEDULE:** Wells targeted for rehabilitation improvements in FY 2018 include Mt. Rose 6, Lightning W 1, Old Washoe Estates 3, STMGID 2, and Arrowcreek 2.

**PROJECT:**





## Ground Water Supply Improvements Campello Capacity Increase FY 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Campello Capacity Increase			150			150

**PROJECT DESCRIPTION:** These improvements will increase the transfer capacity between the Spanish Springs #2 pressure zone and the former County Spring Creek system on the east side of Spanish Springs Valley to provide sufficient surface water supply for passive and/or active recharge of former County wells.

**SCHEDULE:** The improvements are currently planned to be completed in FY 2020.

**PROJECT TYPE:**



## Ground Water Supply Improvements Callamont Well South Equipping FY 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Callamont Well South Equipping	-	-	-	1,000	-	1,000

**PROJECT DESCRIPTION:** Construct pumping facilities for one of the existing Callamont wells in the Mt. Rose system including the pump house building, electrical power, pump/motor and valves and piping to provide an additional 500 gallons per minute of peak period supply to the area.

**SCHEDULE:** This project is currently scheduled for construction in FY 2021, but may be constructed sooner depending on the actual schedule for the proposed 210 unit Callamont residential development.

**PROJECT TYPE:**



## Ground Water Supply Improvements Air Guard Well Replacement FY 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Air Guard Well Equip		-	1,000	-	-	1,000

**PROJECT DESCRIPTION:** Replacement of the Air Guard Well in Stead was necessary to reduce sanding and provide additional capacity to the Stead system. The new/replacement well was drilled and constructed in FY 2016. Test pumping indicates the new well will have a capacity of about 2,500 gallons per minute which is twice the capacity of the old well. The budget for FY 2021 is for constructing the pumping facilities including the well building, pump and motor, valves and piping, electrical and controls, etc.

**SCHEDULE:** The pumping facilities will be constructed in FY 2021.

**PROJECT:**



## Ground Water Supply Improvements Sunrise #3 Replacement FY 2018 - 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Sunrise #3 Replacement	500	900				1,400

**PROJECT DESCRIPTION:** This project involves complete replacement of the existing Sunrise Well #3, a six-inch monitoring well in Pleasant Valley in order to verify groundwater quantity and quality on property owned by UNR. The existing well is operated on an emergency basis only because it produces excessive sand and is located too close to an existing septic system. This project requires exploration drilling before the final site selection and well construction in FY18, and well equipping in FY19.

**SCHEDULE:** The well drilling is scheduled for completion in FY 2018 if a suitable site can be acquired.

**PROJECT:**



## Ground Water Supply Improvements Bedell Flat Water Bank FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Bedell Flat Water Bank	50	100	100	100	100	450

**PROJECT DESCRIPTION:** As part of TMWA’s overall water resource conjunctive use management strategy, TMWA is working with cost sharing partners including the City of Reno, Sparks and Washoe County to evaluate of the feasibility of an integrated water resource ASR program in Bedell Flat. Bedell Flat is located in southern Washoe County, about 13 miles north of Stead and appears to have favorable hydrogeologic characteristics for a large scale ASR program. Several water resource options are under consideration, including: injection of potable water using ASR wells off of the existing NVIP pipeline; infiltration of highly treated wastewater along a natural drainage referred to as Bird Spring Wash; infiltration of highly treated wastewater through a spreading basin; or a combination of these. Water stored or banked in Bedell Flat could serve as a future non-Truckee River based drought or emergency water supply for the region. This project is a joint funded agreement with USGS to conduct water infiltration monitoring and assessment to determine feasibility of ASR in Bedell Flat.

**SCHEDULE:** Geologic/hydrogeologic feasibility investigations and environmental clearance and permitting work are proposed over the next 3-5 years to gain an understanding of the feasibility, scope and cost of a water banking program in Bedell Flat.

**PROJECT:**



## Ground Water Supply Improvements Lemmon Valley Well #8 Replacement FY2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Lemmon Valley Well #8 Replacement	-	-	-	-	1,000	1,000

**PROJECT DESCRIPTION:** The exiting Lemmon Valley 8 Well has been in service since 1974, making it one of the older wells in the East Lemmon Valley system. The exiting well casing and screens show signs of significant corrosion. With the potential for a well casing failure, TMWA intends to drill and equip a replacement well on the exiting well property. In addition, the replacement well is expected to have similar construction and produce at least 20 percent more capacity as than the original Lemmon Valley 8. The additional capacity is necessary as a peaking supply to support base load supply from the Fish Springs groundwater system.

**SCHEDULE:** Well drilling will occur in FY22 and well equipping in FY23.

**PROJECT:**



## Ground Water Supply Improvements Well Fix & Finish FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Well Fix & Finish	150	150	150	150	150	750

**PROJECT DESCRIPTION:** Equipment improvements are expected to bring existing wells up to modern standards, including antiquated equipment replacements and improvements for water quality purposes. This project includes improvements to sodium hypochlorite rooms, pump to waste lines and drainage improvements. It also includes well retrofit for recharge where needed.

**SCHEDULE:** Improvements are planned to continue for the duration of this CIP funding plan.

**PROJECT:**



## Ground Water Supply Improvements Well Plugging / Conversion FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Well Plugging / Conversion	110	-	-	-	-	110

**PROJECT DESCRIPTION:** There are a number of old wells in the TMWA system that were recently replaced by new wells (or system supply) and are no longer viable or necessary. These old production wells may be plugged or, if they occur in areas where water level and water chemistry data are needed, they will be converted to monitoring wells. Wells slated for plugging will be disconnected from the distribution system and filled with neat cement to 2 feet below land surface. Wells slated for conversion will be designed to accommodate a 2” PVC monitoring well liner, appropriate gravel pack, and sanitary seal to allow formerly screened aquifer intervals to transmit water to the new monitoring well. Plugged wells will be terminated 1 foot below grade. Monitoring wells will be completed to 2’ above land surface and secured with a steel monument where possible; otherwise they will be completed at grade with a traffic-rated vault.

**SCHEDULE:** New monitor well drilling and installation as well as old monitoring well plugging activities will occur in FY18.

**PROJECT:**





## Ground Water Supply Improvements NDEP Monitoring Wells FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	NDEP Monitoring Wells	110	-	-	-	-	110

**PROJECT DESCRIPTION:** There are a number of old monitoring wells in the TMWA system that were relied on to collect water level and/or water quality data to meet NDEP-UIC Permit requirements. Several of these wells were found to be plugged and no longer viable monitoring points. This project estimate assumes 3 monitoring wells will be replaced with new monitoring wells and the 3 replaced monitoring wells will be plugged.

**SCHEDULE:** New monitor well drilling and installation as well as old monitoring well plugging activities will occur in FY18.

**PROJECT:**



## Ground Water Supply Improvements Thomas Creek Well Replacement FY 2020 – 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Thomas Creek Well Replacement	-	-	1,250	1,000	-	2,250

**PROJECT DESCRIPTION:** This project involves complete replacement of the existing Thomas Creek well, pump, tank and booster pump system. The existing well, which has been in service since 1978, is inefficient and results in excessive drawdown, which in turn burns out the motor on a frequent basis. The new well will be designed to pump directly into the system, so the existing tank and booster pump system can be abandoned. The replacement well is expected to have higher capacity compared to the existing well.

**SCHEDULE:** This project requires drilling in FY20 and well equipping in FY21.

**PROJECT:**



## Ground Water Supply Improvements Spanish Springs Nitrate Treatment FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Spanish Springs Nitrate Treatment	400	-	-	-	-	400

**PROJECT DESCRIPTION:** TMWA has contracted with Carollo Engineers in the amount of \$351,500 to set up and manage the operation of the wellhead pilot treatment study. TMWA has also contracted with UNR (\$60,006.60) to provide a graduate student to work with Carollo and operate the system. The \$60,000 will be reimbursed to TMWA from money in the WaterStart program. The Nevada Center of Excellence (WaterStart) is a non-profit organization with aims to make Nevada a global water innovation hub and portal for investment by leveraging the state’s leadership and expertise in water. The project will extend over an 18-month period starting mid-February 2017.

**SCHEDULE:** Pilot work began in FY 2017 and will finish in FY 2018.

**PROJECT:**



## Ground Water Supply Improvements Fish Springs Ranch Monitoring Well Rehabs FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Fish Springs Ranch Monitoring Well Rehabs	25	-	-	-	-	25

**PROJECT DESCRIPTION:** Project will consist of rehabilitation and sampling of 10 monitoring wells in Honey Lake Valley for accurate TDS transport modelling and simulations.

**SCHEDULE:** Rehabilitation and sampling will be completed in FY 2018.

**PROJECT:**



## Ground Water Supply Improvements Well Head TTHM Mitigation FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Well Head TTHM Mitigation	200	-	-	-	-	200

**PROJECT DESCRIPTION:** Planning, permitting and implementation of tank mixers and ventilation equipment at Zolezzi and Verdi Business Park tanks, dechlorination pilot testing at one or more recharge well sites.

**SCHEDULE:** Planning and design began in FY 2017 and is ongoing. Construction will begin in summer FY 2018 and will be completed by winter FY 2018.

**PROJECT:**



## Ground Water Supply Improvements Spring Creek Well #7 Recharge FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Spring Creek Well #7 Recharge	-	500	-	-	-	500

**PROJECT DESCRIPTION:** A new 12-inch diameter recharge water line and well piping improvements are needed to provide the necessary capacity to allow TMWA to recharge SC Well 7. TMWA is in the process of expanding its ASR program into areas formerly served by Washoe County.

**SCHEDULE:** Construction will occur in FY 2019.

**PROJECT:**



## Ground Water Supply Improvements

### Desert Springs 1 & 2 and Spring Creek 5 ASR Retrofit FY 2018 -2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates/ Grant	Desert Springs 1 & 2 and Spring Creek 5 ASR Retrofit	710	10	-	-	-	720

**PROJECT DESCRIPTION:** Three wells in Spanish Springs Valley (Desert Springs #1, #2, and Spring Creek #5) will be retrofit to function as dual-purpose ASR wells to improve conjunctive use of surface water and groundwater in the basin, in order to be more drought resilient. These three wells will be modified with downhole flow control valves, SCADA controls, and modified wellhead and well house piping to allow the wells to recharge water from the distribution system. Prior to retrofit activities, each well will be rehabilitated to increase pumping and recharge efficiency. The project was made possible through a competitive grant received from the Bureau of Reclamation in 2016, which provided federal matching funds in the amount of \$300,000 with a total project cost of \$765,205.

**SCHEDULE:** Planning and design were completed, and construction began, in FY 2017. Construction is scheduled for completion in FY 2018.

**PROJECT:**

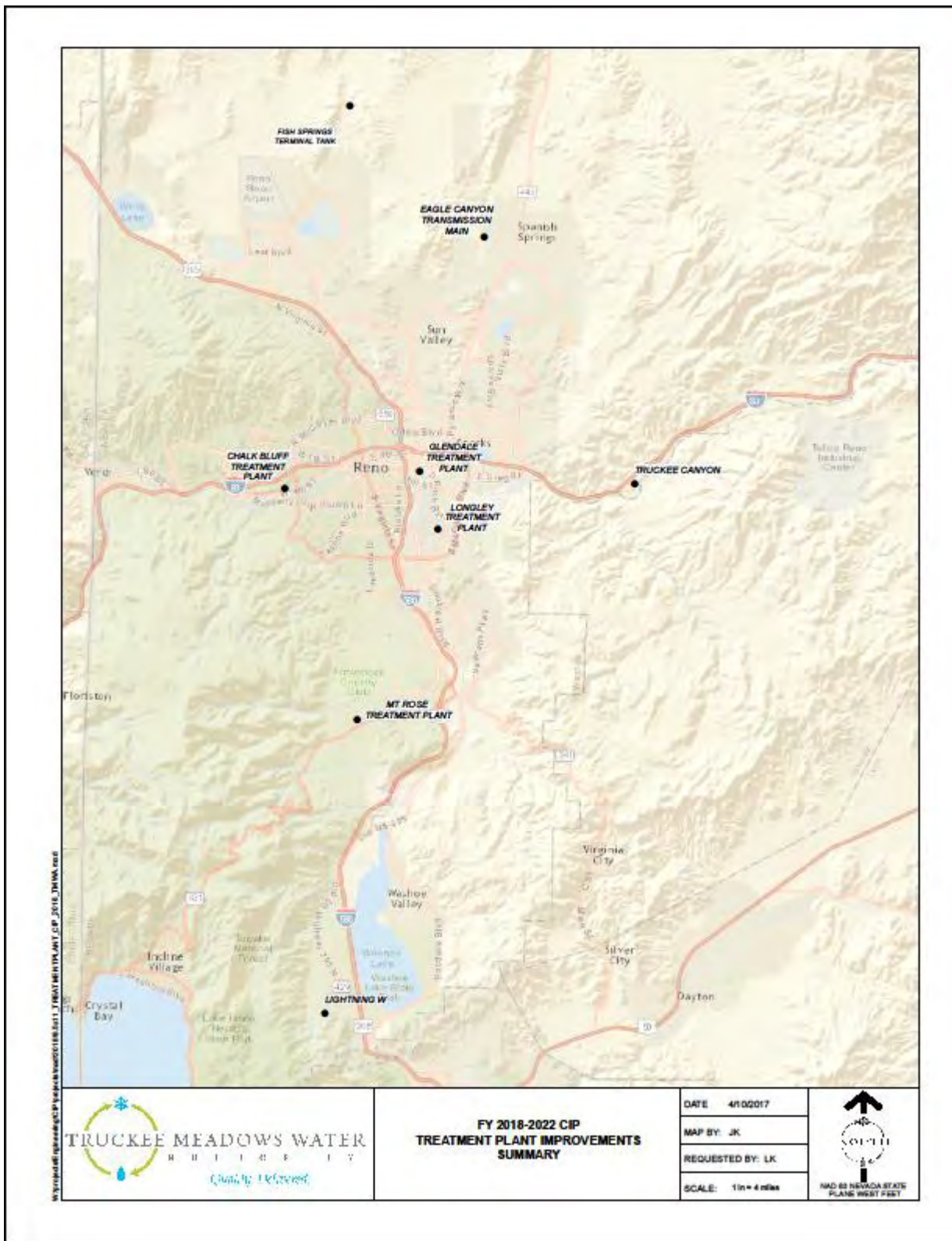


## TREATMENT PLANT IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Chalk Bluff Treatment Plant Fix & Finish	845	780	600	360	355	2,940
2	Customer Rates	Glendale Treatment Plant Fix & Finish	405	485	1,250	210	65	2,415
2	Customer Rates	Longley Lane Treatment Plant Fix & Finish	145	-	-	-	-	145
2	Customer Rates	Chalk Bluff Pump Building Air Handler	850	-	-	-	-	850
2	Customer Rates	Chalk Bluff Lighting Upgrade	-	-	-	350	-	350
2	Customer Rates	Glendale Lighting Upgrade	-	250	-	-	-	250
2	Customer Rates	Eagle Canyon Transmission Main Phase 2	-	100	1,800	-	-	1,900
2	Developer Fees	Truckee Canyon Water Treatment Improvements	65	35	60	60	35	255
2	Developer Fees	Lightning W Treatment Improvements	60	60	10	60	160	350
1	Customer Rates	SCADA Rehab/Plant Operating Software	1,339	1,257	867	755	474	4,692
1	Developer Fees	Mt. Rose Surface Water Treatment Plant	6,000	4,000	-	-	-	10,000
2	Customer Rates	Longley Lane Water Treatment Plant Assessment/Retrofit	55	-	600	-	-	655
1	Developer Fees	Terminal Tank PH Adjustment	290	-	-	-	-	290
1	Customer Rates	Glendale Diversion Emergency Flood Repairs	600	-	-	-	-	600
<b>Subtotal Treatment Improvements</b>			<b>10,654</b>	<b>6,967</b>	<b>5,187</b>	<b>1,795</b>	<b>1,089</b>	<b>25,692</b>

**Project Locations:** Map of all *Treatment Plant Improvements* projects are highlighted in the following map.





## Treatment Plant Improvements Chalk Bluff Treatment Plant Fix & Finish FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Chalk Bluff Treatment Plant Fix & Finish	845	780	600	360	355	2,940

**PROJECT DESCRIPTION:** The Chalk Bluff Water Treatment Plant is 24 years old and requires rehabilitation work to remain operational 24/7/365. This spending is classified as necessary due to the criticality of maintaining plant operations during rehabilitation work. Plant improvements include, but are not limited to, plate settlers inspections, valve and instrument replacement, filter media replacement, UPS upgrades, Trac Vac improvements, treatment train isolation valves, Orr Ditch Pump Station improvements, flow meter improvements and safety improvements.

**SCHEDULE:** Major projects and timelines include: improvements to maintain raw water via the Highland Canal, raw water scaffolding additions and valve/meter replacements which will start in FY 2018. Work to isolate sections of the treatment plant influent trains will begin in FY 2019. Orr Ditch Pump Station Improvements are scheduled for FY 2022. Filter media removal will occur as filter media evaluations indicate that replacement will soon be necessary. As the Chalk Bluff plant is operated year-round, most work will continue over the course of the five-year CIP and when system demands allow maintenance.

**PROJECT:**



## Treatment Plant Improvements Glendale Treatment Plant Fix & Finish FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Glendale Treatment Plant Fix & Finish	405	485	1,250	210	65	2,415

**PROJECT DESCRIPTION:** The Glendale Water Treatment Plant is 40 years old and while there have been significant upgrades, Glendale remains a significant piece of the water supply portfolio by operating 24/7 typically during the months of April thru October. Glendale plays an important role due to its availability to treat off-river water supplies, such as groundwater wells that cannot pump straight to the distribution system. This spending is classified as necessary due to the criticality of maintaining plant operations. Plant improvements include, but are not limited to, plate settlers inspections, valve and instrument replacement, filter media replacement, Trac Vac improvements, flow meter improvements, installation of a second clearwell, treatment chemical upgrades and maintenance storage/shop upgrades.

**SCHEDULE:** Major projects such as soda ash mixer improvements and water recovery basin piping will begin in FY 2018. The treatment plant maintenance shop and storage improvements are currently scheduled in FY 2020. Initial planning for the addition of a second clearwell is slated for FY 2022. Filter media removal will occur as filter media evaluations indicate that replacement will soon be necessary. As the Glendale plant is used seasonally, most work will continue over the course of the five-year CIP and during the periods that the plant is not operating.

**PROJECT:**



## Treatment Plant Improvements Longley Lane Treatment Plant Fix & Finish FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Longley Lane Treatment Plant Fix & Finish	145	-	-	-	-	145

**PROJECT DESCRIPTION:** The Longley Lane Water Treatment Plant plays an important role in providing water to various pressure zones. Treatment plant improvements include, but are not limited to pump station and clearwell improvements, maximizing groundwater blending opportunities, chemical storage and handling improvements, facility storage and maintenance improvements and safety improvements.

**SCHEDULE:** The project is scheduled for completion before the end of FY2018.

**PROJECT:**



## Treatment Plant Improvements

### Chalk Bluff Pump Building Air Handler FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Chalk Bluff Pump Building Air Handler	850	-	-	-	-	850

**PROJECT DESCRIPTION:** This project replaces the Chalk Bluff Outflow Pump Station Air Handlers. Existing evaporative cooling air handlers will be replaced with 2-stage closed loop air handlers with 1<sup>st</sup> stage cooling provided by a cooling tower and second stage cooling accomplished by a chiller. The electrical room will be cooled with three standalone evaporator/condenser units.

**SCHEDULE:** Construction is scheduled to begin October 2017 with a completion date in January 2018.

**PROJECT:**



## Treatment Plant Improvements Chalk Bluff Lighting Upgrade FY 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Chalk Bluff Lighting Upgrade	-	-	-	350	-	350

**PROJECT DESCRIPTION:** Upgrade lighting at the Chalk Bluff Water Treatment Plant. Work will include all areas and buildings outside of the most recent remodel areas as well as upgrades to outside area lighting.

**SCHEDULE:** Lighting upgrade is scheduled to begin in FY 2021.

**PROJECT:**



## Treatment Plant Improvements Glendale Lighting Upgrade FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Glendale Lighting Upgrade	-	250	-	-	-	250

**PROJECT DESCRIPTION:** Upgrade lighting at the Glendale Water Treatment Plant. Work will include all areas and buildings outside of the most recent remodel areas as well as upgrades to outside area lighting.

**SCHEDULE:** Lighting upgrade is scheduled to begin in FY 2019.

**PROJECT:**



## Treatment Plant Improvements

### Eagle Canyon Transmission Main Phase 2 FY 2019 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Eagle Canyon Transmission Main Phase 2	-	100	1,800	-	-	1,900

**PROJECT DESCRIPTION:** This project involves construction of approximately 4,700 feet of 24-inch pipe to complete a dedicated blending pipeline to the Desert Springs 2B Tank sites. The project allows poor quality groundwater from several wells on the west side of the Spanish Springs Valley to be utilized by blending with surface water from the Lazy 5 intertie.

