



STANDING ADVISORY COMMITTEE AGENDA

Tuesday, June 4, 2019 at 3:00 p.m.
Truckee Meadows Water Authority
Independence Meeting Room
1355 Capital Boulevard, Reno, NV 89502

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 2, 2019 meeting (**For Possible Action**)
5. Discussion and possible recommendation regarding bills in the 2019 Legislative Session that may affect TMWA — John Zimmerman and Steve Walker (**For Possible Action**)
6. Presentation of financial performance for the quarter ended March 31, 2019 – Matt Bowman*

7. Presentation on the TMWA Final Budget for the Fiscal Year ending June 30, 2020 and Capital Improvement Plan for Fiscal Years 2020 through 2024 — Matt Bowman and Joe Petrelli **(For Possible Action)**
8. Presentation on developer fees, business services fees and proposed amendments and possible recommendation to the Board — Scott Estes **(For Possible Action)**
9. Presentation on 2019 Communication Plan — Andy Gebhardt*
10. Discussion and possible direction to staff regarding agenda items for future meetings **(For Possible Action)**
11. Staff Items* (Unless otherwise listed with a topic description, this portion of the agenda is limited to announcements)
12. Committee Items* (Unless otherwise listed with a topic description, this portion of the agenda is limited to announcements)
13. Public Comment — limited to no more than three minutes per speaker*
14. Adjournment **(For Possible Action)**



STANDING ADVISORY COMMITTEE

DRAFT MINUTES

April 2, 2019

The Standing Advisory Committee (SAC) met at Truckee Meadows Water Authority (TMWA) in the Independence Room, 1355 Capital Blvd., Reno, Nevada. Vice Chair Schmidt called the meeting to order at 3:00 p.m.

1. ROLL CALL

Primary Members and Voting Alternates Present: Harry Culbert, Jordan Hastings, Bill Hughes, Don Kowitz, Carol Litster, Ken McNeil, Mike Schulewitch, Fred Schmidt, *Jim Smith and Jerry Wager.

Alternates Present: Fred Arndt, Karl Katt, Scot Munns, and Dale Sanderson.

Primary Members and Alternates Absent: Ken Becker, Bob Chambers, Bruce Gescheider, Colin Hayes, Neil McGuire, Jonnie Pullman and Ann Silver.

Staff Present: Matt Bowman, Robert Charpentier, John Enloe, Scott Estes, Sonia Folsom, Mark Foree, Bill Hauck, Joe Petrelli, Michele Sullivan, Shawn Stoddard, Danny Rotter, Legal Counsel Debbie Leonard, and Steve Walker, Walker & Associates.

**Member Smith arrived at 3:05 p.m.*

2. PUBLIC COMMENT

There was no public comment.

3. APPROVAL OF THE AGENDA

Upon motion duly made by Member Kowitz, and seconded by Member Wager, and carried by unanimous consent of the members present, the Committee approved the agenda.

4. APPROVAL OF THE MINUTES OF THE MARCH 5, 2019 MEETING

Member Hastings pointed out a few minor corrections to be made in the draft March 5 minutes.

Upon motion duly made by Member McNeil and seconded by Member Schulewitch, and carried by unanimous consent of the

members present, the Committee approved the March 5, 2019 meeting minutes with the corrections.

Vice Chair Schmidt stated Steve Walker, TMWA Lobbyist, was delayed and moved agenda item 5 until Mr. Walker arrived.

6. WATER SUPPLY UPDATE

Bill Hauck, TMWA Senior Hydrologist, reported the snowpack is over 200% and 174% of median peak for the Truckee River Basin and Lake Tahoe Basin, respectively; Lake Tahoe is approximately one foot below the natural rim; the Federal Water Master has been releasing water at Lake Tahoe early in preparation for snowmelt runoff, which is expected to be 175% of normal; and Pyramid Lake is expected to rise approximately 4-feet.

7. PRESENTATION ON THE TMWA TENTATIVE BUDGET FOR THE FISCAL YEAR ENDING JUNE 30, 2020 AND DRAFT CAPITAL IMPROVEMENT PLAN FOR FISCAL YEARS 2020 THROUGH 2024

Matt Bowman, TMWA Financial Controller, reported that: TMWA's FY 2020 operating revenue is expected to be 2% more than the FY 2019 budget due to growth and not including a rate increase, since it was deferred; hydroelectric revenues are expected to be \$3.3M in FY 2020 (an increase of \$531k from FY 2019); operating expenses increased by \$6.4M or 7% and salaries and wages are up \$2.1M or 10%, benefits are up \$2.2M (22%) and services and supplies are up \$2.9M (10%); interest expense is expected to fall due to principal reduction in debt of \$7.8M; and TMWA will be reimbursed for two FEMA grants (Glendale diversion and repairs to the access road to Fish Springs) of \$1.9M.

Discussion followed, including regarding increases in the cost of chemicals for the water treatment process; that the two line items regarding the new Customer Information System (CIS) include both capital and maintenance costs; capital contributions increased approximately 5%, which is reflective of growth and development; and the current new water connection rate is approximately 200 per month.