**SCHEDULE:** The project is scheduled to be designed and bid in FY 2018 with construction in FY 2019.

**PROJECT TYPE:**





## Treatment Plant Improvements

### Truckee Canyon Water Treatment Improvements FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Truckee Canyon Water Treatment Improvements	65	35	60	60	35	255

**PROJECT DESCRIPTION:** The current treatment system which removes arsenic, iron, and manganese consists of a greensand filter system and an evaporation pond for backwash water with a total capacity of about 100 gallons per minute. Scheduled improvements may include the addition of a polymer feed system to improve filter performance, fine tuning of the treatment process to reflect chemical changes in the raw water and replacement of miscellaneous components and control upgrades.

**SCHEDULE:** Expenditures in FY 2018 – FY 2022 are contingent spending related to treatment efficiency and for chemical changes in the raw water.

**PROJECT:**



## Treatment Plant Improvements

### Lightning W Treatment Improvements FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Lightning W Treatment Improvements	60	60	10	60	160	350

**PROJECT DESCRIPTION:** The existing treatment process consists of two ion exchange resin pressure vessels to remove uranium. The project includes change out/replacement of the filter media, disposal of the spent media and miscellaneous improvements to the building that houses the treatment equipment including making provisions to hook up a portable generator.

**SCHEDULE:** The project is scheduled for FY 2017 and future resin replacements will ultimately be determined based on the remaining life of the ion exchange resin in the filter vessels.

**PROJECT:**



## Treatment Plant Improvements

### SCADA Rehab/Plant Operating Software FY 2018 - 2022

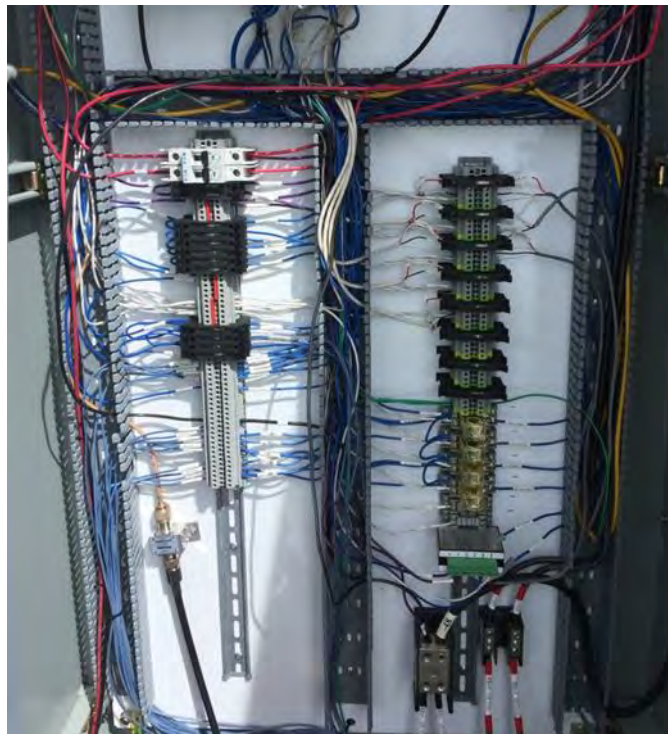
**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	SCADA Rehab/Plant Operating Software	1,339	1,257	867	755	474	4,692

**PROJECT DESCRIPTION:** SCADA (Supervisory Control and Data Acquisition) is the system by which TMWA monitors, records and controls the water system inputs, outputs, flows and pressures. Data acquired by these system controls are primarily monitored at the treatment plants, but the system equipment and technology is spread throughout the water system infrastructure. Much of the technology is approaching obsolescence and needs to be replaced with emphasis on standardization of programmable logic controllers (PLC) and other equipment. Therefore, TMWA settled on a systematic approach to updating the equipment and operating software starting in fiscal year 2015 with telemetry improvement in the ensuing four years to convert to wireless transmission of data feeds where possible.

**SCHEDULE:** The improvements and replacements of the equipment and operating software have already begun and will continue over the course of the five-year CIP.

**PROJECT:**



## Treatment Plant Improvements

### Mt. Rose Surface Water Treatment Plant FY 2018 – 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Developer Fees	Mt. Rose Surface Water Treatment Plant	6,000	4,000	-	-	-	10,000

**PROJECT DESCRIPTION:** Due to a combination of municipal and domestic well pumping and the extended drought, TMWA has determined that additional infrastructure and facilities are needed to utilize Thomas and Whites Creek resources to improve the long-term viability and sustainability of groundwater supplies in this region. To provide reliability of supply, avoid or reduce pumping costs and avoid major on-peak capacity improvements within the lower TMWA gravity system, a 4 MGD treatment plant located off of Callahan Road near the Monte Vista subdivision has received a SUP to treat Whites Creek and Thomas Creek water. The County’s South Truckee Meadows Facility Plan recognized “The upper treatment plant is an integral component of the recommended water supply plan. Most importantly, it will provide recharge water and/or offset winter groundwater pumping in the upper Mt Rose fan area.”

**SCHEDULE:** Permitting and design to be completed in FY 2018. Bidding and construction will occur in FY2018, and completion of construction in FY 2019.

**PROJECT:**



## Treatment Plant Improvements

### Longley Lane Water Treatment Plant Retrofit FY 2018 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Longley Lane Water Treatment Plant Retrofit	55		600			655

**PROJECT DESCRIPTION:**

The Longley Lane Water Treatment Plant cannot currently be operated due to safety concerns with chemical feed, clean in place and solids handling piping systems. An assessment of the plant needs to be completed and improvements made prior to future operations.

**SCHEDULE:** Planning of the treatment plant began in spring FY 2017 and will be completed in winter FY 2018.

**PROJECT:**



## Treatment Plant Improvements Terminal PH Adjustment FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Developer Fees	Terminal PH Adjustment	290	-	-	-	-	290

**PROJECT DESCRIPTION:** The purpose of the project is to reduce the pH levels of the water supplied from the Fish Springs Water System. Project includes the relocation of an 18 ton liquid CO2 storage tank from the Longley Lane Treatment Plant and re-install it at the Terminal tank location. Also included are a new chlorine storage, pumping, and carbonic acid treatment structure and a new precast concrete vault for injection of carbonic acid and sodium hypochlorite.

**SCHEDULE:** Construction will begin at the end of FY 2017 and be completed in FY 2018.

**PROJECT:**



## Treatment Plant Improvements

### Glendale Diversion Emergency Flood Repairs FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Glendale Diversion Emergency Flood Repair	600	-	-	-	-	600

**PROJECT DESCRIPTION:** This project will consist of emergency repairs to the Glendale Diversion dam due to flood damage incurred during the winter of 2016-17.

**SCHEDULE:** Due to the extreme snowpack this year, it is anticipated that the repairs will not be completed until the fall-winter of FY 2018.

**PROJECT:**



## DISTRIBUTION SYSTEM IMPROVEMENTS – PRESSURE IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	400	350	500	500	500	2,250
1	Customer Rates	Pressure Reducing Valve (Roll Seal) Removal	400	400	400	400	400	2,000
2	Customer Rates	Land Acquisitions	250	250	250	250	250	1,250
2	Customer Rates	Desert Springs Pressure Improvements	-	400	-	-	-	400
1	Customer Rates	Paloma Booster Pump Station / Pressure Regulating Station /Main	1,000	-	-	-	-	1,000
2	Developer Fees	Longley Booster Pump Station /Double R Capacity Increase	-	500	-	-	-	500
3	Customer Rates	Pump Station Oversizing	250	100	100	100	100	650
1	Customer Rates	Pump Station Rebuilds Rehabilitation	900	1,000	1,000	1,000	1,000	4,900
1	Developer Fees	D’Andrea #3 Pump Station (developer reimbursement)	619	-	-	-	-	619
3	Developer Fees	Truckee River Highlands PS #1	-	-	-	1,000	-	1,000
2	Customer Rates	Mt. Rose Well #3 Pump Station Improvements	-	50	250	-	-	300
3	Customer Rates	Standby Generator Improvements	150	800	150	150	150	1,400
1	Customer Rates	Generator Additions – Lightning W, Sunrise Estates, and Old Washoe Systems	79	-	-	-	-	79



Truckee Meadows Water Authority FY 2018-2022 Capital Improvement Plan Attachment C

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Idlewild Booster Pump Station Improvements	-	-	-	100	1,200	1,300
1	Customer Rates	Mogul Booster Pump Station	500	-	-	-	-	500
3	Customer Rates	Parkridge Circle Conversion	-	-	-	-	300	300
3	Developer Fees	SW Reno Pump Zone Consolidation Phase 1	-	-	-	-	300	300
3	Customer Rates	Spanish Springs #1 Pressure Zone Intertie	-	-	-	600	-	600
2	Developer Fees	STMGID Tank 4 Booster Pump Station/ Transmission Line	-	-	2,450	550	-	3,000
1	Customer Rates	Yellow Pine Main/Pressure Regulating Station	330	-	-	-	-	330
3	Developer Fees	Wildwood Pressure Regulating Station /Scada Control	-	-	-	50	-	50
3	Developer Fees	Truckee River Highland Pump Station #2	-	-	-	-	900	900
3	Customer Rates	Old Virginia Regulation Station	-	-	330	-	-	330
<b>Sub-Total Pressure Improvements</b>			<b>4,878</b>	<b>3,850</b>	<b>5,430</b>	<b>4,700</b>	<b>5,100</b>	<b>23,958</b>

**Project Locations:** Map of all *Distribution System Pressure Improvements* projects are highlighted in the following map.



## Distribution System Improvements – Pressure Improvements Pressure Regulators Rehabilitation FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	400	350	500	500	500	2,250

**PROJECT DESCRIPTION:** Provision is made in the annual budget for major rehabilitation or complete reconstruction of several pressure regulators in the distribution system. TMWA has evaluated nearly 130 pressure regulator stations currently in service and has identified a number of pressure regulator stations requiring a certain amount of rehabilitation on an annual basis.

**SCHEDULE:** This is an ongoing rehabilitation project with about 130 individual stations identified as requiring rehabilitation or replacement over the next fifteen years.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Pressure Reducing Valve (Roll Seal) Removal FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Pressure Reducing Valve (Roll Seal) Removal	400	400	400	400	400	2,000

**PROJECT DESCRIPTION:** There are approximately 180 pressure regulating stations in former County systems where Roll Seal pressure reducing valves are installed. These valves are subject to failure on a 3-5 year basis as compared to an expected life of 10-20 years for the Cla-Val regulator valves utilized in the TMWA system. A Roll Seal failure can result in significant damage to customer homes and in most cases requires a major service outage to repair or replace the valve.

**SCHEDULE:** Projects will be prioritized based on potential damage (unregulated pressure) and failure rate records. This will be a multi-year project to replace Roll Seals at about 20 stations per year.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Land Acquisition FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Land Acquisitions	250	250	250	250	250	1,250

**PROJECT DESCRIPTION:** TMWA has over 120 pump stations in service. Many of these pump stations have 480 volt electrical services and are underground (below grade) in locations that allows for water infiltration. Many underground pump stations will be reaching the end of their service life, which will require replacement of the underground vault. Rather than replace the stations in place TMWA is planning to acquire other sites so these stations can be rebuilt above grade improving access and safety. Acquisition of sites may be time consuming and may not be purchased in a particular year.

**SCHEDULE:** This is an ongoing project with funding to allow purchase of 3-4 sites per year depending on location and market conditions.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Desert Springs Pressure Improvements FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Desert Springs Pressure Improvements	-	400	-	-	-	400

**PROJECT DESCRIPTION:** Distribution improvements to correct Nevada Administrative Code (NAC) pressure deficiencies in the southwest portion of the Desert Springs South system including a 1,500 foot 8-inch main tie between Shelby and Grove, a main/check valve tie at Taryn and Indian Springs, a main/check valve tie at Erin and Dolores and approximately 24 individual booster pump systems.

**SCHEDULE:** The improvements are scheduled for construction in FY 2019.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements Paloma Pressure Regulating Station/Main FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Paloma PRS/Main	1,000	-	-	-	-	1,000

**PROJECT DESCRIPTION:** The Paloma pressure zone is a continuous pumping zone in Lemmon Valley currently served by a booster pump station and 10,000 gallon pneumatic tank. The existing facilities do not provide adequate emergency or fire flow capacity to the 35 customers in the pressure zone. The improvements will consist of a pressure regulating station supplied by a main tie to the high pressure 24-inch Lemmon Drive main.

**SCHEDULE:** The improvements are currently scheduled for construction in FY 2018.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements Longley Booster Pump Station/Double R Capacity Increase FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Longley BPS/Double R Capacity Increase	-	500	-	-	-	500

**PROJECT DESCRIPTION:** Increase pumping capacity at the existing Longley Lane Booster Pump Station and make improvements at the Double R Intertie to provide additional peak supply to the Double Diamond area. The improvements at the Longley pump station will consist of replacing one of the existing pumps/motors with a new higher capacity unit along with electrical and motor starter upgrades. Certain components of the Double R Intertie will also be replaced to provide the additional capacity without excessive friction losses.

**SCHEDULE:** The improvements are scheduled for FY 2019 but are dependent upon growth. The improvements are necessary when supply through the Double R Intertie must exceed 5400 gallons per minute.

**PROJECT:**





## Distribution System Improvements – Pressure Improvements Pump Station Oversizing FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Pump Station Oversizing	250	100	100	100	100	650

**PROJECT DESCRIPTION:** The FY 2018 project consists of cash contributions towards construction of a new above ground booster pump station located near the Comstock Tank to replace the existing Sierra Pump Station which is located in an underground vault and is in need of major rehabilitation. TMWA would normally expend approximately \$1 million to replace an existing underground pump station with a new above ground station.

**SCHEDULE:** The improvements are ongoing, but the schedule is subject to change based on development & operational needs.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Pump Station Rebuilds, Rehabilitations FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Pump Station Rebuilds, Rehabilitations	900	1,000	1,000	1,000	1,000	4,900

**PROJECT DESCRIPTION:** TMWA has over 120 pump stations in service. An amount is budgeted annually for rehabilitation of TMWA’s older pump stations. Other pump stations may require pump, motor, and electrical upgrades. Budget for future years will allow TMWA to complete up to one above ground replacement project per year if suitable sites can be acquired. Otherwise, normal rehabilitation work will be performed per the priorities established by the study at a lower overall annual cost. One such project is to construct new dual booster pump station at the corner of Big Knob Dr. And Wall Canyon Dr. on TMWA parcel APN 083-591-03. The pump station replaces previously abandoned Sun Valley 4 booster pump station and removes water dependency from SVGID intertie.

**SCHEDULE:** In FY 2018, the Sun Valley #4 pump station will be relocated/replaced in an above ground installation. In FY 2019, the Satellite Hills pump station will be relocated/replaced in an above ground location.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements D’Andrea #3 Pump Station (developer direct cost) FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Developer Fees	D’Andrea #3 Pump Station (developer direct cost)	619	-	-	-	-	619

**PROJECT DESCRIPTION:** The project is a new developer funded booster pump station to serve a new phase of the D’Andrea residential development on the east side of Sparks, which includes a dual pressure zone booster pump station equipped with all necessary electrical, hvac, and controls. TMWA will design and construct the facilities on a site dedicated by the developer. The developer is responsible for 100 percent of the project costs. TMWA will be reimbursed for out of pocket expenditures as the project proceeds.

**SCHEDULE:** The developer has requested an in-service date in the fall of 2017.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Truckee River Highlands Pump Station #1 FY 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Truckee River Highlands Pump Station #1	-	-	-	1,000	-	1,000

**PROJECT DESCRIPTION:** The project is a new booster pump station located on an existing site in the Truckee River Highlands development between W. Fourth St. and I-80. Completion of this pump station along with the proposed Truckee River Highlands #2 pump station and a main tie to the existing 16-inch main on Robb Drive will ultimately replace capacity in the US 40 booster pump system that will be diverted to the Verdi area. The new pump system will also improve reliability of supply to the Northgate area.

**SCHEDULE:** Construction is scheduled for FY 2021, but the actual construction date will be determined by growth and demand in the Verdi area.

**PROJECT:**



**Distribution System Improvements – Pressure Improvements  
 Mount Rose Well #3 Pump Station Improvements  
 FY 2019 – 2020**

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Mount Rose Well #3 Pump Station Improvements	-	50	250	-	-	300

**PROJECT DESCRIPTION:** The project involves rehab of the building, removal of pipe and valves that will no longer be necessary following completion of the Mt. Rose Conjunctive Use Phase 2 improvements and upgrades to electrical and control systems.

**SCHEDULE:** Improvements are scheduled for design in FY 2019 and construction in FY 2020.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Standby Generator Improvements FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Standby Generator Improvements	150	800	150	150	150	1,400

**PROJECT DESCRIPTION:** A number of TMWA pumps stations have backup generation in case of power failures. TMWA incorporates a contingency for replacement of a generator in case of failure or if the Washoe County Health District requires backup generation at a particular site. No spending will occur unless necessary. This spending does not include backup generation for new pump stations required by and paid for by growth.

**SCHEDULE:** In FY 2019, a dedicated generator will be installed for the North Gate pump at Chalk Bluff.

**PROJECT:**



## Distribution System Improvements – Pressure Improvements Generator Additions – Lightning W, Sunrise Estates, and Old Washoe Systems FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Fees	Generator Additions - Lightning W, Sunrise Estates, & Old Washoe Systems	79	-	-	-	-	79

**PROJECT DESCRIPTION:** This project will provide diesel backup power generator sets for the Lightning W, Sunrise Estates, and Old Washoe Systems. The generators will be installed at Lightning W2 and W3 Wells, Sunrise Estates 1 Well, and Old Washoe 3 Well. These systems do not currently have backup power generation capability and the ability to provide backup power is required by the Washoe County Health District.

**SCHEDULE:** Construction is scheduled to begin in FY 2018.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements Idlewild BPS Improvements FY 2021 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Idlewild BPS Improvements	-	-	-	100	1,200	1,300

**PROJECT DESCRIPTION:** The project will replace existing pumps and motors at the Idlewild BPS Transfer Station to insure adequate and reliable emergency capacity. It is the only booster station that is capable of transferring water from the Highland Reservoir Zone to the Hunter Creek Reservoir Zone. The station was originally constructed as part of the Idlewild WTP, and was never designed specifically for the purpose that it is used for today. Improvements identified in the project include: Properly sizing new pumps and motors for today’s application, upgrading antiquated electrical systems and HVAC systems and bringing building up to modern construction codes. Evaluations by TMWA indicated this was the most cost effective alternative to provide a redundant supply for the zone and allowed retirement of the old 24-inch transmission pipeline on Plumb Lane all the way to the Hunter Creek Reservoir.

**SCHEDULE:** Design is scheduled for FY21 and construction should begin in FY22. This schedule may be moved based on system needs.

**PROJECT:**





## Distribution System Improvements – Pressure Improvements Mogul Booster Pump Station FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Fees	Mogul Booster Pump Station	500					500

**PROJECT DESCRIPTION:** The project includes replacement of the pumps and motors at the existing Mogul Booster Pump Station to provide a temporary capacity increase to allow extension of limited water service to the Verdi area. When this excess capacity is fully allocated it will be necessary to construct the remainder of the Verdi backbone water supply facilities such as the Verdi Pump Station, several thousand feet of transmission main from Mae Anne/Mesa Park to Somerset Ridge Parkway and the lower Verdi storage tank.

**SCHEDULE:** The improvements are scheduled to be constructed in the fall/winter of FY 2018.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements Parkridge Circle Conversion FY 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Parkridge Circle Conversion	-	-	-	-	300	300

**PROJECT DESCRIPTION:** Construct a new pressure regulating station on the discharge side of the Lakeridge pump zone and approximately 640 feet of parallel main on Parkridge Circle to correct NAC pressure and fire flow deficiencies.

**SCHEDULE:** The improvements are scheduled for FY 2022. Construction of either Phase 1 of the Southwest Pump Zone Consolidation project or replacement of the Lakeridge pump station must occur prior to or concurrently with this project.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements

### SW Reno Pump Zone Consolidation Phase 1 FY 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	SW Reno Pump Zone Consolidation Phase 1	-	-	-		300	300

**PROJECT DESCRIPTION:** The project includes a new high head booster pump station located on Lakeridge golf course property adjacent to Plumas; a new 12-inch suction pipeline from Lakeside Dr.; a high pressure transmission pipeline from the pump station across golf course property to Greensboro and McCarran Blvd.; and another 12-inch pipeline tie to the Ridgeview #1 pump zone. The completion of Phase 1 will allow the retirement of four existing below ground pump stations (Lakeside, Lakeridge, Plumas, Ridgeview #1).

**SCHEDULE:** Design of the improvements is scheduled to begin in FY 2021. Construction is scheduled to start in FY 2022 and continue into FY 2023 (\$6.8 million total over 3 years).

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements

### Spanish Springs #1 Pressure Zone Intertie FY 2021

#### FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Spanish Springs #1 Pressure Zone Intertie	-	-	-	600	-	600

**PROJECT DESCRIPTION:** The project consists of about 1,600 feet of 8-inch main from Rio Alayne Ct to Martini Rd. paralleling the Orr Ditch and a new pressure regulating station. Completion of the facilities will allow the retirement of the existing underground Spanish Springs #1 pump station.

**SCHEDULE:** The project is scheduled for FY 2021. The relocation of the Satellite Hills pump station must be completed prior to this project.

#### PROJECT TYPE:



## Distribution System Improvements – Pressure Improvements

### STMGID Tank #4 Booster Pump Station / Transmission Line FY 2020-2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	STMGID Tank #4 BPS/ T-Line	-	-	2,450	550	-	3,000

**PROJECT DESCRIPTION:** The project includes a new booster pump station located at or near the STMGID Tank 4/5 site and approximately 5800 feet of 12-inch discharge main to the Mt Rose WTP. The facilities will provide a supplemental source to the Mt Rose WTP that will back up plant production on the maximum day during drought and will also provide another source of supply for implementing conjunctive use in the area.

**SCHEDULE:** Design and construction will begin in FY 2020 and construction will continue into FY 2021. Schedule assumes that the STMGID Conjunctive Use facilities are completed by 2020.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements Yellow Pine Main / Pressure Regulating Station FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Yellow Pine Main/PRS	330	-	-	-	-	330

**PROJECT DESCRIPTION:** The project consists of a new main tie between the Douglas Fir and Blue Spruce pressure zones in the Mt Rose system and construction of a new dual zone pressure regulating station (PRS) to replace the existing Yellow Pine PRS that contains roll seal pressure reducing valves. The project will provide a second source of supply into the Blue Spruce regulated zone, improve fire flow in both pressure zones; and will increase system reliability by replacing the roll seal valves with cla-vals.

**SCHEDULE:** The project is scheduled for FY 2018 due to the condition of the existing PRS and also due to its priority risk factor concerning potential impact from failure of the roll seal valves.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements

### Wildwood Pressure Regulating Station/Scada Control FY 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Wildwood PRS/Scada Control	-	-	-	50	-	50

**PROJECT DESCRIPTION:** The project involves retrofitting an existing pressure regulating station to SCADA (remote) control to provide additional transfer capacity into the Mt Rose Tank #4 zone. It will be necessary to obtain electrical service to the existing vault; install a new PLC; and to equip the existing pressure regulating valve with solenoid control to allow the valve to be remotely operated from the Glendale control room.

**SCHEDULE:** The project is scheduled for FY 2021 but may be delayed or accelerated depending on the timing of growth and the need for the additional tank fill capacity.

**PROJECT TYPE:**



## Distribution System Improvements – Pressure Improvements

### Truckee River Highlands Pump Station #2 FY 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Truckee River Highlands PS #2	-	-	-	-	900	900

**PROJECT DESCRIPTION:** The project consists of a new booster pump station located on a yet to be determined site between the Truckee River Highlands (TRHL) subdivision north of W. Fourth St and the Robb Dr. interchange at I-80. Along with the Truckee River Highlands Pump Station #1, the pump system will provide a third source of supply for the Northwest water system and it will free up some capacity in the existing US40 pump station for deliver to the Verdi area.

**SCHEDULE:** Construction is scheduled for FY 2022, but the actual construction date will be determined by growth and demand in the Verdi area. The TRHL Pump Station #1 must be completed before the #2 pump station can be placed into service.

**PROJECT TYPE:**





## Distribution System Improvements – Pressure Improvements Old Virginia Regulation Station FY 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Old Virginia Regulation Station	-	-	330	-	-	330

**PROJECT DESCRIPTION:** The project involves construction of a new pressure regulating station (PRS) at Old Virginia and Sutherland; a short main tie between the former STMGID Well #9 site and the distribution system; and about 450 feet of 8-inch main in Sutherland from the PRS to Sage Hill Road. The improvements will convert an area with very high distribution system pressures to the existing Kohl’s Regulated Zone. A future Phase 2 would expand the regulated zone by consolidating the Kohl’s, Walmart and Old Virginia #2 regulated pressure zones.

**SCHEDULE:** The project is scheduled for construction in FY 2020.

**PROJECT TYPE:**



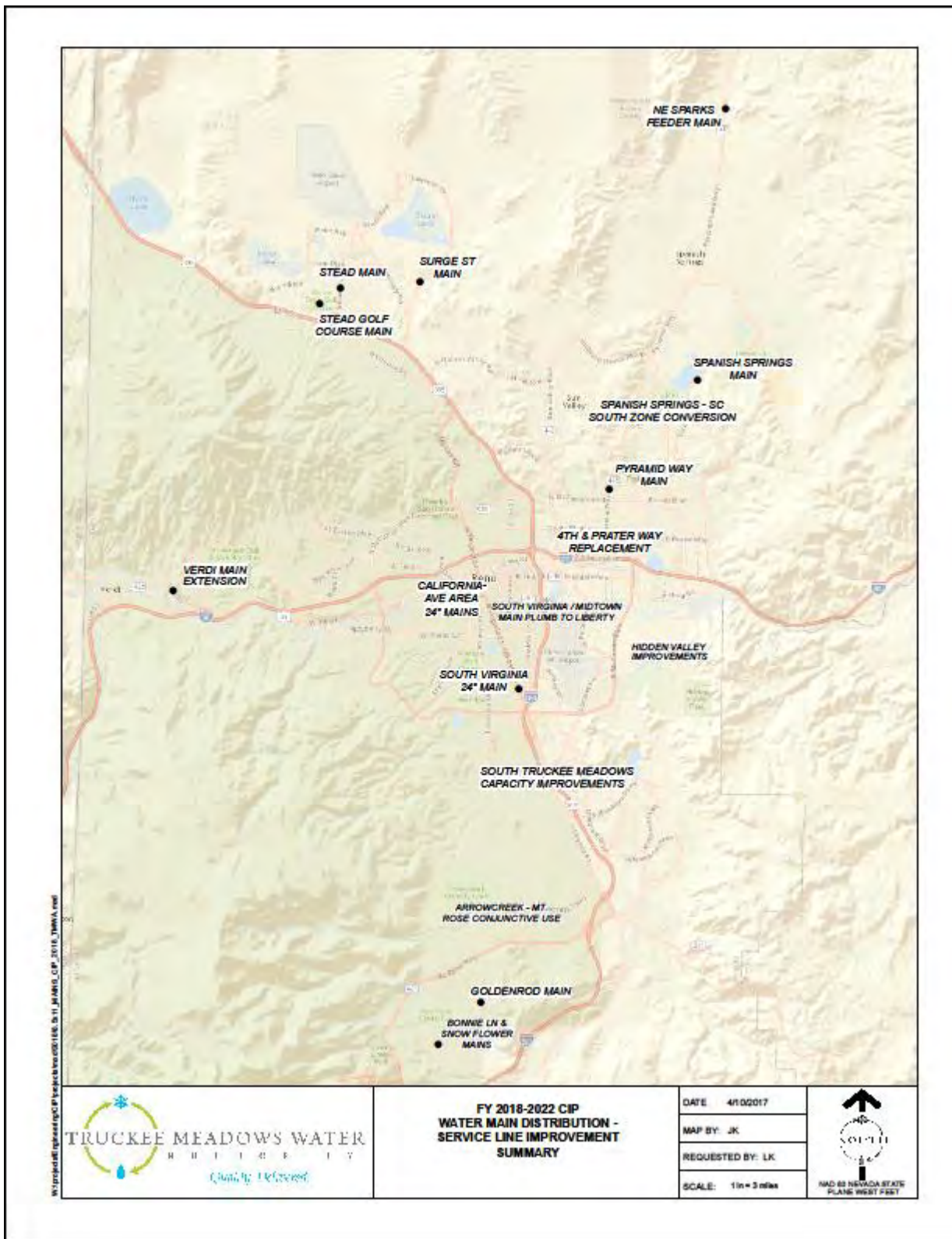
**DISTRIBUTION SYSTEM IMPROVEMENTS – WATER MAIN-  
 DISTRIBUTION-SERVICE LINE IMPROVEMENTS  
 Summary**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Street & Highway Main Replacements	3,000	5,000	5,000	5,000	5,000	23,000
1	Customer Rates	4th and Prater Way Replacement / Modification	2,000	-	-	-	-	2,000
1	Customer Rates	South Virginia / Midtown Main Plumb to Liberty	1,100	500	-	-	-	1,600
1	Developer Fees	Pyramid Way Transmission Main	800	-	-	-	-	800
1	Customer Rates	California-Marsh 24" Main Replacement	100	1,200	-	-	-	1,300
2	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	-	-	100	3,100	-	3,200
2	Developer Fees	South Virginia 24" Main (Kumle to Peckham)	-	100	900	-	-	1,000
2	Customer Rates	NE Sparks Feeder Main Relocation	-	-	50	950	-	1,000
2	Customer Rates	Spanish Springs –Spring Creek South Zone Conversion	-	700	-	-	-	700
2	Customer Rates	West Hidden Valley, Surge St., Piping Rock Main Replacements	-	-	1,000	230	500	1,730
2	Customer Rates	Spanish Springs Main Replacement	-	650	650	-	-	1,300
3	Developer Fees	Bonnie Ln., Snow Flower, Main Extensions	-	-	-	620	900	1,520
2	Developer Fees	South Truckee Meadows Capacity Improvements	-	400	-	-	-	400
2	Customer Rates /Developer Fees	Stead Golf Course Main Replacement	-	-	-	-	90	90
1	Customer Rates	Arrowcreek-Mt. Rose Conjunctive Use Phase 2	400	-	-	-	-	400
1	Customer Rates	Arc Flash Improvements	100	-	-	-	-	100
3	Developer Fees	General Waterline Extensions	100	100	100	100	-	400

Truckee Meadows Water Authority FY 2018-2022 Capital Improvement Plan Attachment C

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Galvanized/Poly Service Line Replacements	400	400	400	400	-	1,600
2	Developer Fees	Verdi Main Extension	2,200	-	-	-	-	2,200
3	Developer Fees	Goldenrod Main	-	-	-	1,100	-	1,100
<b>Subtotal Main-Distribution Improvements</b>			<b>10,200</b>	<b>9,050</b>	<b>8,200</b>	<b>11,500</b>	<b>6,490</b>	<b>45,440</b>

**Project Locations:** Map of all *Distribution System Water Main Distribution – Service Line Improvements* projects are highlighted in the following map.



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Street & Highway Main Replacements FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Street & Highway Main Replacements	3,000	5,000	5,000	5,000	5,000	23,000

**PROJECT DESCRIPTION:** Provision is made each year for water main replacements in conjunction with repaving efforts by the City of Reno, City of Sparks, and RTC. In addition to repaving projects, TMWA coordinates water main replacements with sewer main replacements in areas where TMWA also has older water lines. TMWA plans for approximately \$5.0 million annually for these efforts, so that TMWA can capitalize on repaving projects planned by other entities. The FY 2018 budget reflects that three large projects totaling \$3.9 million have already been identified and are listed separately in the CIP. Anticipated spending in the out years is reflective of historical activity. Levels of spending can vary year to year and are difficult to predict. These efforts by far are the largest expenditure in the water system rehabilitation category.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### 4<sup>th</sup> and Prater Way Replacement/Modification FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY18	FY19	FY20	FY21	FY22	CIP Total
1	Customer Rates	4th & Prater Way Replacement/Modification	2,000	-	-	-	-	2,000

**PROJECT DESCRIPTION:** Replace approximately 10,000 feet of antiquated water main, valves, service connections, and related appurtenances on E. 4<sup>th</sup> Street/Prater Way from Evans Ave. to Pyramid Way. Also includes installing corrosion protection provisions on the existing 4<sup>th</sup> Street/Prater 24” transmission main and the new replacement mains. TMWA work is included in RTC’s 4<sup>th</sup> Street/Prater Way Bus Rapid Transit Project, and will be constructed by RTC’s contractor, after which TMWA will reimburse RTC for the water related construction costs.

**SCHEDULE:** The project is scheduled to begin construction in FY 2017 and to be completed in FY 2018.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### South Virginia/Midtown Main Plumb to Liberty FY 2018 – 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	South Virginia / Midtown Main Plumb to Liberty	1,100	500	-	-	-	1,600

**PROJECT DESCRIPTION:** Replacement of antiquated water main, valves, service connections and appurtenances in South Virginia Street from Plumb Lane to Liberty Street. Also, a new round-a-bout at UNR’s Lawlor Stadium will require relocating a portion of the existing 12” main. TMWA work will be included in RTC’s Virginia Street Bus Rapid Extension Project, a full road reconstruction project, and will be constructed by RTC’s contractor, after which TMWA will reimburse RTC for the water related construction costs.

**SCHEDULE:** Planning and design will conclude in fall of FY 2018 and construction to begin in spring FY 2018.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Pyramid Way Transmission Main FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Pyramid Way Transmission Main	800	-				800

**PROJECT DESCRIPTION:** Construct new transmission main from Queen Way to the Pyramid Pump Station. Water work will be done in conjunction with the RTC Pyramid Way/North McCarran road reconstruction project. In addition, various water mains within the RTC work limits are being replaced/relocated and as part of TMWA’s Street and Highway program. TMWA work will be constructed by RTC’s contractor, after which TMWA will reimburse RTC for the water related construction costs.

**SCHEDULE:** Construction for this project is scheduled to begin in late summer FY 2018.

**PROJECT TYPE:**





## Distribution System Improvements – Water Main-Distribution- Service Line Improvements California-Marsh 24" Main Replacement FY 2018 – 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	California-Marsh 24" Main Replacement	100	1,200	-	-	-	1,300

**PROJECT DESCRIPTION:** When TMWA evaluated the alternatives to replacing the 66-year old 24-inch main on Plumb Lane (installed in 1949) when the west end of Plumb Lane was widened in 2012-2013, it was decided to abandon that section of the pipeline, ultimately saving about \$4 million in replacement costs. The alternate plan for providing water service to the Hunter Creek gravity zone should a main break occur on the existing 42-inch Mayberry main, or if transmission capacity from Chalk Bluff was disrupted requires replacement of existing 24-inch mains on Booth, Sharon and Monroe (installed in 1948) to allow transfer of adequate capacity through the Idlewild transfer facilities. The construction of the California-Marsh Ave Intertie will be installed in FY 2018 so that a significant amount of pipe that is located under private property between California and Marsh can be retired.

**SCHEDULE:** The pipeline will be designed in FY 2018 and construction in fiscal year 2019.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution-Service Line Improvements

### Booth, Sharon Way, Monroe 24" Main Replacements FY 2020 – 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	-	-	100	3,100	-	3,200

**PROJECT DESCRIPTION:** This project is a continuation of the previously described California-Marsh Intertie to provide reliable emergency capacity to the Hunter Creek gravity zone. The project consists of about 6,900 feet of 24-inch main on Booth, Sharon to Plumb Lane and on Monroe between Sharon and Nixon to supply the Nixon-Monroe regulator.

**SCHEDULE:** Design is scheduled for FY 2020 and construction is scheduled for FY 2021. TMWA will attempt to coordinate construction with other municipal infrastructure projects if possible, but the existing pipes will be 73-years old by the proposed construction date.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### South Virginia 24" Main (Kumle to Peckham) FY 2019 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	South Virginia 24" Main (Kumle to Peckham)	-	100	900	-	-	1,000

**PROJECT DESCRIPTION:** The project consists of construction of about 1,700 feet of new 24-inch water main on South Virginia Street between Kumle Lane and Peckham Lane. The project is required to expand transmission capacity to the South Truckee Meadows area.

**SCHEDULE:** Design is planned in FY 2019 and construction is planned in FY 2020 subject to adjustment for actual growth or coordination with road improvements.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### North-East Sparks Tank Feeder Main Relocation FY 2020 – 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	NE Sparks Tank Feeder Main Relocation	-	-	50	950	-	1,000

**PROJECT DESCRIPTION:** The North-East Sparks Tank Feeder Main was constructed in 1988 within private easements several years prior to the construction of South Los Altos Parkway. The final alignment selected for South Los Altos Parkway does not follow the alignment of the tank feeder main. As a result, the tank feeder main now runs through developed properties next to buildings, under parking areas and at considerable depth in some locations. This situation presents potential problems for access to the pipe for maintenance and repair of the critical pipeline. This project will relocate approximately 3000 feet of the 18-inch tank feeder main out into the public right-of-way in South Los Altos Parkway.

**SCHEDULE:** The improvements will be constructed in FY 2021.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Spanish Springs – Spring Creek South Zone Conversion FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Spanish Springs – Spring Creek south Zone Conversion	-	700	-	-	-	700

**PROJECT DESCRIPTION:** The project will convert the southern portion of the Spring Creek system over to the Pyramid pump zone and avoid operational problems of adequately replenishing storage in the Spring Creek tanks. The project will require construction of main ties on Pah Rah Drive, Panama Drive and Pyramid Hwy, removal/demolition of the Spring Creek tanks, modification of the Canoe Hill intertie, retirement of the Blue Skies flow control valve and a main tie connection south of the Lazy 5 intertie.

**SCHEDULE:** The improvements are scheduled for construction in FY 2017.

**PROJECT:**



**Distribution System Improvements – Water Main-Distribution-  
 Service Line Improvements**  
**West Hidden Valley, Surge St., Piping Rock Main Replacements**  
**FY 2020– 2022**

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	West Hidden Valley, Surge St., Piping Rock Main Replacements	-	-	1,000	230	500	1,730

**PROJECT DESCRIPTION:** The project consists of priority main replacements in former County systems including replacing 12” steel pipe on Piping Rock and West Hidden Valley Drive in the Hidden Valley system with extensive history of leaks. Also, replacement of existing 6” steel pipe on Surge Street in the Lemmon Valley system is planned.

**SCHEDULE:** Replacement of the West Hidden Valley Drive main is scheduled for FY 2020, the Surge Street main is scheduled for FY 2021 and the Piping Rock main replacement is scheduled for FY 2022.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Spanish Springs Main Replacement FY 2019 - 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Spanish Springs Main Replacement	-	650	650	-	-	1,300

**PROJECT DESCRIPTION:** The project involves replacement of approximately 6,700 feet of existing Schedule 40 PVC pipe on Cordoba Blvd, Virgil Dr., Virgil Ct, La Posada, Benedict Dr., Valparaiso Ct and Cortez Ct in Spanish Springs. The actual extent of the Schedule 40 pipe has not been determined, but several of these substandard pipes have failed in the last several years in the areas noted.

**SCHEDULE:** Construction is currently scheduled for FY 2019-20.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution-Service Line Improvements

### Bonnie Ln., Snow Flower, Main Extensions FY 2021 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Bonnie Ln., Snow Flower, Main Extensions	-	-	-	620	900	1,520

**PROJECT DESCRIPTION:** The project involves main extensions in the Mt. Rose system to provide looping of the distribution system and eliminate these two long dead end mains in accordance with the NAC 445A water regulations.

**SCHEDULE:** Unless required and constructed sooner by specific developments, the projects are scheduled for construction in FY 2021 and FY 2022.

**PROJECT TYPE:**





## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### South Truckee Meadows Capacity Improvements FY 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	South Truckee Meadows Capacity Improvements	-	400	-	-	-	400

**PROJECT DESCRIPTION:** The project consists of a 1,000 foot long extension of a 12-inch main on Offenhauser and a new intertie to the Area 11 distribution system on Gateway. Also included is an 8-inch main tie between Portman and Bluestone. The improvements will provide an incremental increase in capacity to the South Truckee Meadows area where growth is anticipated to occur.

**SCHEDULE:** The improvements are scheduled for construction in FY 2019.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Stead Golf Course Main Replacement FY 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees and Customer Rates	Stead Golf Course Main Replacement	-	-	-	-	90	90

**PROJECT DESCRIPTION:** The project consists of replacement of about 10,000 feet of 14-inch steel pipe installed around 1945. The pipe provides an important hydraulic tie between the Stead tanks and the northeast extremities of the Stead distribution system. The pipeline may also be useful to alleviate an existing bottleneck between the Stead wells and the distribution system.

**SCHEDULE:** The project is scheduled for construction in 2022.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution-Service Line Improvements

### Arrowcreek-Mt. Rose Conjunctive Use Phase 2 FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Arrowcreek-Mt. Rose Conjunctive Use Ph 2	400	-	-	-	-	400

**PROJECT DESCRIPTION:** Phase 2 facilities consist of improvements and modifications at the Mt. Rose Well #5 site to expand the delivery of off-peak conjunctive use water to the remainder of the Mt Rose water system. The improvements will also allow about a 200 psi reduction in pressure in an existing transit transmission main.

**SCHEDULE:** These facilities are scheduled for construction in FY 2018.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements Arc Flash Improvements FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Arc Flash Improvements	100	-	-	-	-	100

**PROJECT DESCRIPTION:** This project involves performance of short circuit studies, breaker analysis and coordination studies and arc flash hazard studies for newly acquired County and STMGID facilities in conformance with National Electric Code (NEC), OSHA and National Fire Protection Agency regulations. Ultimately the results of the studies will allow identification of potential electrical hazards for workers so that they can utilize appropriate personal protective equipment.

**SCHEDULE:** Completion of the studies, adjustment or replacement of breakers and hazard labeling of electrical equipment will be phased over a two year period between FY 2016 and FY 2018.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### General Waterline Extensions FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	General Waterline Extensions	100	100	100	100	100	500

**PROJECT DESCRIPTION:** A nominal amount of funding is budgeted each year to accommodate water main extensions to correct pressure, dead ends and fire flow deficiencies as they are identified. Funds will not be expended unless determined necessary.

**SCHEDULE:** This is an ongoing annual project budget. Projects will not be constructed unless determined necessary to correct deficiencies identified above.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Galvanized/Poly Service Line Replacements FY 2018 – 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Galv/Poly Service Line Replacements	400	400	400	400	-	1,600

**PROJECT DESCRIPTION:** TMWA has shifted from just repairing service lines from the street main to the curb valve or meter box to completely replacing service lines that are galvanized steel or polybutylene. These two materials are responsible for many after-hours call outs which escalate overtime expenses to repair leaks in the street because the galvanized lines are corroded, and polybutylene once thought very durable, becomes brittle and cracks or splits very easily. Just repairing these lines does not prevent them from leaking in the near future, escalating repair costs while further damaging city streets. Complete replacement provides a permanent repair in a cost effective manner and prevents further water system losses.

**SCHEDULE:** This is an ongoing annual project budget. Service lines will be replaced as they are identified.

**PROJECT:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Verdi Main Extension FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Verdi Main Extension	2,200	-	-	-	-	2,200

**PROJECT DESCRIPTION:** The project involves construction of about 3,500 feet of 18-inch transmission main from the West Meadows subdivision to the Riverbelle MHP and potentially further west on US 40 to the Verdi Mutual Water Company.

**SCHEDULE:** The project is scheduled for construction in FY 2018.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### Goldenrod Main FY 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Goldenrod Main	-	-	-	1,100	-	1,100

**PROJECT DESCRIPTION:** The project consists of about 4,500 feet of 12-inch pipe between the Tessa West well and the Mountain Meadows pressure reducing station. The pipeline will allow simultaneous tank fills to the Mt Rose #1 and #2 tanks when conjunctive use supplies are in use.

**SCHEDULE:** The improvements are scheduled for construction in FY 2021 depending on the rate of growth in the Mt Rose #2 tank zone on the east side of the system.

**PROJECT TYPE:**



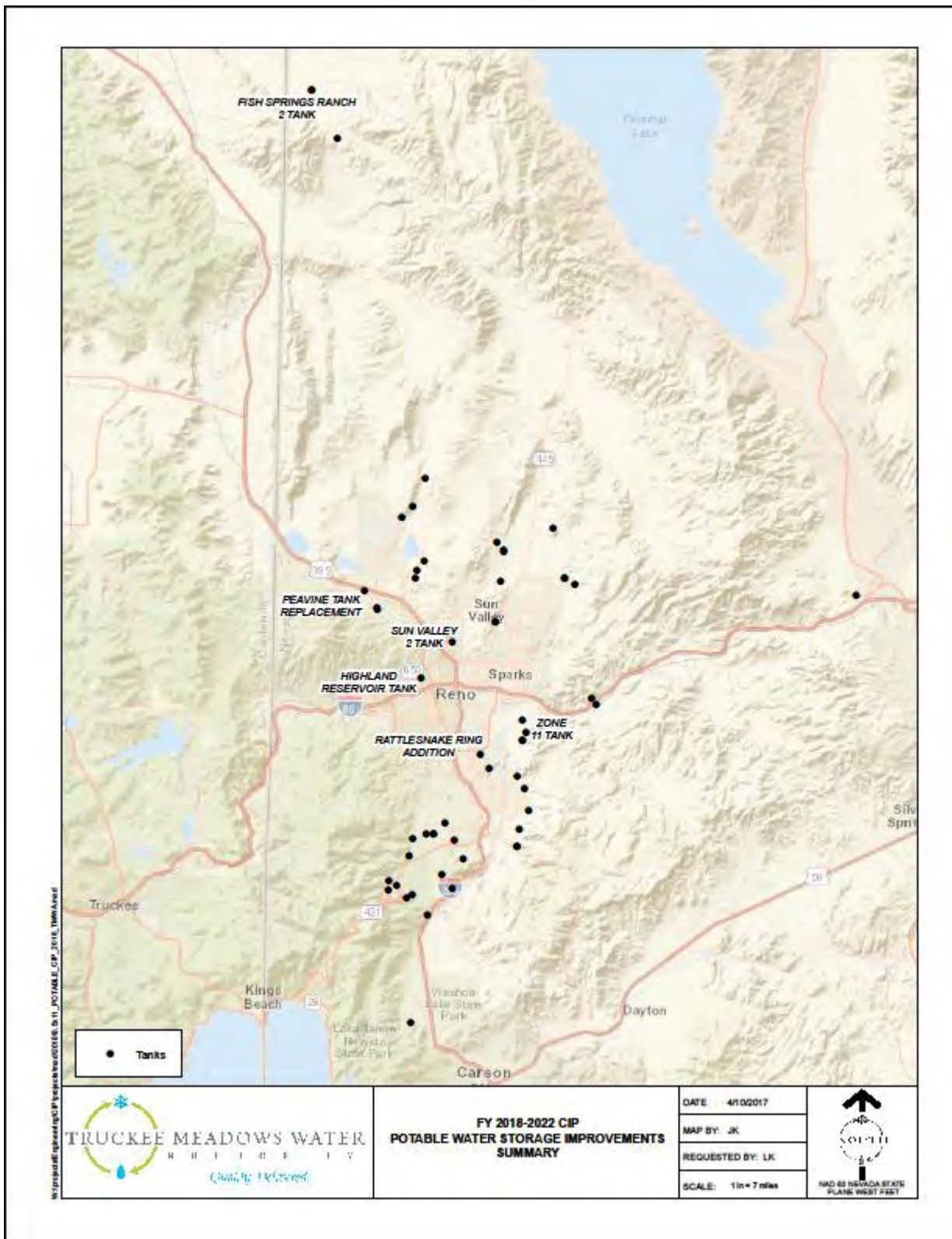




## POTABLE WATER STORAGE IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Peavine Tank Replacement	2,500	-	-	-	-	2,500
2	Developer Fees / Customer Rates	Sun Valley #2 Tank	-	150	1,750	-	-	1,900
2	Developer Fees	Rattlesnake Ring Addition	-	-	800	-	-	800
1	Customer Rates	Zone 11 Tank	150	3,000	-	-	-	3,150
3	Developer Fees	Fish Springs Ranch #2 Tank	-	-	100	2,000	-	2,100
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	860	800	800	800	800	4,060
3	Developer Fees / Customer Rates	Highland Reservoir Tank	-	-	-	100	5,700	5,800
<b>Subtotal Storage Improvements</b>			<b>3,510</b>	<b>3,950</b>	<b>3,450</b>	<b>2,900</b>	<b>6,500</b>	<b>20,310</b>

**Project Locations:** Map of all *Potable Water Storage Improvements* projects are highlighted in the following map.



## Potable Water Storage Improvements Peavine Tank Replacement FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Peavine Tank Replacement	2,500	-	-	-	-	2,500

**PROJECT DESCRIPTION:** The Peavine Tank is an existing 2.0 MG pre-stressed concrete tank constructed by the Silver Lake Water Company in 1978. A 2008 inspection of the tank interior revealed significant areas of concrete spalling and exposed reinforcing steel in the tank roof. Repairs were attempted in 2009. The repair process required chipping and cleaning of damaged areas which revealed much more extensive deterioration than was initially estimated. Over 1400 square feet of damage to the roof dome structure was actually repaired as compared to the original estimate of 400 square feet. Significant delamination of the roof structure is expected to continue. In addition, closer inspection during the roof repair work indicated moderate cracking of the dome ring and walls. Damage to the pre-stressed dome ring is of special concern since it resists the thrust of the arched roof in tension. The replacement tank will be a 2.5 MG above ground steel tank. The additional volume will accommodate future storage needs of the Stead system and may eliminate a future storage tank project.

**SCHEDULE:** It was anticipated that the 2008 repairs would provide an additional 5-7 years of life for the existing structure; therefore, it is recommended that construction not be delayed beyond FY 2018.

**PROJECT TYPE:**



## Potable Water Storage Improvements Sun Valley #2 Tank FY 2019 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees/ Customer Rates	Sun Valley #2 Tank	-	150	1,750	-	-	1,900

**PROJECT DESCRIPTION:** TMWA continues to analyze opportunities to consolidate pump zones to eliminate future pump station replacement costs and to increase reliability to continuous pumping zones. Several years ago, TMWA consolidated the Sutro #1 pump zone with the Sun Valley/Sullivan pump zone, placing additional capacity requirements on the Sun Valley zone. This tank is needed to provide the required emergency storage capacity to the expanded zone and will also provide the capacity for the Sun Valley zone to reach buildout.

**SCHEDULE:** The project is scheduled for construction in FY 2020 subject to successful acquisition of a suitable tank site which is elevation sensitive.

**PROJECT TYPE:**



## Potable Water Storage Improvements Rattlesnake Ring Addition FY 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	Rattlesnake Ring Addition	-	-	800	-	-	800

**PROJECT DESCRIPTION:** Additional storage is necessary to meet the total system capacity requirements of NAC 445A regulations under buildout conditions. The bulk of the additional storage is planned for the major gravity zones since distribution facilities make the storage available to other parts of the system. The existing 2.5 MG Rattlesnake Tank is the only major storage facility on the south end of the gravity system. The addition of another 8-foot high ring to the tank would increase storage by about 1.0 MG and would also increase the available head to allow the tank to operate under a wider range of hydraulic conditions.

**SCHEDULE:** The project is currently scheduled for construction in FY 2020.

**PROJECT TYPE:**



## Potable Water Storage Improvements Zone 11 Tank FY 2018 - 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Zone 11 Tank	150	3,000	-	-	-	3,150

**PROJECT DESCRIPTION:** The project involves construction of a 2.5 MG above ground welded steel storage tank in Area 11 of the South Truckee Meadows formerly owned by STMGID. Due to growth in the area over the last several years, additional storage is required to meet the requirements of the NAC 445A regulations and TMWA standards.

**SCHEDULE:** The project is currently scheduled for construction in FY 2019 subject to acquisition of the Special Use Permit.

**PROJECT TYPE:**



## Potable Water Storage Improvements Fish Springs Ranch #2 Tank FY 2020 – 2021

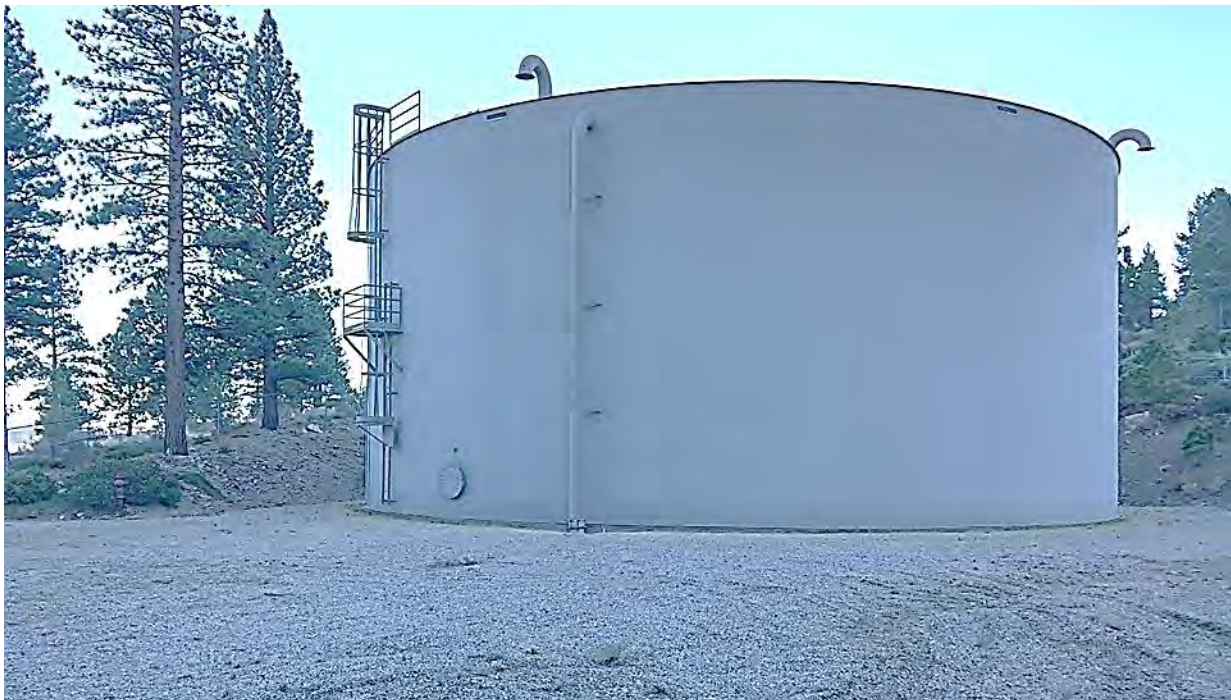
**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Developer Fees	Fish Springs Ranch #2 Tank	-	-	100	2,000	-	2,100

**PROJECT DESCRIPTION:** Ultimately, a second storage tank is needed at the terminus of the Fish Springs pipeline at the north end of Lemmon Valley to equalize demand and supply during peak use periods.

**SCHEDULE:** The project is currently scheduled for design in FY 2020 with construction to follow in FY 2021. The actual schedule will be dependent upon the rate of growth in the North Valleys.

**PROJECT TYPE:**





## Potable Water Storage Improvements Storage Tank Recoats; Access; Drainage Improvements FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	860	800	800	800	800	4,060

**PROJECT DESCRIPTION:** TMWA has a very proactive tank reservoir maintenance program whereby 20% of all tanks are inspected annually on a rotating basis. Based upon these inspection observations, a determination is made as to whether interior tank coatings (for steel tanks) or other fix and finish work is required. TMWA has 93 storage tanks in service, with combined storage of approximately 121 million gallons. Interior coating/liners are generally replaced every 15 years resulting in the need to recoat several tanks per year to maintain the rehabilitation cycle. The budget and plan also includes exterior painting of steel tanks and any replacement of any interior components that may be corroded.

**SCHEDULE:** This is an ongoing annual project. It is anticipated that several tanks will need to be recoated approximately every year.

**PROJECT:**



## Potable Water Storage Improvements Highland Reservoir Tank FY 2021 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates & Developer Fees	Highland Reservoir Tank	-	-	-	100	5,700	5,800

**PROJECT DESCRIPTION:** TMWA has two large finished water storage reservoirs, one at Hunter Creek and one at the Highland site just west of the intersection of Washington and College Drive. These reservoirs are lined and covered with flexible polyethylene or hypalon membranes. As such, they are more maintenance intensive and susceptible to damage than a conventional steel or concrete tank. To provide reliability during repairs or during extended outages for inspection and cleaning, it is proposed to construct a conventional 4 million gallon water storage tank at the reservoir site. Due to topography and proximity to residential areas it is assumed that the tank will need to be a buried pre-stressed concrete tank. The tank will also provide additional storage capacity to meet future system requirements as required by the NAC regulations.

**SCHEDULE:** The tank is scheduled for construction in FY 2022-2023.

**PROJECT:**

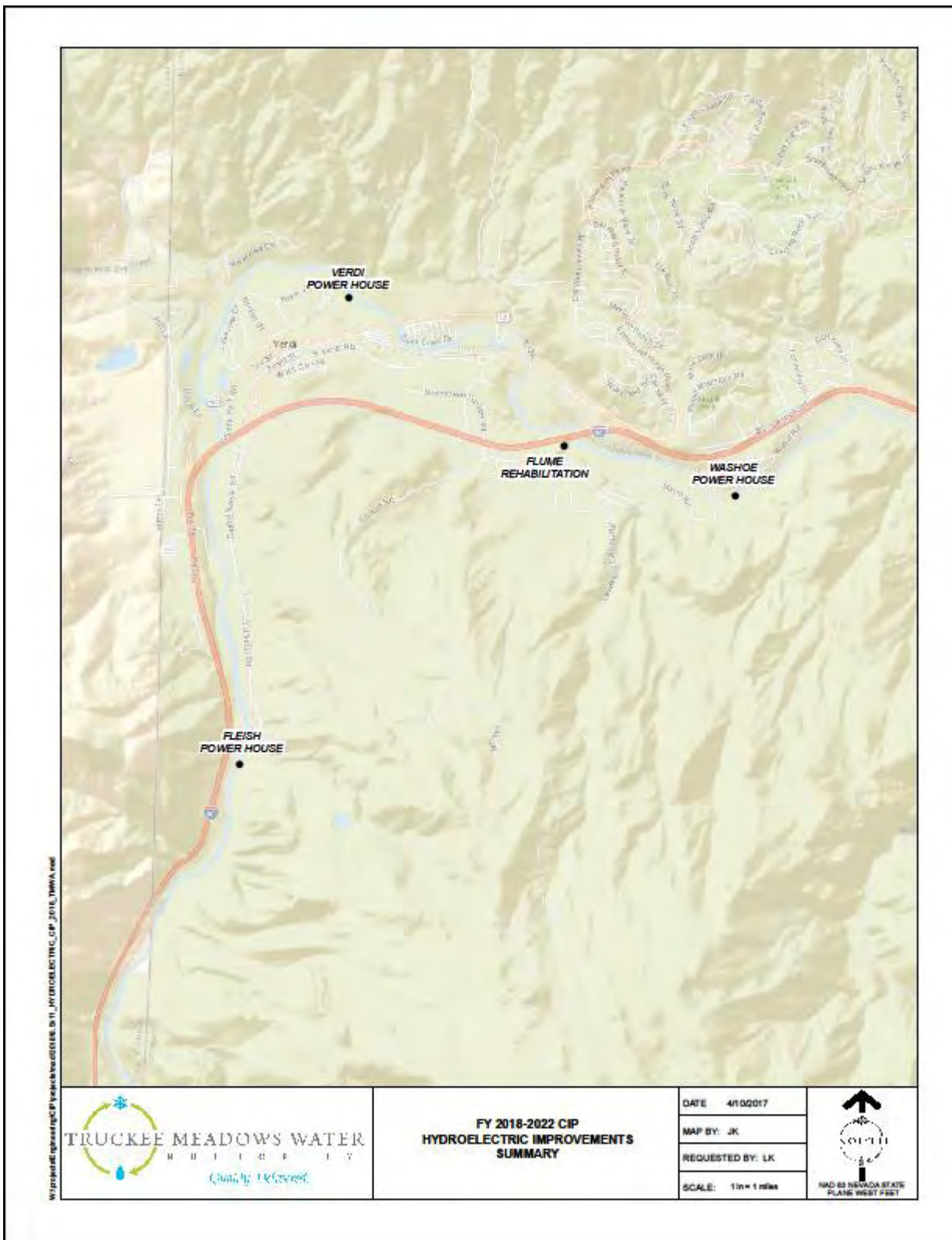




## HYDROELECTRIC IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Forebay, Diversion, and Canal Improvements	45	55	50	50	50	250
2	Customer Rates	Flume Rehabilitation	300	650	600	600	600	2,750
3	Customer Rates	Hydro Plant Generator Rewinds	-	350	350	350	-	1,050
<b>Subtotal Hydroelectric Improvements</b>			<b>345</b>	<b>1,055</b>	<b>1,000</b>	<b>1,000</b>	<b>650</b>	<b>4,050</b>

**Project Locations:** Map of all *Hydroelectric Improvements* projects are highlighted in the following map.



## Hydroelectric Improvements Forebay, Diversion, and Canal Improvements FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Forebay, Diversion, and Canal Improvements	45	55	50	50	50	250

**PROJECT DESCRIPTION:**

Provision is made each year for hydroelectric flume reconstruction to mitigate damage from unexpected rock falls, landslides and/or flooding events. Diversion structures including gates, canals, flumes, forebays and all hydro-plant water conveyance structures are monitored and evaluated for reliable and safe operation.

**SCHEDULE:** Ongoing annual evaluation and prioritization of forebay and canal conditions in the early spring (winter weather can change priorities) to identify projects for fall construction when historically, river flows are lower.

**PROJECT:**



## Hydroelectric Improvements Flume Rehabilitation FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Flume Rehabilitation	300	650	600	600	600	2,750

**PROJECT DESCRIPTION:** TMWA’s three operating hydroelectric facilities have nearly 12,150 feet of flume. The average service life for flume structures is 35 years using treated timbers, at an average replacement cost of approximately \$1,000 per lineal foot of flume. The present cost to replace a linear foot of flume depends on the location and height of the flume structure.

**SCHEDULE:** Ongoing annual evaluation and prioritization of flume condition in the early spring (winter weather can change priorities) to identify projects for fall construction when historically, river flows are lower.

**PROJECT:**



## Hydroelectric Improvements

### Hydro Plant Generator Rewinds FY 2019 – 2021

**FUNDING TIMELINE:**

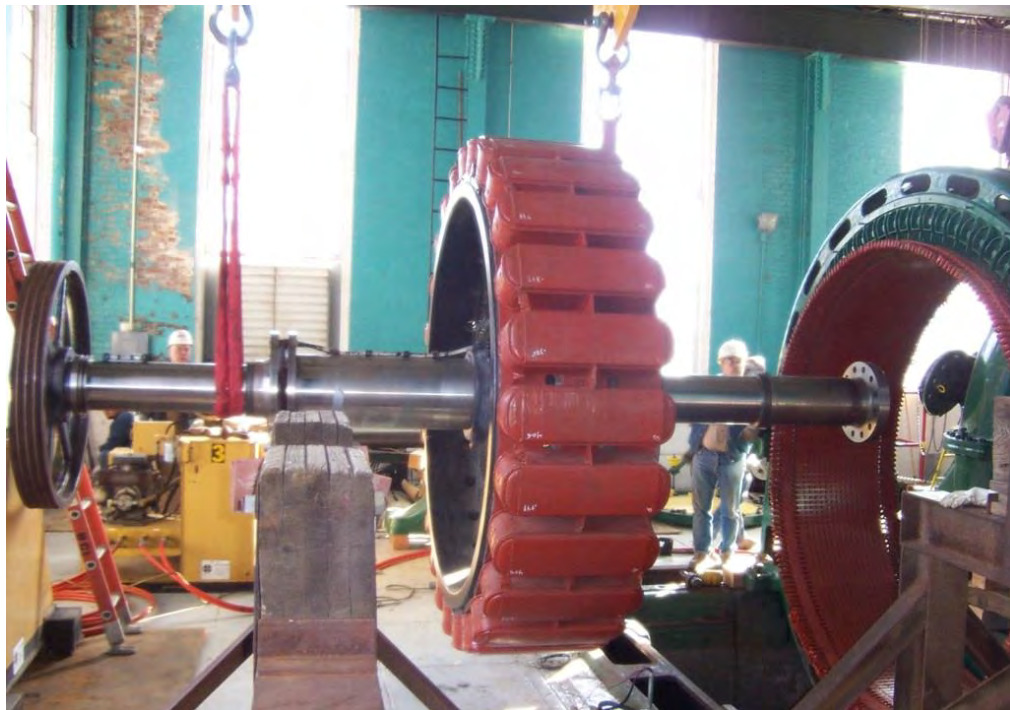
Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Hydro Plant Generator Rewinds	-	350	350	350	-	1,050

**PROJECT DESCRIPTION:**

The Fleish generator was last rewound in 1958 and is still operational. The typical in service life of this type of generator is about 50 years. The two Washoe generators were damaged in a flood in 2006. The units were cleaned and repaired but suffered damage to the core laminations that has shortened the operating life. Work would consist of rewinding the plant generators with spending in fiscal years 19, 20 & 21.

**SCHEDULE:** Washoe Hydro Plant generators FY19 & FY20, Fleish Hydro Plant generator FY21. This schedule may be adjusted depending on river flows and generator condition evaluation.

**PROJECT:**



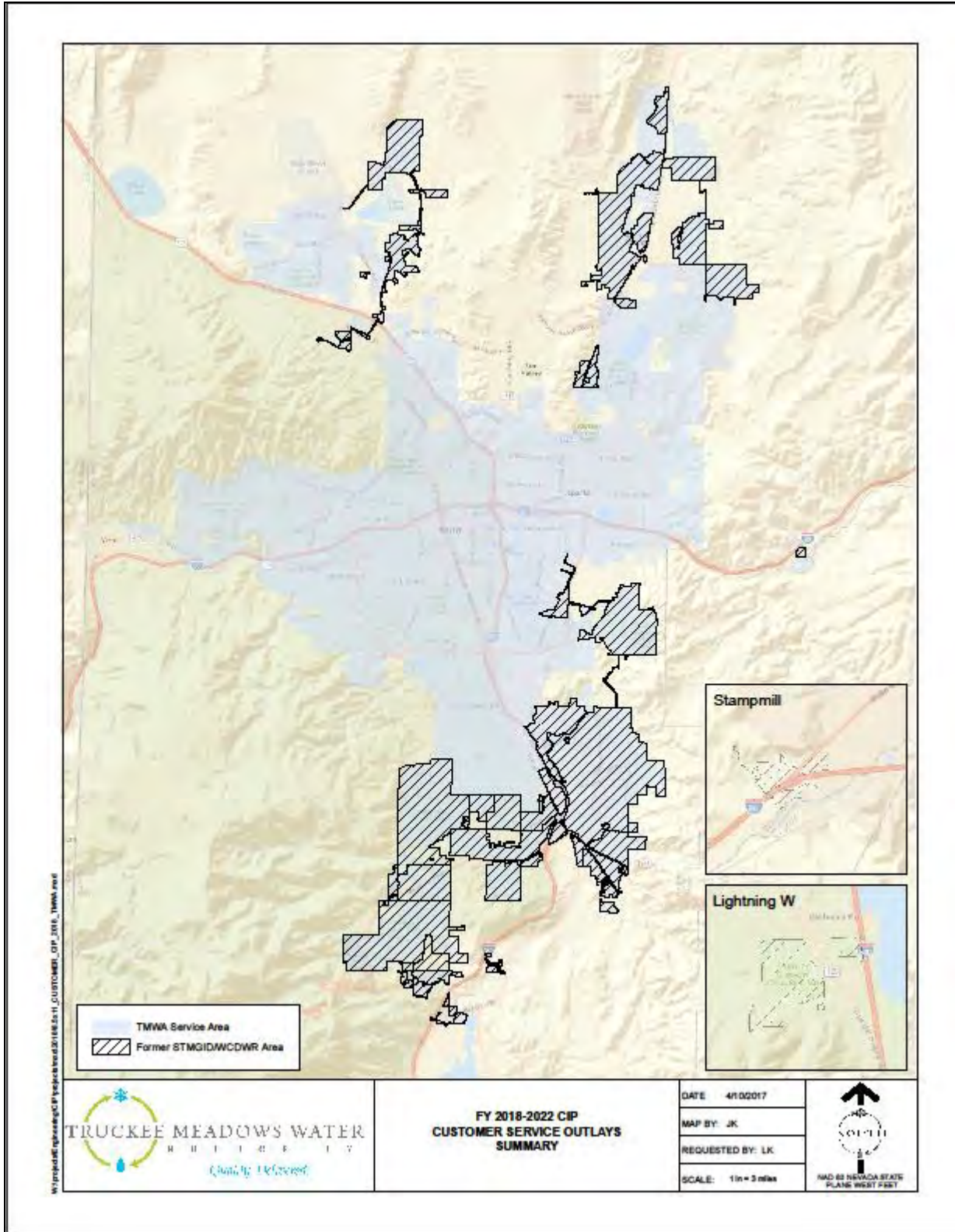




## CUSTOMER SERVICE OUTLAYS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Meter Reading Equipment	60	-	60	-	60	180
2	Developer Fees	New Business Meters	350	350	175	100	100	1,075
1	Customer Rates	Mueller Pit Replacements former Washoe County	125	125	125	125	125	625
1	Customer Rates	Meter -ERT-RTR Replacements	1,250	1,250	1,250	1,250	1,250	6,250
<b>Subtotal Customer Service</b>			<b>1,785</b>	<b>1,725</b>	<b>1,610</b>	<b>1,475</b>	<b>1,535</b>	<b>8,130</b>

**Project Locations:** Map of all *Customer Service Outlays* projects are highlighted in the following map.



## Customer Service Outlays

### Meter Reading Equipment FY 2018 - 2022

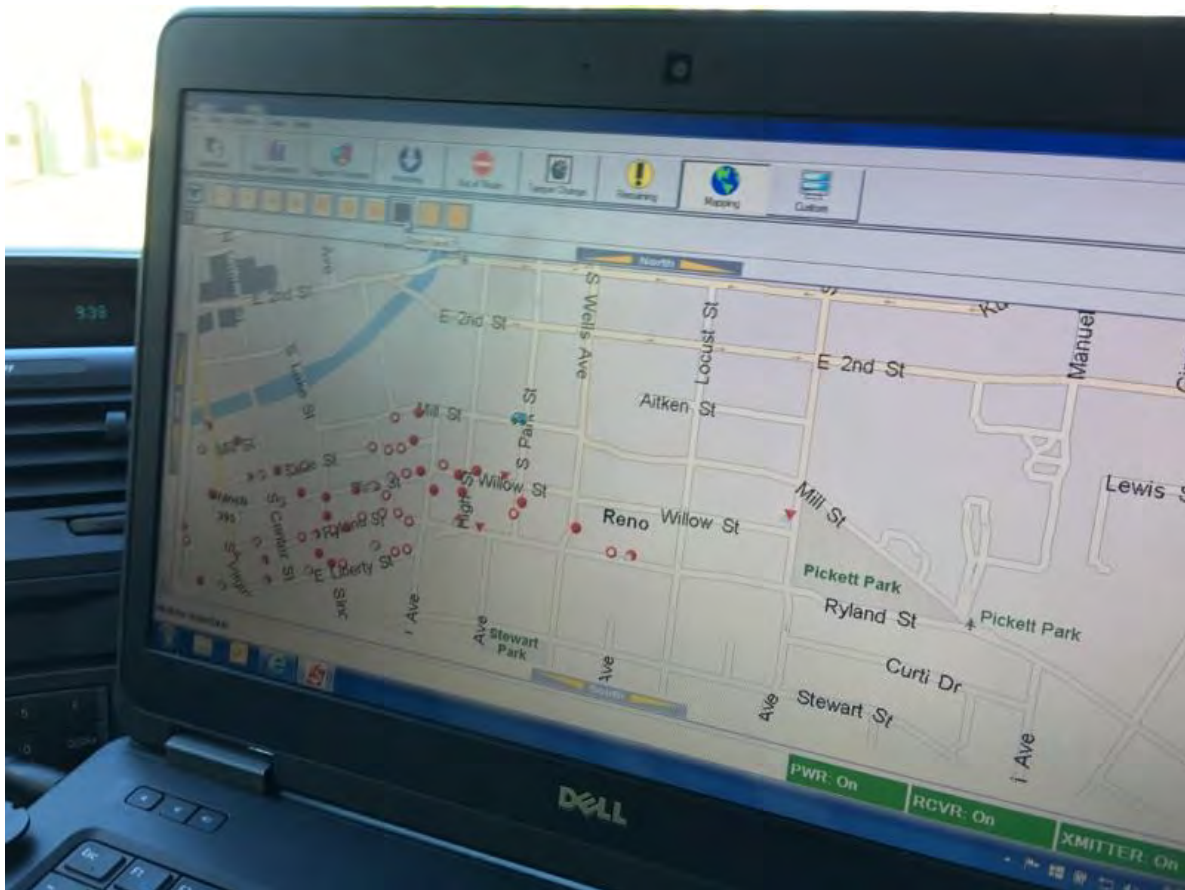
**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Meter Reading Equipment	60	-	60	-	60	180

**PROJECT DESCRIPTION:** TMWA utilizes a multiple meter reading systems in which the transmitters attached to the meters send a signal out to be collected by data collectors. These collectors are mounted in the meter reading vehicles or on various mountain peaks surrounding the valley. TMWA is anticipating replacing units that have degraded.

**SCHEDULE:** Will need to purchase equipment on an as needed basis.

**PROJECT:**



## Customer Service Outlays

### New Business Meters FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Developer Fees	New Business Meters	350	350	175	100	100	1,075

**PROJECT DESCRIPTION:** All new water services are required to be metered. Meters are purchased by TMWA and installed for new development. New business fees pay for these installations.

**SCHEDULE:** As development picks up, more meters will need to be purchased.

**PROJECT:**



## Customer Service Outlays

### Mueller Pit Replacements Former Washoe County FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Mueller Pit Replacements former Washoe County	125	125	125	125	125	625

**PROJECT DESCRIPTION:** The Mueller metering pits are a very high maintenance metering facility and are prone to leaks and failures. TMWA plans to replace these facilities in response to leaks and or subsidence of these facilities.

**SCHEDULE:** Equipment and employee needs are evaluated and updated annually.

**PROJECT:**



## Customer Service Outlays

### Meter - ERT-RTR Replacements FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Meter - ERT-RTR Replacements	1,250	1,250	1,250	1,250	1,250	6,250

**PROJECT DESCRIPTION:** Meter/ERT/RTR replacements are required annually for approximately 7% of TMWA’s metered services. Meters have an expected service life of 20-25 years. ERTs and RTRs have an expected service life of at least 15 years. TMWA is upgrading these devices to the 100w class which will allow for fixed based meter readings and ability to read meters remotely for purposes of move-in and move-out meter reading cut-off without the need for a truck roll. In addition, we have taken on 23,000 Sensus meters of a varying age, as well as different meter reading systems.

**SCHEDULE:** These are both replaced systematically as well as on an as needed basis.

**PROJECT:**

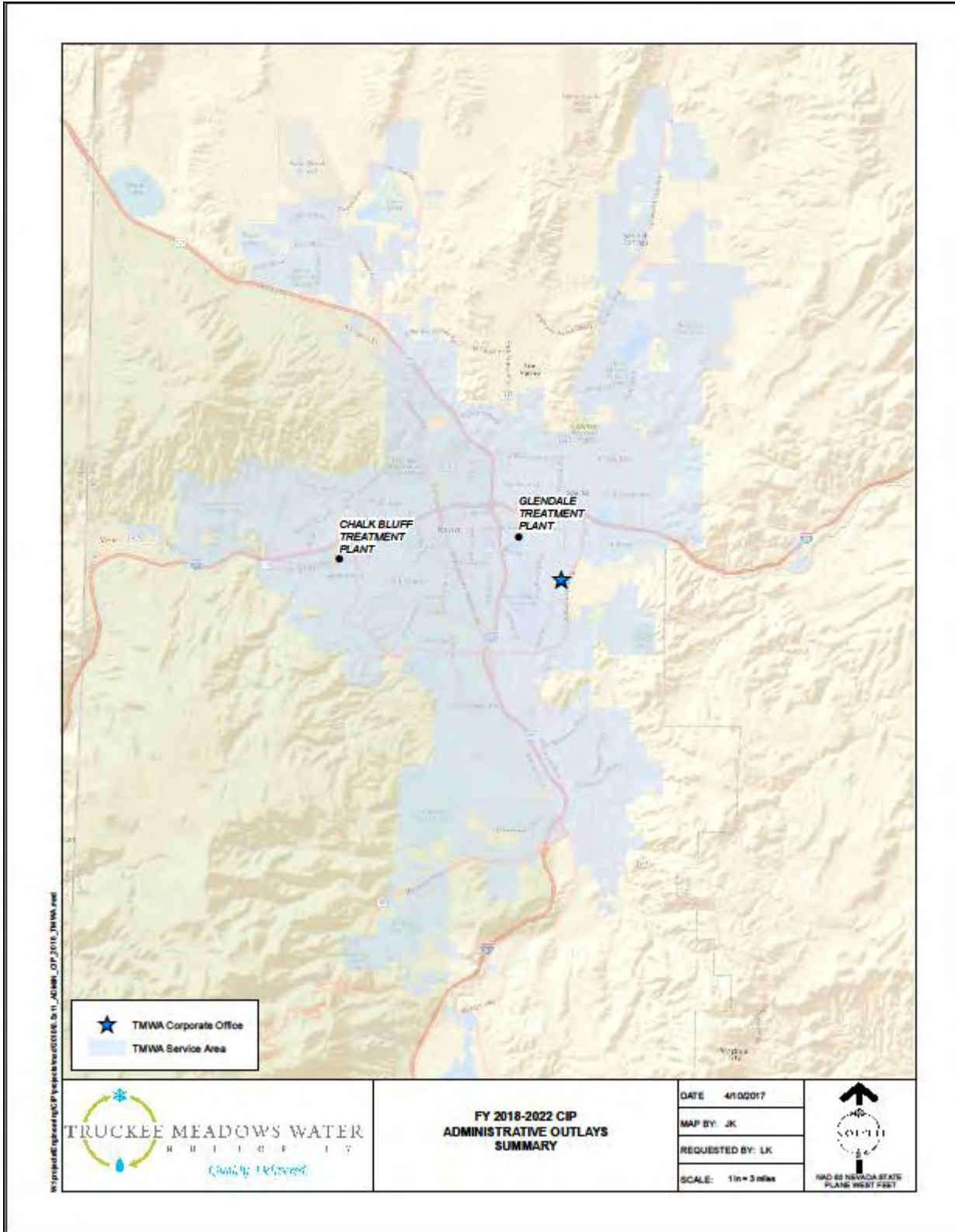


## ADMINISTRATIVE OUTLAYS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	GIS/GPS System Mapping Equipment	40	40	40	40	40	200
2	Customer Rates	Desktop Computer Upgrades	100	100	100	100	100	500
2	Customer Rates	Server/Storage upgrades	175	175	175	175	275	975
2	Customer Rates	Network Security Upgrades	150	150	150	150	150	750
1	Customer Rates	Disaster Recovery Improvements	215	-	-	-	-	215
2	Customer Rates	Furniture -Office Equipment	50	50	50	50	50	250
3	Customer Rates	Crew Trucks / Vehicles	825	570	585	650	600	3,230
1	Customer Rates	Security-ER Projects	150	150	150	150	150	750
1	Customer Rates	Emergency Operations Annex-Design	500	1,500	-	-	-	2,000
2	Customer Rates	Corporate Office Expansion	1,800	-	-	-	-	1,800
2	Customer Rates	System Wide Asphalt Rehabilitation	250	100	100	100	100	650
<b>Subtotal Administrative Outlays</b>			<b>4,255</b>	<b>2,835</b>	<b>1,350</b>	<b>1,415</b>	<b>1,465</b>	<b>11,320</b>

**Project Locations:** Map of all *Administrative Outlays* projects are highlighted in the following map.





## Administrative Outlays

### GIS/GPS System Mapping Equipment FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	GIS/GPS System Mapping Equipment	40	40	40	40	40	200

**PROJECT DESCRIPTION:** TMWA will have to update mapping equipment on a periodic basis to keep up with changes in technology; and to replace existing equipment as it reaches obsolescence.

**SCHEDULE:** Equipment is replaced and/or purchase as needed.

**PROJECT:**



## Administrative Outlays

### Desktop Computer Upgrades FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Desktop Computer Upgrades	100	100	100	100	100	500

**PROJECT DESCRIPTION:** TMWA utilizes a computer refresh program to ensure employees are provided with the latest technological tools to stay productive in their work. TMWA has over 250 desktop and laptop computing resources in service, with approximately one-quarter needing to be changed out each year due to warranty arrangements, asset age, or staffing needs. TMWA annually completes a full inventory of all IT assets to make an appropriate determination of the required resource replacement.

**SCHEDULE:** Spending would be determined on an as needed basis.

**PROJECT:**



## Administrative Outlays

### Server/Storage/Operating System Software Upgrades

#### FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Server / Storage / Operating System Software upgrades	175	175	175	175	275	975

**PROJECT DESCRIPTION:** TMWA currently has over 50 physical servers and 150 virtual servers, hosting a variety of enterprise software applications that support TMWA’s daily business operations. All physical servers are typically purchased with a three year warranty, with the expectation that they will reach the end of their system life cycle in a three to five year time frame, requiring a replacement. TMWA annually reviews its server platforms and can option a strategy of warranty extension, if cost effective, rather than outright hardware replacement. All servers require an Operating System Software license to run. Operating System Software is upgraded only when the current release is obsolete or a newer version offers a significant advantage over the current iteration.

**SCHEDULE:** Spending occurs only on an as needed basis.

**PROJECT:**





## Administrative Outlays

### Disaster Recovery Improvements FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Disaster Recovery Improvements	215	-	-	-	-	215

**PROJECT DESCRIPTION:** This project will focus on the necessary improvements to critical IT infrastructure to reduce potential downtime and data loss for TMWA Corporate Data Center Outages.

**SCHEDULE:** Installation will begin in the summer of FY 2018 and will be completed in fall FY 2018.

**PROJECT:**



## Administrative Outlays

### Furniture – Office Equipment FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Furniture -Office Equipment	50	50	50	50	50	250

**PROJECT DESCRIPTION:** A small provision is made each year for furniture requirements if necessary.

**SCHEDULE:** Furniture and office equipment is purchased or replaced as needed.

**PROJECT:**



## Administrative Outlays

### Crew Trucks/Vehicles FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Customer Rates	Crew Trucks / Vehicles	825	570	585	650	600	3,230

**PROJECT DESCRIPTION:** TMWA’s service fleet consists of light duty and heavy duty crew trucks. TMWA plans to cycle the light crew fleet over a period of seven to ten years. Spending is determined annually depending on vehicle availabilities and other factors. Spending only occurs if justified. TMWA’s fleet cycles older vehicles to the treatment plants or other less demanding activities prior to disposal at auction. TMWA has scaled back spending on light vehicles for the past several years and a number of vehicles will be in excess of ten years old and greater than 120,000 miles of duty.

**SCHEDULE:** Equipment and employee needs are evaluated and updated annually.

**PROJECT:**





## Administrative Outlays

### Security-ER Projects FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Security-ER Projects	150	150	150	150	150	750

**PROJECT DESCRIPTION:** Various ongoing improvements to security infrastructure are required to protect TMWA facilities. Perpetual upgrades to video surveillance and control access infrastructure are necessary in order to provide pertinent and real time information to TMWA in the event of unauthorized access to TMWA property. TMWA has performed vulnerability assessment studies in the past and reviews the applicability of the findings to continually improve physical security as needed. In addition, TMWA is preparing a new disaster recovery plan with procedures to recover and protect water system operations.

**SCHEDULE:** Upgrades to security projects is ongoing and the disaster recovery plan is scheduled for completion in FY 2017.

**PROJECT LOCATION:** Various locations at treatment plants, at well sites, storage area for water fill station manifolds.

**PROJECT:**



## Administrative Outlays

### Emergency Operations Annex-Design FY 2018- 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Customer Rates	Emergency Operations Annex-Design	500	1,500	-	-	-	2,000

**PROJECT DESCRIPTION:** TMWA is currently in the planning and conceptual design phase for a Primary Emergency Operations Center (EOC) with potential for Disaster Recovery (DR) capacity. TMWA’s EOC will relocate from the current location at the corporate office to the Chalk Bluff Water Treatment Plant. Which includes scope review, design, and contract bid packages, bid and award, construction, and testing. Potential emergency operations would include responding to earthquakes, floods, or other emergency related events. Disaster Recovery includes providing a system to backup and restore all key operating systems to operational status.

**SCHEDULE:** Design, bid and build in FY 2017 to include design, fabrication, installation of two construction water fill stations at Glendale and Chalk Bluff Water Treatment Plant, construction of water fill stations at four tank sites, standby power retrofits at four existing wells and ten portable water fill manifold stations.

## Administrative Outlays

### Corporate Office Expansion FY 2018

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	Corporate Office Expansion	1,800					1,800

**PROJECT DESCRIPTION:** Due to anticipated growth in the Truckee Meadows, it will be necessary to expand engineering, mapping/GIS, new business and possibly customer service staff, which is currently located in somewhat cramped quarters. To accommodate additional staff, a 5,000 square foot office space addition is necessary.

**SCHEDULE:** Anticipated construction will occur in FY 2018.

**PROJECT:**



**TMWA**  
**Operations Facility Addition Study**

Schematic Design Option 2

January 15, 2016  
 H+K Project No.: 1536  
**SD102**

**H+K ARCHITECTS**  
 5485 Reno Corporate Dr., Ste. 100  
 Reno, Nevada 89511-2262  
 P 775-332-6640  
 F 775-332-6642  
 hkarchitects.com



## Administrative Outlays

### System Wide Asphalt Rehabilitation FY 2018 – 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Customer Rates	System Wide Asphalt Rehabilitation	250	100	100	100	100	650

**PROJECT DESCRIPTION:** TMWA has 93 tanks, 90 wells, 113 pump stations, 2 storage reservoirs and 3 treatment plants, most of which have some asphalt pavement. It is much more economical to extend the life of existing pavement with routine maintenance such as repairing cracks and applying slurry seals than it is to prematurely replace the pavement.

**SCHEDULE:** This is a new reoccurring maintenance item. It is originally assumed that up to 15 sites per year will receive some sort of rehabilitation that may include patching, crack repair, slurry seal and/or partial replacement.

**PROJECT:**

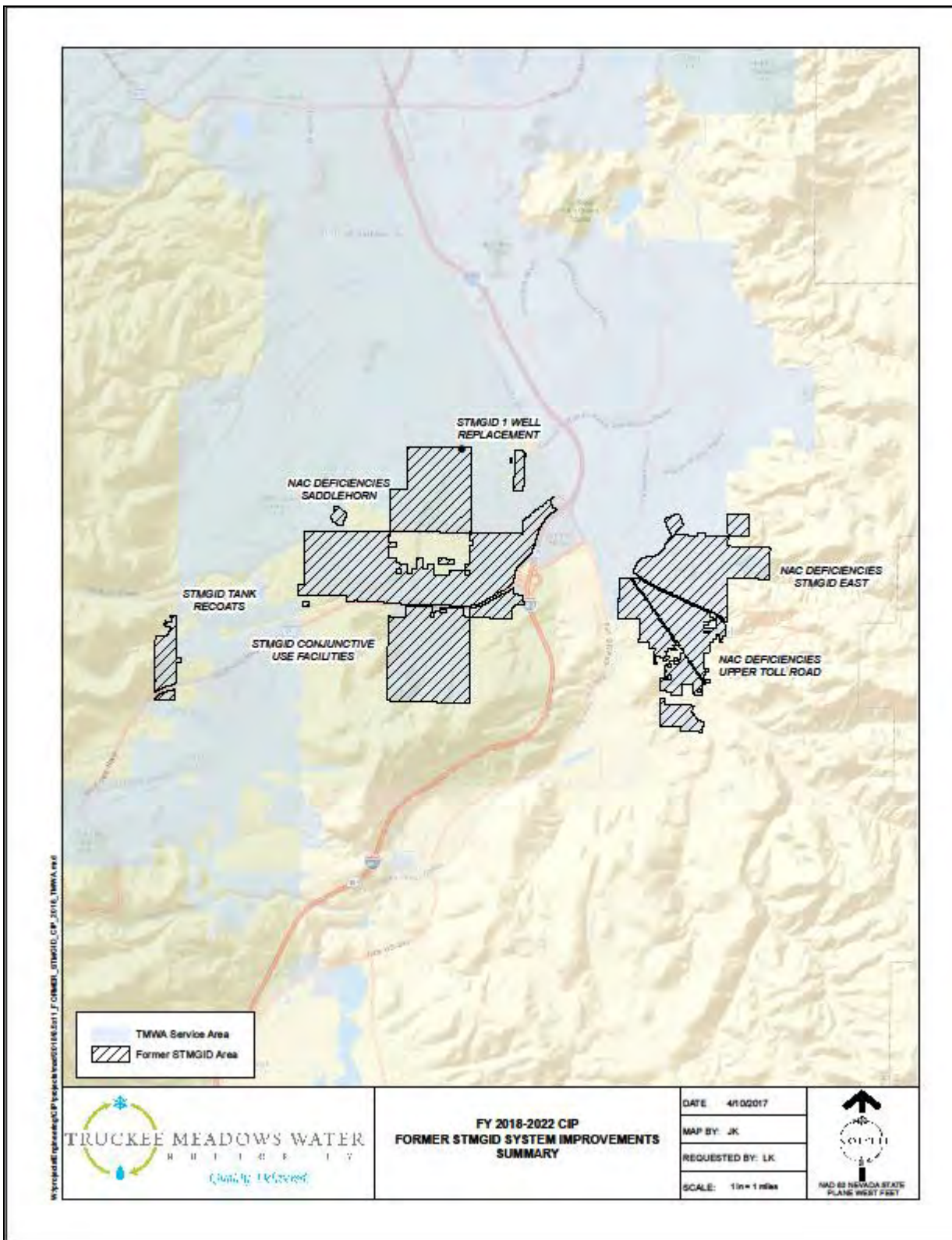




## FORMER STMGID SYSTEM IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Reserves	Well Bypass and Chlorine Room Improvements (former STMGID wells)	400	100	-	-	-	500
3	Reserves	STMGID Well #1 Replacement	-	850	900	-	-	1,750
2	Reserves	STMGID Well Fix & Finish	150	150	150	150	150	750
1	Reserves	STMGID Conjunctive Use Facilities	150	1,800	2,100	-	-	4,050
1	Reserves	STMGID Tank Recoats	-	220	-	300	-	520
1	Reserves	STMGID Mueller Pit Replacements	75	50	50	50	-	225
2	Reserves	NAC Deficiencies-Saddlehorn, Upper Toll Road, STMGID East	-	350	100	2,400	350	3,200
<b>Subtotal Administrative Outlays</b>			<b>775</b>	<b>3,520</b>	<b>3,300</b>	<b>2,900</b>	<b>500</b>	<b>10,995</b>

**Project Locations:** Map of all *Former STMGID System Improvements* projects are highlighted in the following map.



## Ground Water Supply Improvements

### Well Bypass and Chlorine Room Improvements (former STMGID wells)

#### FY 2018 – 2019

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Reserves	Well Bypass and Chlorine Room Improvements (former STMGID wells)	400	100	-	-	-	500

**PROJECT DESCRIPTION:** During pre-merger facility assessments, it was determined that several former STMGID wells need to be retrofitted with bypass piping and valves to evacuate a certain amount of water prior to discharge to the distribution system. Other wells also require isolation of the chlorine rooms to reduce corrosion issues.

**SCHEDULE:** It is anticipated that all improvements will be completed in the next five years.

**PROJECT:**





## Ground Water Supply Improvements STMGID Well 1 Replacement FY 2019 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
3	Reserves	STMGID Well #1 Replacement	-	850	900	-	-	1,750

**PROJECT DESCRIPTION:** The exiting STMGID 1 Well has been in service since 1984, making it one of the older wells in the STMGID system. The exiting well casing and screens show signs of significant corrosion. With the potential for a well casing failure, TMWA intends to drill and equip a replacement well on the exiting well property. The replacement well is expected to have similar construction and capacity as STMGID 1.

**SCHEDULE:** Well drilling will occur in FY19 and well equipping in FY20.

**PROJECT:**



## Ground Water Supply Improvements STMGID Well Fix & Finish FY 2018 - 2022

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
2	Reserves	STMGID Well Fix & Finish	150	150	150	150	150	750

**PROJECT DESCRIPTION:** Equipment improvements are expected to bring existing wells up to modern standards, including antiquated equipment replacements and improvements for water quality purposes. This project includes improvements to sodium hypochlorite rooms, electrical and instrumentation equipment, pump to waste lines and drainage improvements. It also includes retrofit for recharge where needed.

**SCHEDULE:** Improvements are planned to continue for the duration of this CIP funding plan.

**PROJECT TYPE:**



## Distribution System Improvements – Water Main-Distribution- Service Line Improvements

### STMGID Conjunctive Use Facilities FY 2018 – 2020

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Reserve	STMGID Conjunctive Use Facilities	150	1,800	2,100	-	-	4,050

**PROJECT DESCRIPTION:** The project involves construction of a new booster pump station on the reclaim water reservoir site on Arrowcreek Parkway and approximately 8,100 feet of 14-inch discharge pipe on Arrowcreek Parkway to the STMGID Tank 4/5 pressure zone. Approximately \$0.5 million of the \$3.6 million will be used for pipeline oversizing to be allocated to development. The facilities will provide off-peak supply which will allow TMWA to implement conjunctive use in the STMGID West system.

**SCHEDULE:** The facilities are scheduled for design in FY 2018 and construction in FY 2019 and 2020.

**PROJECT:**



## Potable Water Storage Improvements STMGID Tank Recoats FY 2019 - 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Reserve	Former STMGID Tank Recoats	-	220	-	300	-	520

**PROJECT DESCRIPTION:** The former STMGID system included a total of seven storage tanks providing a total storage capacity of about 6.2 million gallons. A number of these tanks will be inspected annually on a rotating basis. Based upon these inspection observations, a determination is made as to whether interior or exterior tank coatings or other fix and finish work is required. Tank interior coating/liners and exterior paint are generally replaced every 15 years.

**SCHEDULE:** This is an ongoing annual project. It is anticipated that two tanks will need to be recoated approximately every 2-3 years.

**PROJECT TYPE:**



## Customer Service Outlays

### Mueller Pit Replacements Former STMGID FY 2018 – 2021

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Reserve	Mueller Pit Replacements former STMGID	75	50	50	50	-	225

**PROJECT DESCRIPTION:** The Mueller metering pits are a very high maintenance metering facility and are prone to leaks and failures. TMWA plans to replace these facilities to leaks and or subsidence of these facilities.

**SCHEDULE:** Equipment and employee needs are evaluated and updated annually.

**PROJECT:**



**Distribution System Improvements – Pressure Improvements  
 NAC Deficiencies-Saddlehorn, Upper Toll Road, STMGID East  
 FY 2019 – 2022**

**FUNDING TIMELINE:**

Priority	Funding Source	Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	CIP Total
1	Reserve	NAC Deficiencies-Saddlehorn, Upper Toll Road, STMGID East	-	350	100	2,400	350	3,200

**PROJECT DESCRIPTION:** The project consists of main ties, hydrant installations and individual booster pump systems to be constructed in multiple locations in former STMGID service areas to correct NAC pressure and fire flow deficiencies. In order to correct deficiencies in the upper Toll Road area, it will be necessary to create a new higher pressure zone by constructing a new tank, booster pump station and approximately 6,300 feet of 12-inch main.

**SCHEDULE:** The deficiencies on Sioux Trail, on Geiger Grade, on Westwind Circle and Terry Way will be addressed in FY 2018. The new pressure zone on upper Toll Road will be constructed in FY 2021 subject to acquisition of the tank site on BLM property.

**PROJECT:**





**To:** Standing Advisory Committee  
**From:** Michele Sullivan, Chief Financial Officer  
**Date:** August 30, 2017  
**Subject:** **Presentation on preliminary financial performance for FY2017**

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**Recommendation**

The Standing Advisory Committee (SAC) accepts the unaudited financial report for the fiscal year ended June 30, 2017.

**Summary**

TMWA financial performance for the fiscal year ended June 30, 2017 was excellent. Total change in net position was \$46.7 million, which was \$21.0 million greater than an expected increase in net position of \$25.7 million per the revised budget. Several items that were one-time events and not included in the budget had significant impact on the change in net position. As part of the 2017 bond refunding, two forward delivery agreements (FDA) were terminated that guaranteed TMWA higher interest rates on debt service reserve and O&M reserve balances. The Banks agreed to pay a total of \$5.1 million for the release of these agreements. Original arbitrage calculations performed by TMWA’s financial consultants indicated that most of these funds would be owed to the IRS, but after further review, TMWA was able to retain all but \$0.2 million. Operating income was \$5.4 million higher than anticipated due mainly to savings in operating expenses of \$2.5 million, \$1.1 million lower depreciation expense, and \$1.8 million higher operating revenue. Developer infrastructure contributions (non-cash contributions) were \$10.8 million.

Cash balances decreased \$13.0 million or \$10.5 million less than an anticipated decrease of \$23.5 million in the revised budget. The main drivers contributing to higher than expected cash balances were cash received from dissolving the FDA’s of approximately \$4.9 million after taxes, lower than anticipated O&M expenses by \$2.5 million, and \$1.8 million higher operating revenues. Included in the budget was receipt of \$11.8 million in cash from insurance settlements related to the Farad hydroelectric facility.

**Discussion**

The purpose of this report is to provide a brief overview of TMWA’s financial performance for the fiscal year ended June 30, 2017 as compared to the FY17 budget and FY16 actuals. This report is being presented in advance of the annual audited financial statements to bring timely information to the SAC.

### **Fiscal Year 2017 Actual to Budget comparison**

The following comparisons of FY17 actual unaudited financials to FY17 revised budget are attached:

- **Attachment A-1** Statement of Revenues, Expenses and Changes in Net Position Actual to Budget
- **Attachment A-2** Statement of Cash Flows Actual to Budget

Total operating revenues were approximately \$97.3 million, 1.9% higher than the revised operating revenue budget. Water sales revenues were \$1.5 million or 1.6% higher than the revised water sales budget. Water sale revenues were higher than budget by \$4.1 million last summer (July-September, 2016) due to over 90 days of no precipitation. However, a cooler, wetter spring (March-May, 2017) left water sales revenues short of budget projections for those months, leaving water sales flat as compared to budget after the spring season. In June of 2017, revenues rebounded with more hot weather, bringing water sales revenue slightly higher than budget for the year. Hydroelectric revenues were \$0.03 million or 1.9% higher than budget. Other miscellaneous water sales were \$0.3 million or 13.0% higher than budget, mainly due to increases in inspection fees for new business activities as residential building activity becomes more robust in the service area.

Total operating expenses before depreciation were approximately \$50.3 million, \$2.5 million or 4.7% less than the revised budget. Spending on wages and salaries was \$1.1 million or 5.8% less than budget, due to turnover and lower spending on interns and temporary employees. Employee benefits were \$0.3 million or 3.56% over budget due to adjustments in the NVPERS actuarial estimates related to the proportion of TMWA's contribution to NVPERS. Spending on service and supplies was \$1.8 million or 6.8% less than revised budget. Power costs were \$1.1 million less than anticipated. TMWA as a consolidated water utility continues to aggressively manage power expenses. Claims for domestic well mitigation were also lower than anticipated by \$0.2 million. Depreciation expense was \$32.2 million, \$1.1 million or 3.2% less than revised budget.

Net non-operating revenue and expenses were favorable \$3.6 million or 23.6% as compared to the revised budget. As part of the 2017 bond refunding, there was a release of two forward delivery agreements (FDA) with Bank of New York Mellon and JP Morgan. These banks will no longer have to provide a 5.5% interest rate on a portion of TMWA's debt reserves and O&M reserves balances, so they paid TMWA \$5.1 million dollars for the release of this commitment. This settlement was negotiated by our financial advisors at PFM. Offsetting were higher bond amortization expenses of \$0.6 million related to the 2017 refunding bonds, and a decrease in the fair value of investments of \$0.3 million.

Total capital contributions were \$43.4 million, \$12.0 million or 38.0% greater than planned mainly due to developer infrastructure contributions of \$10.8 million.

Spending on capital outlays and construction projects for the fiscal year ended June 30, 2017 was approximately \$33.6 million. The final revised capital budget was \$31.9 million significantly reduced from the previous augmented budget amount of \$47.8 million.



Customer Rate funded projects totaled \$29.0 million or 86.3%, Developer funded projects were \$3.8 million or 11.3%, and STMGID Reserves funded \$0.8 million or 2.4% of capital spending.

Major projects funded by Customer Rates were the Fleish Penstock at \$2.5 million, Stead Main Replacement \$2.4 million, 4<sup>th</sup> and Prater Replacement \$2.7 million, Chalk Bluff Plant Improvements \$1.8 million, Double Diamond Well 3 \$1.4 million and Tank Improvements \$1.1 million. Major projects funded by Developers were the Truckee Canyon Water Treatment Improvements \$1.5 million and Terminal PH Adjustment \$1.0 million.

Total cash and investments as of June 30, 2017 was approximately \$174.0 million, \$10.4 million higher than budget. Additional cash balances are from the release of FDAs received as investment income of \$5.1 million, higher operating cash flow of \$2.9 million, and higher developer contributions of \$1.2 million. Approximately \$41.8 million was restricted by bond indenture requirements and conditions of the STMGID water utility consolidation. The remaining balance of \$132.2 million was available to pay for future operating and maintenance expenses, construction spending, future debt payments, and commercial paper redemptions. Included in unrestricted cash is \$21.5 million from insurance settlements collected in FY16 and FY17 for Farad hydroelectric facilities, and \$9.5 million collected in FY16 and FY17 for the release of FDA agreements.

### **Fiscal Year 2017 Actual to Prior Year Comparison**

The following comparisons of FY17 actual financials to prior year FY16 actuals are attached:

- **Attachment B-1** Statement of Revenues, Expenses and Changes in Net Position Actual to Prior Year
- **Attachment B-2** Statement of Net Position Actual to Prior Year
- **Attachment B-3** Statement of Cash Flows Actual to Prior Year

Total operating revenues in fiscal year 2017 were approximately \$97.3 million, 5.49% higher than the prior fiscal year 2016. Water sales revenues were \$5.2 million or 5.56% higher than prior year. Water sale revenues were higher than prior years by \$4.6 million last summer (July-September, year over year) due to over 90 days of no precipitation in FY17. Additional revenue due to the rate increase effective the first billing cycle in May 2017 contributed an additional \$0.5 million in water sales revenue to fiscal year 2017. Hydroelectric revenues were \$0.6 million or 34.3% higher than prior year due to additional water flow in the Truckee River. Other miscellaneous water sales were \$0.4 million or 15.31% less than prior year, mainly due to an insurance settlement collected in the prior year.

Total operating expenses before depreciation were approximately \$50.3 million, \$1.8 million or 3.6% higher than the prior year. Spending on wages and salaries was \$0.7 million or 4.15% higher, due to wage increases of approximately 2%, promotions and step

increases. Employee benefits were \$2.7 million or 29.66% higher mainly due to \$2.3 million increase in NVPERS actuarial estimates related to the proportion of TMWA's contribution to NVPERS. Spending on service and supplies was \$1.6 million or 6.7% less than prior year. Expenses related to the Fleish penstock project were expensed for a loss of \$0.6 million in the prior year. Power costs are lower by \$0.3 million in the current year, and professional services are lower \$0.3 million due to work performed internally, especially in hydrology. Accruals for fiscal year ended June 30, 2016 were slightly overstated by \$0.3 million.

Net non-operating revenue and expenses were unfavorable \$2.1 million or 18.11% as compared to prior year. In the prior year the sale of water rights to implement TROA created a gain on sale of \$7.0 million. Offsetting was lower interest expense in 2017 of \$4.5 million.

Total capital contributions were \$43.4 million, \$24.2 million or 55.6% greater than prior year due to an \$11.8 million insurance settlement related to Farad hydroelectric plant, \$9.4 million increase in developer contributions, \$2.3 million in additional developer infrastructure contributions, and \$1.0 million in additional grants received mainly due to TROA.

Total cash and investments as of June 30, 2017 was approximately \$174.0 million, \$13.0 million lower than prior year. Use of \$32.9 million in the debt service reserve fund to pay down debt in the 2017 refunding was offset by \$11.8 million additional insurance funds received, and \$5.1 million received from release of FDAs. Restricted cash balances decreased from \$87.3 million to \$41.8 million due to release of the debt service reserve fund and lower current debt service requirements due to deferral of principal payments on Senior Lien Debt. The unrestricted cash balance increased from \$99.8 million to \$132.2 million. Included in unrestricted cash is \$21.5 million from insurance settlements collected in FY16 and FY17 for Farad hydroelectric facilities, and \$9.5 million collected in FY16 and FY17 for the release of FDAs.

**TRUCKEE MEADOWS WATER AUTHORITY**  
**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - ACTUAL TO BUDGET**  
**YEAR ENDED JUNE 30, 2017**

	<u>UNAUDITED</u> Actual	<u>REVISED</u> Budget	Variance	% Var
<b>OPERATING REVENUES</b>				
Charges for water sales	\$ 92,687,260	\$ 91,196,093	\$ 1,491,167	1.64%
Hydroelectric sales	1,788,934	1,755,890	33,044	1.88%
Other operating sales	2,791,989	2,471,500	320,489	12.97%
Total Operating Revenues	<u>97,268,183</u>	<u>95,423,483</u>	<u>1,844,700</u>	1.93%
<b>OPERATING EXPENSES</b>				
Salaries and wages	17,257,430	18,319,615	1,062,185	5.80%
Employee benefits	9,047,279	8,736,336	(310,943)	-3.56%
Services and supplies	23,980,449	25,730,715	1,750,266	6.80%
Total Operating Expenses before Depreciation	<u>50,285,158</u>	<u>52,786,666</u>	<u>2,501,508</u>	4.74%
Depreciation	<u>32,169,578</u>	<u>33,247,620</u>	<u>1,078,042</u>	3.24%
Total Operating Expenses	<u>82,454,736</u>	<u>86,034,286</u>	<u>3,579,550</u>	4.16%
Operating Income	<u>14,813,447</u>	<u>9,389,197</u>	<u>5,424,250</u>	57.77%
<b>NONOPERATING REVENUES (EXPENSES)</b>				
Investment earnings	7,209,113	2,231,304	4,977,809	223.09%
Net increase (decrease) in fair value of investments	(342,257)	-	(342,257)	*
Gain (Loss) on disposal of assets	(111,696)	-	(111,696)	*
Amortization of bond/note issuance costs	(1,083,480)	(474,444)	(609,036)	128.37%
Interest expense	(17,018,860)	(16,930,176)	(88,684)	0.52%
Other non operating expense	(243,000)	-	(243,000)	*
Total Nonoperating Revenues (Expenses)	<u>(11,590,180)</u>	<u>(15,173,316)</u>	<u>3,583,136</u>	23.61%
Income (Loss) before Capital Contributions	<u>3,223,267</u>	<u>(5,784,119)</u>	<u>9,007,386</u>	155.73%
<b>CAPITAL CONTRIBUTIONS</b>				
Grants	1,226,863	1,191,168	35,695	3.00%
Water meter retrofit program	341,074	450,000	(108,926)	-24.21%
Developer infrastructure contributions	10,797,854	-	10,797,854	*
Developer will-serve contributions (net of refunds)	7,950,666	8,189,633	(238,967)	-2.92%
Developer capital contributions-other	6,149,809	5,328,086	821,723	15.42%
Developer facility charges (net of refunds)	5,116,956	4,509,144	607,812	13.48%
Contributions from others	11,855,511	11,805,511	50,000	0.42%
Net Capital Contributions	<u>43,438,733</u>	<u>31,473,542</u>	<u>11,965,191</u>	38.02%
Change in Net Position	<u>46,662,000</u>	<u>25,689,423</u>	<u>20,972,577</u>	-81.64%
<b>NET POSITION, BEGINNING OF YEAR</b>	<u>584,982,314</u>	<u>560,575,086</u>		
<b>NET POSITION, END OF YEAR</b>	<u>\$ 631,644,314</u>	<u>\$ 586,264,509</u>		

TRUCKEE MEADOWS WATER AUTHORITY  
STATEMENT OF CASH FLOWS - ACTUAL TO BUDGET  
YEAR ENDED JUNE 30, 2017

	UNAUDITED Actual	REVISED Budget	Variance	% Var
<b>INCREASE IN CASH AND CASH EQUIVALENTS</b>				
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Cash received from customers	\$ 95,999,034	\$ 95,423,482	\$ 575,552	0.60%
Cash paid to employees	(25,619,675)	(27,055,951)	1,436,276	-5.31%
Cash paid to suppliers	(20,093,718)	(25,730,715)	5,636,997	-21.91%
Net Cash Provided by Operating Activities	<u>50,285,641</u>	<u>42,636,816</u>	<u>7,648,825</u>	17.94%
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>				
Acquisition and construction of capital assets	(33,590,151)	(31,874,291)	(1,715,860)	5.38%
Interest paid on financing	(16,172,525)	(16,154,600)	(17,925)	0.11%
Principal paid on financing	(14,004,694)	(47,100,153)	33,095,459	-70.27%
Proceeds from refunding bonds	172,268,662	-	172,268,662	*
Redemption of commercial paper notes	(4,400,000)	(4,400,000)	-	0.00%
Proceeds transferred to refunding escrow	(207,049,764)	-	(207,049,764)	*
Proceeds from capital debt issuance	732,529	-	732,529	*
Proceeds from capital asset disposal	(111,696)	-	(111,696)	*
Contributions for water meter retrofit program	341,074	450,000	(108,926)	-24.21%
Contributions from developers-will-serve letters	7,950,666	8,189,633	(238,967)	-2.92%
Contributions from developers-other	6,149,809	5,328,086	821,723	15.42%
Contributions from developers-facility charges	5,116,956	4,509,144	607,812	13.48%
Contributions from others	11,855,510	11,805,511	49,999	0.42%
Grants	1,262,453	1,191,168	71,285	5.98%
Bond/Note issuance costs	(1,058,081)	(440,820)	(617,261)	140.03%
Net Cash (Used) by Capital and Related Financing Activities	<u>(70,709,252)</u>	<u>(68,496,322)</u>	<u>(2,212,930)</u>	3.23%
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Payments received on Verdi Business Park receivable	20,793	-	20,793	*
Interest received	7,403,545	2,404,344	4,999,201	207.92%
Net Cash Provided by Investing Activities	<u>7,424,338</u>	<u>2,404,344</u>	<u>5,019,994</u>	208.79%
Net Increase (Decrease) in Cash and Cash Equivalents	(12,999,274)	(23,455,162)	<u>10,455,888</u>	-44.58%
<b>CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR</b> (including \$87,271,218 in restricted accounts for the year ended June 30, 2016)				
	<u>187,035,903</u>	<u>187,035,903</u>		
<b>CASH AND CASH EQUIVALENTS, END OF YEAR</b> (including \$41,832,676 in restricted accounts for the year ended June 30, 2017)				
	<u>\$ 174,036,629</u>	<u>\$ 163,580,741</u>		

**TRUCKEE MEADOWS WATER AUTHORITY**  
**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - ACTUAL TO PRIOR YEAR**  
**YEAR ENDED JUNE 30, 2017**

	<u>UNAUDITED</u> <u>2017</u>	<u>AUDITED</u> <u>2016</u>	<u>Variance</u>	<u>% Var</u>
<b>OPERATING REVENUES</b>				
Charges for water sales	\$ 92,687,260	\$ 87,534,332	\$ 5,152,928	5.56%
Hydroelectric sales	1,788,934	1,175,195	613,739	34.31%
Other operating sales	2,791,989	3,219,416	(427,427)	-15.31%
Total Operating Revenues	<u>97,268,183</u>	<u>91,928,943</u>	<u>5,339,240</u>	5.49%
<b>OPERATING EXPENSES</b>				
Salaries and wages	17,257,430	16,541,811	(715,619)	-4.15%
Employee benefits	9,047,279	6,364,279	(2,683,000)	-29.66%
Services and supplies	23,980,449	25,575,227	1,594,778	6.65%
Total Operating Expenses before Depreciation	<u>50,285,158</u>	<u>48,481,317</u>	<u>(1,803,841)</u>	-3.59%
Depreciation	<u>32,169,578</u>	<u>32,134,190</u>	<u>(35,388)</u>	-0.11%
Total Operating Expenses	<u>82,454,736</u>	<u>80,615,507</u>	<u>(1,839,229)</u>	-2.23%
Operating Income	<u>14,813,447</u>	<u>11,313,436</u>	<u>3,500,011</u>	23.63%
<b>NONOPERATING REVENUES (EXPENSES)</b>				
Investment earnings	7,209,113	6,737,745	471,368	6.54%
Net increase (decrease) in fair value of investments	(342,257)	80,042	(422,299)	123.39%
Gain (Loss) on disposal of assets	(111,696)	6,460,373	(6,572,069)	5883.89%
Amortization of bond/note issuance costs	(1,083,480)	(1,219,746)	136,266	-12.58%
Interest expense	(17,018,860)	(21,549,864)	4,531,004	-26.62%
Other non operating expense	(243,000)	-	(243,000)	100.00%
Total Nonoperating Revenues (Expenses)	<u>(11,590,180)</u>	<u>(9,491,450)</u>	<u>(2,098,730)</u>	18.11%
Income (Loss) before Capital Contributions	<u>3,223,267</u>	<u>1,821,986</u>	<u>1,401,281</u>	43.47%
<b>CAPITAL CONTRIBUTIONS</b>				
Grants	1,226,863	224,138	1,002,725	81.73%
Water meter retrofit program	341,074	482,081	(141,007)	-41.34%
Developer infrastructure contributions	10,797,854	8,454,980	2,342,874	21.70%
Developer will-serve contributions (net of refunds)	7,950,666	4,363,692	3,586,974	45.12%
Developer capital contributions-other	6,149,809	2,473,163	3,676,646	59.78%
Developer facility charges (net of refunds)	5,116,956	2,931,940	2,185,016	42.70%
Contributions from others	11,855,511	356,200	11,499,311	97.00%
Net Capital Contributions	<u>43,438,733</u>	<u>19,286,194</u>	<u>24,152,539</u>	55.60%
Change in Net Position	<u>46,662,000</u>	<u>21,108,180</u>	<u>25,553,820</u>	54.76%
<b>NET POSITION, BEGINNING OF YEAR</b>	<u>584,982,314</u>	<u>563,874,134</u>		
<b>NET POSITION, END OF YEAR</b>	<u>\$ 631,644,314</u>	<u>\$ 584,982,314</u>		

**TRUCKEE MEADOWS WATER AUTHORITY**  
**STATEMENT OF NET POSITION - ACTUAL TO PRIOR YEAR**  
**JUNE 30, 2017**

**ASSETS**

	<u>UNAUDITED</u> <u>2017</u>	<u>AUDITED</u> <u>2016</u>	<u>Change</u>	<u>% Chg</u>
<b>CURRENT ASSETS</b>				
Cash and investments	\$ 132,203,955	\$ 99,764,684	\$ 32,439,271	24.54%
Accounts receivable, net	14,803,390	13,580,981	1,222,409	8.26%
Due from others	333,417	313,955	19,462	5.84%
Due from other governments	9,559	45,969	(36,410)	-380.90%
Interest receivable	595,161	1,048,498	(453,337)	-76.17%
Prepaid assets and other assets	1,222,604	1,243,125	(20,521)	-1.68%
	<u>149,168,086</u>	<u>115,997,212</u>	<u>33,170,874</u>	<u>22.24%</u>
<b>RESTRICTED CURRENT ASSETS</b>				
Cash and investments:				
Water meter retrofit program	2,369,793	2,084,980	284,813	12.02%
Current bond debt service	6,250,183	19,395,405	(13,145,222)	-210.32%
	<u>8,619,976</u>	<u>21,480,385</u>	<u>(12,860,409)</u>	<u>-149.19%</u>
Total Current Assets	<u>157,788,062</u>	<u>137,477,597</u>	<u>20,310,465</u>	<u>12.87%</u>
<b>RESTRICTED NONCURRENT ASSETS</b>				
Cash and investments:				
Future bond debt service	3,242,632	35,390,010	(32,147,378)	-991.40%
Operations and maintenance	8,797,778	8,739,954	57,824	0.66%
Renewal and replacement	20,672,290	21,160,870	(488,580)	-2.36%
Water rate stabilization	500,000	500,000	-	0.00%
	<u>33,212,700</u>	<u>65,790,834</u>	<u>(32,578,134)</u>	<u>-98.09%</u>
<b>NONCURRENT ASSETS</b>				
Capital assets, not depreciated	150,654,627	147,064,145	3,590,482	2.38%
Capital assets, depreciated	791,082,302	783,728,106	7,354,196	0.93%
Deferred charges and other assets	510,360	1,013,985	(503,625)	-98.68%
	<u>942,247,289</u>	<u>931,806,236</u>	<u>10,441,053</u>	<u>1.11%</u>
Total Noncurrent Assets	<u>975,459,989</u>	<u>997,597,070</u>	<u>(22,137,081)</u>	<u>-2.27%</u>
<b>DEFERRED OUTFLOW OF RESOURCES</b>				
Deferred amount on bond refundings	3,153,858	3,053,052	100,806	3.20%
Deferred amount on net pension liability	14,239,295	7,156,688	7,082,607	49.74%
Total Deferred Outflow of Resources	17,393,153	10,209,740	7,183,413	41.30%
Total Assets	<u>\$1,150,641,204</u>	<u>\$1,145,284,407</u>	<u>\$ 5,356,797</u>	<u>0.47%</u>

TRUCKEE MEADOWS WATER AUTHORITY  
STATEMENT OF NET POSITION - ACTUAL TO PRIOR YEAR  
JUNE 30, 2017

LIABILITIES

	UNAUDITED 2017	AUDITED 2016	Variance	Var %
<b>CURRENT LIABILITIES PAYABLE FROM UNRESTRICTED</b>				
<b>CURRENT ASSETS</b>				
Accounts payable	\$ 7,236,523	\$ 2,909,126	\$ 4,327,397	59.80%
Contracts and retention payable	719,471	2,185,872	(1,466,401)	-203.82%
Accrued liabilities	3,912,374	4,000,137	(87,763)	-2.24%
Due to other governments	1,928,514	2,137,679	(209,165)	-10.85%
Accrued interest payable	384,147	315,707	68,440	17.82%
Current portion of long term debt	85,205,701	89,414,845	(4,209,144)	-4.94%
Customer deposits and amounts due to developers	2,729,962	2,757,239	(27,277)	-1.00%
	<u>102,116,692</u>	<u>103,720,605</u>	<u>(1,603,913)</u>	-1.57%
<b>CURRENT LIABILITIES PAYABLE FROM RESTRICTED</b>				
<b>CURRENT ASSETS</b>				
Current portion of long term debt	850,000	12,620,000	(11,770,000)	-1384.71%
Interest payable	5,400,183	6,775,405	(1,375,222)	-25.47%
	<u>6,250,183</u>	<u>19,395,405</u>	<u>(13,145,222)</u>	-210.32%
Total Current Liabilities	<u>108,366,875</u>	<u>123,116,010</u>	<u>(14,749,135)</u>	-13.61%
<b>NONCURRENT LIABILITIES</b>				
Net pension liability	35,783,246	26,869,406	8,913,840	24.91%
Long-term debt, net of current portion	372,309,512	406,696,538	(34,387,026)	-9.24%
Total Non-Current Liabilities	<u>408,092,758</u>	<u>433,565,944</u>	<u>(25,473,186)</u>	-6.24%
<b>DEFERRED INFLOW OF RESOURCES</b>				
Deferred amount on net pension liability	2,410,007	3,486,191	(1,076,184)	-44.65%
Deferred amount on bond refundings	127,250	133,948	(6,698)	-5.26%
Total Deferred Inflow of Resources	<u>2,537,257</u>	<u>3,620,139</u>	<u>(1,082,882)</u>	-42.68%
Total Liabilities	<u>518,996,890</u>	<u>560,302,093</u>	<u>(41,305,203)</u>	-7.96%
<b>NET POSITION</b>				
Net investment in capital assets	495,575,149	478,543,111	17,032,038	3.44%
Restricted for water meter retrofit program	2,369,793	2,084,980	284,813	12.02%
Restricted for debt service	850,000	12,620,000	(11,770,000)	-1384.71%
Restricted for operations and maintenance reserve	4,197,778	4,139,954	57,824	1.38%
Restricted for renewal and replacement reserve	20,672,290	21,160,870	(488,580)	-2.36%
Restricted for water rate stabilization	500,000	500,000	-	0.00%
Unrestricted	107,479,304	65,933,399	41,545,905	38.65%
Total Net Position	<u>631,644,314</u>	<u>584,982,314</u>	<u>46,662,000</u>	7.39%
Total Liabilities and Net Position	<u>\$1,150,641,204</u>	<u>\$1,145,284,407</u>	<u>\$ 5,356,797</u>	0.47%

TRUCKEE MEADOWS WATER AUTHORITY  
STATEMENT OF CASH FLOWS - ACTUAL TO PRIOR YEAR  
YEAR ENDED JUNE 30, 2017

	UNAUDITED 2017	AUDITED 2016	Variance	% Var
<b>INCREASE IN CASH AND CASH EQUIVALENTS</b>				
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Cash received from customers	\$ 95,999,034	\$ 90,753,299	\$ 5,245,735	5.78%
Cash paid to employees	(25,619,675)	(24,132,183)	(1,487,492)	6.16%
Cash paid to suppliers	(20,093,718)	(26,198,864)	6,105,146	-23.30%
Net Cash Provided by Operating Activities	<u>50,285,641</u>	<u>40,422,252</u>	<u>9,863,389</u>	24.40%
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>				
Acquisition and construction of capital assets	(33,590,151)	(49,416,333)	15,826,182	-32.03%
Interest paid on financing	(16,172,525)	(18,904,799)	2,732,274	-14.45%
Principal paid on financing	(14,004,694)	(12,568,107)	(1,436,587)	11.43%
Proceeds from refunding bonds	172,268,662	149,354,337	22,914,325	15.34%
Redemption of commercial paper notes	(4,400,000)	(7,200,000)	2,800,000	-38.89%
Proceeds transferred to refunding escrow	(207,049,764)	(151,026,620)	(56,023,144)	37.09%
Proceeds from capital debt issuance	732,529	8,239,034	(7,506,505)	-91.11%
Proceeds from capital asset disposal	(111,696)	6,460,373	(6,572,069)	-101.73%
Contributions for water meter retrofit program	341,074	482,081	(141,007)	-29.25%
Contributions from developers-will-serve letters	7,950,666	4,363,692	3,586,974	82.20%
Contributions from developers-other	6,149,809	2,473,163	3,676,646	148.66%
Contributions from developers-facility charges	5,116,956	2,931,940	2,185,016	74.52%
Contributions from others	11,855,510	356,200	11,499,310	3228.33%
Grants	1,262,453	253,131	1,009,322	398.74%
Bond/Note issuance costs	(1,058,081)	(1,298,798)	240,717	-18.53%
Net Cash (Used) by Capital and Related Financing Activities	<u>(70,709,252)</u>	<u>(65,500,706)</u>	<u>(5,208,546)</u>	7.95%
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Cash received in connection with WCWU transfer of operations	-	9,678,076	(9,678,076)	-100.00%
Cash received from STMGID subsequent to merger	-	162,770	(162,770)	-100.00%
Payments received on Verdi Business Park receivable	20,793	22,244	(1,451)	-6.53%
Interest received	7,403,545	7,233,417	170,128	2.35%
Net Cash Provided by Investing Activities	<u>7,424,338</u>	<u>17,096,507</u>	<u>(9,672,169)</u>	-56.57%
Net Increase (Decrease) in Cash and Cash Equivalents	(12,999,274)	(7,981,947)	<u>(5,017,327)</u>	62.86%
<b>CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR</b> (including \$87,271,218 in restricted accounts for the year ended June 30, 2016)				
	<u>187,035,903</u>	<u>195,017,850</u>		
<b>CASH AND CASH EQUIVALENTS, END OF YEAR</b> (including \$41,832,676 in restricted accounts for the year ended June 30, 2017)				
	<u>\$ 174,036,629</u>	<u>\$ 187,035,903</u>		





## STAFF REPORT

**TO:** Chairman and Board Members  
**THRU:** Mark Foree, General Manager  
**FROM:** Pat Nielson, Director of Distribution, Maintenance and Generation  
Brent Smith, Field and Meter Service Supervisor  
John Zimmerman, Water Resources Manager  
**DATE:** August 8, 2017  
**SUBJECT:** **Informational report regarding the water meter retrofit fund program**

---

At the June Board meeting, Member Brekhuis requested an informational report on the status of the water meter retrofit program. The following is a brief discussion regarding the current meter fund balance, projected fund revenue over the next five years, and estimated costs and complications of retrofitting all remaining non-metered services.

### **Water Meter Retrofit Fee and Fund Balance**

Under TMWA Rule 7(H)(3), applicants for water service (except those relying on domestic well conversion credits issued by the Nevada State Engineer, imported water resources, or groundwater rights for their dedication) must pay \$1,830 per acre-foot of their estimated water demand. In fiscal year 2017, TMWA collected \$370,667 in meter retrofit fund fees and as of June 30, 2017 the fund balance was \$2,425,647.

### **Estimated Annual Fund Revenue**

Based on a very preliminary analysis, staff estimates that by the end of fiscal year 2022, the projected meter fund balance will be between \$4.2M and \$9.7M.<sup>1</sup> This range is based on the amount of surface water staff estimates may be used to satisfy dedication requirements over the next five years (fiscal years 2018-2022). The results of staff's analysis are shown in Tables 1 and 2.

Under the first scenario, surface water dedications remain constant at fiscal year 2017 levels. Under the second scenario, surface water dedications increase by 50% each year from fiscal year 2017 levels. It is somewhat likely that more surface water will be dedicated than projected in scenario 1 because groundwater resources in TMWA's Inventory are nearly exhausted, and thus, most commitments based on Inventory resources will be surface water. Accordingly, scenario 1 serves as a lower bound estimate.

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<sup>1</sup> This projection does not account for expenditures under the fund over the next five years.

<b>Table 1</b>			
<b>Scenario 1: 202.6 Acre-Feet of Surface Water Committed Annually</b>			
Fiscal Year	Committed Acre-Feet	Revenue	Ending Balance
2018	202.55	\$ 370,667	\$ 2,796,314
2019	202.55	\$ 370,667	\$ 3,166,981
2020	202.55	\$ 370,667	\$ 3,537,648
2021	202.55	\$ 370,667	\$ 3,908,315
2022	202.55	\$ 370,667	\$ 4,278,982
<b>Table 2</b>			
<b>Scenario 2: 50% Increase in Surface Water Committed Each Year</b>			
Fiscal Year	Committed Acre-Feet	Revenue	Ending Balance
2018	303.90	\$ 556,137	\$ 2,981,784
2019	455.85	\$ 834,206	\$ 3,815,990
2020	683.78	\$ 1,251,308	\$ 5,067,298
2021	1025.66	\$ 1,876,962	\$ 6,944,260
2022	1538.49	\$ 2,815,444	\$ 9,759,704

**Estimated Cost to Complete Retrofitting**

There are 253 non-metered services and staff estimates the total cost to retrofit them with meters would be approximately \$4,326,000 – \$6,880,000. This cost estimate is based solely on staff’s experience with, and knowledge of, these service types and is limited to the estimated amount of labor and materials to complete retrofitting. Staff believes converting these services to meters would be very difficult because of meter size, physical location of piping, and legal complications associated with obtaining any necessary easements and access rights. These complications are difficult to estimate without a more in-depth analysis, but are likely to increase the costs, substantially in some cases. To obtain more accurate cost estimates, staff would need to physically inspect each service property at a minimum.

The remaining services fall under three rate schedules:

Rate Schedule	Total Services	Estimated Cost Range
Multiple-Unit Residential and Irrigation Service	129	\$3,250,000 – \$4,000,000
Multiple-Unit Residential Flat Rate Service	14	\$300,000 – \$400,000
Small Unit Flat Rate Service	110 <sup>2</sup>	\$500,000 – \$2,480,000

<sup>2</sup> As of June 2017, there were 396 customers billed under these SUFR party services.

The Multiple-Unit Residential and Irrigation services include apartment complexes and mobile home parks. These services are connected to TMWA's water system by single or multiple feeds and some have multiple owners. Most of these services use relatively large diameter pipe that likely would require construction of a vault with backflow prevention assemblies. Also, some of these services may require pipe upsizing to meet fire flow requirements.

The Multiple-Unit Residential Flat Rate services are all apartment complexes fed by one service line. These services also are likely to require construction of a vault and backflow assemblies and may require modifications to satisfy fire flow requirements.

The Small Unit Flat Rate party services consist of duplexes and fourplexes that are each fed by a single service line.<sup>3</sup> Each housing unit is usually under separate ownership, but some of the internal plumbing and irrigation waterlines are shared among the units. These services will be the most difficult to retrofit. It would require installation of additional service lines and metering facilities to each housing unit from TMWA's main waterlines. These additional service lines may need to be installed through adjoining property owner's land, and thus, would require coordination with, and easements from, the affected property owners. Lastly, retrofitting each unit with a single service connection would require modifications to each unit's internal shared and non-shared plumbing as well as separating their irrigation systems. These modifications could increase the cost to retrofit each unit by approximately \$5,000, which additional cost is included in the higher cost estimate provided above.

For each service type, any construction that involves the installation of new or modified facilities on a customer's property or within their housing unit would require their consent.

### **Meter Fund Status**

Based on staff's preliminary estimates and using the lower range of values provided above, the fund may receive enough fees for the estimated retrofitting costs of these services between fiscal years 2020 and 2022. Staff continues to retrofit existing services as time allows, however, it may be worthwhile to analyze the benefits of retrofitting the remaining SUFR party services due to their complexity and expense.

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<sup>3</sup> See attached photographs of several Small Unit Flat Rate services.

**Example Duplex – SUFR**



**Example Fourplexes – SUFR**







## STAFF REPORT

**TO:** Board of Directors  
**THRU:** Mark Foree, General Manager  
**FROM:** John Enloe and Scott Estes  
**DATE:** August 16, 2017  
**SUBJECT:** **Discussion and possible action, and direction to staff regarding the draft Wholesale Water Service Agreement between TMWA and West Reno Water Company, Inc. and request for Board authorization for General Manager to finalize and execute the agreement**

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### Recommendation

Authorize the General Manager to finalize and execute the Wholesale Water Service Agreement between TMWA and West Reno Water Company, subject to possible refinements to Article 3. Water Resource Commitments, Article 6. Quantities of Water to Deliver, and other non-substantive revisions.

### Summary

West Reno Water Company, Inc. (West Reno) proposes to provide retail water service to certain areas within its anticipated initial PUCN authorized service territory (PUCN application currently in process) in the Boomtown/Verdi area (see attached figure). West Reno will own, maintain, and operate its own distribution system for retail water service including wells, transmission and distribution mains, and storage tanks. West Reno has separate groundwater supplies that it intends to use to serve all or a portion of the proposed development within the anticipated PUCN authorized service territory, but desires to receive wholesale water service from TMWA to serve a portion of its total water demand to allow for conjunctive management of its groundwater resources with surface water.

Upon completion of the Mogul Booster Pump Station upgrade, the West Meadows Subdivision oversizing and the Somerset Road to Riverbelle Mobile Home Park improvements (estimated completion date April 13, 2018), TMWA will have 150 gallons per minute (GPM) of system capacity available to the Verdi area on a first-come, first-served basis. West Reno has initially requested 50 GPM of supply capacity, which would be provided as a year-round, base load supply. The necessary Truckee River water rights required to support this demand is approximately 80 acre feet per year. These water resources could be purchased through TMWA's Rule 7 Inventory or acquired on the open market. The wholesale service would be billed under the Firm Standby Partial Requirements (FSPR) rate schedule, which would generate

a revenue of approximately \$3,400 per month. Required facility fees for the proposed wholesale service amount to \$602,500.

**Background**

The West Reno Water Company is interested in a wholesale service from TMWA. TMWA has developed a Verdi Area Plan (Area Plan) to meet the projected buildout demands in the Verdi area. Portions of the Area Plan facilities have been, or are currently being, constructed, including a new water main extension to convey water to the West Meadows development within the east Verdi area. The water system currently being extended into the Verdi area will be a temporary extension of the Mogul/Verdi Business Park tank zone, which has 150 GPM of excess supply capacity. Facility requirements that West Reno would be responsible for include:

- A wholesale meter facility located in a vault near the southeast corner of the Riverbelle property.
- Commercial backflow facilities immediately downstream of the TMWA wholesale meter.
- A main extension from the wholesale delivery point to the West Reno system and a booster pump station to deliver TMWA wholesale water to the West Reno storage tanks.

West Reno Water Company’s off-site facility requirements for the requested 50 GPM of capacity would be satisfied by payment of both the draft Area 7 Fee (attached) and the Supply-Treatment Facility Charge, as presented below:

Facilities & Costs:

Supply-Treatment Facility Charge 50 GPM @ \$4,163 per GPM =	\$208,150
Area 7 Fee 50 GPM @ \$7,887 per GPM =	\$394, 350
<b>TOTAL FACILITY COSTS</b>	<b>\$602,500</b>

The remaining Area Plan water facilities and incremental water capacity increases associated with a phased implementation have been identified. However, several major water system improvements are required to deliver the estimated 1,933 GPM buildout demand to the Verdi area. Due to the significant cost of the facilities required to supply the necessary capacity (\$13.85 million), TMWA does not propose to fund the improvements based on the Area Fee model; therefore, new development will be responsible for the construction of all subsequent water system improvements and facility costs. A reimbursement mechanism could be established as a part of a future wholesale nomination or a specific reimbursement agreement process.

Attachments:

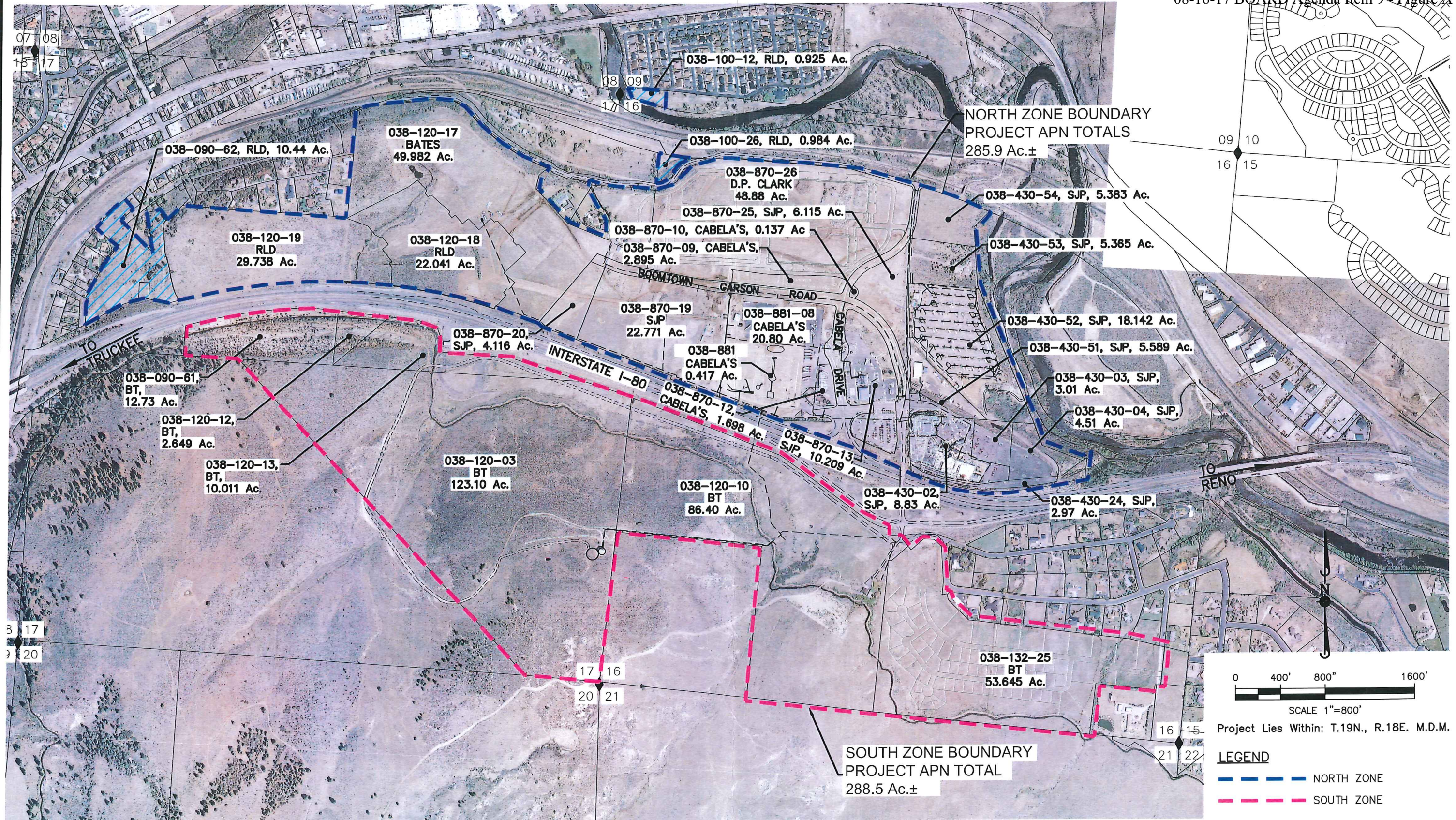
Figure A: West Reno Water Company

Figure 1: Verdi Area Plan, Proposed Facilities

Draft Area 7 Fee calculation

Draft Wholesale Water Service Agreement between TMWA and West Reno Water Company





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DATE	REVISIONS	DRAWN BY

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<b>WEST RENO WATER COMPANY</b>			
<b>BOOMTOWN, NEVADA</b>			
<b>FIGURE A</b>			
DRAWN BY: MB	DATE: 04/11/17	SCALE: 1"=800'	CODE: Bhrcnv01

Dwg Name: \\mcl-cc-nas\Projects-RE\Bhrcnv\Documents\Water System\PUCC\Bmto\Bmto\FigureA-DISPLAY.dwg Updated By: rwenzinger July 21, 2017 - 16:12

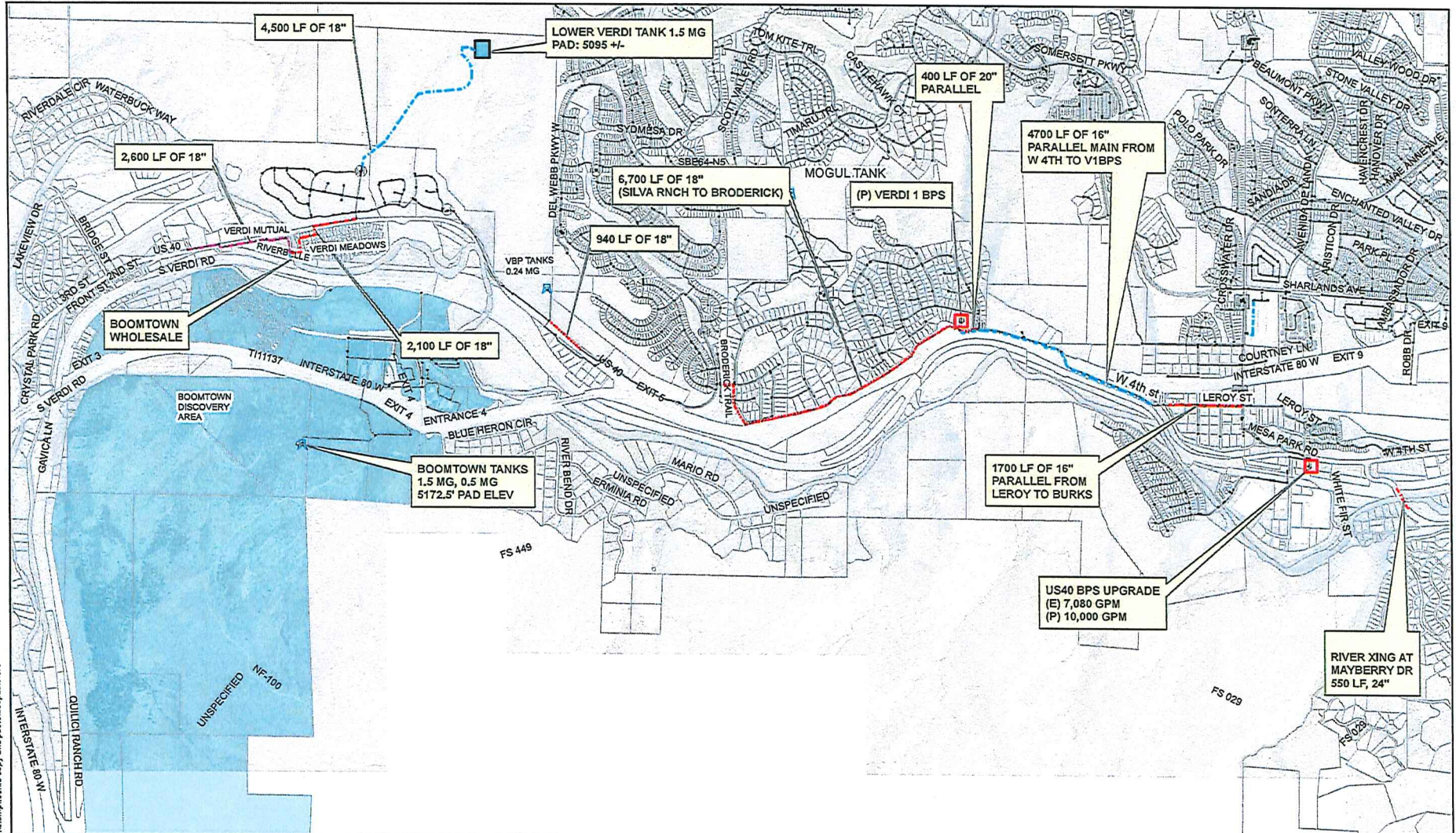


FIGURE 1: VERDI AREA PLAN  
 PROPOSED FACILITIES



DATE:	JULY 2017
MAP BY:	BL
REQUESTED BY:	NAME
SCALE:	1 inch = 2,000 feet <small>(NAD 83 NEVADA STATE PLANE WEST FEET)</small>

**AREA 7 FEE**

August 1, 2017 Update

Actual Costs to Date: **\$ 2,140,557**

<u>Project</u>	<u>FY</u>	<u>Total Cost</u>	<u>Exist. Cust.</u>	<u>New Growth</u>	<u>Cost to Growth</u>	<u>Comments</u>
Sierra Carryover (PUCN)	2001	\$ 433,000	0.00	1.00	\$ 433,000	actual cost
Mayberry 24" Parallel Main O/S	2004	\$ 330,000	0.00	1.00	\$ 330,000	actual cost
US 40 to MA#1 20" Main O/S	2006	\$ 128,655	0.00	1.00	\$ 128,655	actual cost
Verdi, US 40, W.Reno TWs	2006	\$ 427,327	0.00	1.00	\$ 427,327	actual cost
Boomtown Well Evaluations	2007	\$ 123,645	0.00	1.00	\$ 123,645	actual cost
Previous Oversizing <sup>(1)</sup>	2008	\$ 697,930	0.00	1.00	\$ 697,930	actual cost
West Meadows Oversizing <sup>(3)</sup>	2017	\$ 706,000	0.00	1.00	\$ 706,000	
River Casing Reimbursement	2017	\$ 98,842	0.00	1.00	\$ 98,842	
Summerset Rd to Riverbelle MHP	2017	\$ 1,156,000	0.00	1.00	\$ 1,156,000	
Mogul BPS Capacity Upgrade	2017	\$ 600,000	0.00	1.00	\$ 600,000	
US 40 PS Expansion	20xx	\$ 350,000	0.00	1.00	\$ 350,000	
24" Mayberry River Xing	20xx	\$ 550,000	0.00	1.00	\$ 550,000	
16" & 20" Mogul Parallel Mains	20xx	\$ 2,152,000	0.00	1.00	\$ 2,152,000	
Verdi #1 PS	20xx	\$ 1,500,000	0.00	1.00	\$ 1,500,000	
18" US 40-Verdi T-Main <sup>(2)</sup>	20xx	\$ 2,750,000	0.00	1.00	\$ 2,750,000	
Lower Verdi Tank Fdr Main	20xx	\$ 1,267,000	0.00	1.00	\$ 1,267,000	accts for W.Mdws O/S
1.5 MG Lower Verdi Tank	20xx	\$ 1,500,000	0.00	1.00	\$ 1,500,000	
Verdi #2 PS	20xx	\$ 1,000,000	0.00	0.00	\$	- West Reno Water Co.
Boomtown #2 Tank Fdr Main	20xx	\$ 1,711,000	0.00	0.00	\$	- West Reno Water Co.
1.5 MG Boomtown #2 Tank	20xx	\$ 1,500,000	0.00	0.00	\$	- West Reno Water Co.
Highland Gravity Mains	20xx	\$ 3,389,600	0.00	0.14	\$ 474,544	

**Totals:** **\$15,244,943**  
**Area 7 Fees Collected:** **\$ -**  
**Balance Remaining:** **\$15,244,943**

**Max Day Demands:**

Growth	1,933	gpm	Areas 1-4 Only Less Boomtown
Area 7 Sales	0		Well Capacity (2833-900)
Net Remaining GPM	1,933	gpm	

**AREA 7 FEE =  $\frac{\$15,244,943}{1933 \text{ GPM}}$  = \$7887 /GPM**

**Notes:**

- The following partial improvements were completed in FY08-09:
  - FY08/09 Project 04-120 Canyon Pines Parallel 18" - \$448,874 for 3700 LF
  - FY08/09 Project 04-124 LeRoy to Mogul Parallel Main - \$189,051 for 370 LF of 18" on siphon slope
  - FY08/09 Project 04-143 Mayberry River Xing - \$60,005 stubs w/GV's for future xing prior to paving project
- Previously installed improvements include 1115 LF of 18" on US 40, plus a river crossing casing.
- W. Mdws. Subd. O/S: \$156K off-site 18"; \$280K on-site 8"; \$270K on-site tank feeder