Joe Petrelli, TMWA Financial Analyst, reported on the FY 2020-2024 Capital Improvement Plan (FY20 CIP). TMWA plans to spend \$213.4M over the next five years, of which \$56.2M is expected to be spent in FY20 and \$45.9M in FY21.

Discussion arose regarding the amount of funds left in the former South Truckee Meadows General Improvement District (STMGID) post-merger (approximately \$7.7 million); the STMGID project to replace Tank #1, which will increase the tank size from a 0.75 million gallon to a 3.35 million gallon tank (which will not involve STMGID reserved funds); the timing of the projects reflect different amounts in the tentative budget and CIP; and approximately 68% of the projects in the CIP are funded by customer rates.

Upon motion duly made by Member Kowitz and seconded by Member Wager, and carried by unanimous consent of the members present, the Committee recommended the Board approve the Tentative Budget for the Fiscal Year ending June 30, 2020 and Draft Capital Improvement Plan for Fiscal Years 2020 through 2024.

8. REPORT ON STATUS OF WEST RENO WATER SYSTEM ACQUISITION

John Enloe, TMWA Director of Natural Resources, informed the Committee that the acquisition of the West Reno Water System closed on March 20.

5. DISCUSSION AND POSSIBLE RECOMMENDATION REGARDING BILLS IN THE 2019 LEGISLATIVE SESSION THAT MAY AFFECT TMWA

Steve Walker, TMWA Lobbyist, presented on the status of the bills being monitored by the TMWA Board and Legislative Subcommittee.

No action taken.

9. REPORT ON STATUS OF STONEGATE DEVELOPMENT

Scott Estes, TMWA Director of Engineering, provided an update on the Stonegate Development. Mr. Estes informed the Committee that the development is zoned for mixed use on approximately 1,700 acres; TMWA is designing the booster pump station, which will be located on a parcel previously purchased by the developers; the projected date the pump station will be online is fall 2021; and groundwater from the Fish Springs system will be purchased to supply the project.

10. UPDATE ON THE MT. ROSE WATER TREATMENT PLANT

Danny Rotter, TMWA Engineering Manager, informed the Committee that construction for the Mt. Rose Water Treatment Plant (WTP) is underway and will cost approximately \$19.9 million; the WTP will be operational in spring 2020 and will have the ability to be operated remotely from Glendale using SCADA; and will be utilizing ultraviolet technology. He offered a tour to SAC members once construction is further along and safe for visitors.

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

June meeting:

1. Presentation on legislative bills in the 2019 legislative session
2. Presentation on the final FY 2020 budget and FY 2020-24 Capital Improvement Plan (CIP)
3. Presentation on developer fees and proposed amendments

4. Presentation on 2019 Communication Plan and Smart About Water Day event

Upon motion duly made by Member McNeil and seconded by Member Hastings, and carried by unanimous consent of the members present, the Committee approved the agenda items for future meetings.

12. STAFF ITEMS

Andy Gebhardt, TMWA Director of Operations & Water Quality, informed the Committee of, and invited Committee members to, TMWA's Smart About Water Day event on Sat, May 4th from 10am-2pm at the California Building in Idlewild Park.

13. COMMITTEE ITEMS

There were no committee items.

14. PUBLIC COMMENT

There was no public comment.

15. ADJOURNMENT

With no further items for discussion, Vice Chair Schmidt adjourned the meeting at 4:26 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: April 9, 2019
SUBJECT: **Discussion and possible action and direction to staff regarding 2019 legislative activities, current bills, and TMWA recommended positions on legislative proposals**

No new bills have been introduced since the last Board meeting that staff considers relevant or worthwhile to monitor. Accordingly, the TMWA legislative subcommittee has not needed to meet since April 12th. Staff, TMWA lobbyist Steve Walker, and General Counsel Michael Pagni will update the Board regarding the status of all water-related bills and other noteworthy legislation the Board has already directed TMWA to support or oppose. There has been considerable work done by staff, TMWA lobbyists, and Mr. Pagni on several water-related bills, including Senate Bill 250 and Assembly Bills 30 and 62. As of the date of this report, there has been no final action on those bills so staff will update the Board at the meeting. Attached is a list of all bills TMWA has adopted a position on and all water-related bills.

2019 Legislative Deadlines:

February 4-----Session Begins
February 11----Legislators' BDR Requests
March 18-----Legislators' Bill Introductions
March 25-----Committees' Bill Introductions
April 12-----Committee Passage (1st House)
April 23-----First House Passage
May 17-----Committee Passage (2nd House)
May 24-----Second House Passage
June 3-----Session Ends

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
AB30 Committee on Natural Resources, Agriculture, and Mining	Revises provisions governing water. (BDR 48-214) Natural Resources	Senate Committee on Natural Resources 5/14/2019 4:00 PM Mentioned Not Agendized	Senate Committee on Natural Resources - Work Session Item 5/17/2019 4:00 PM	Water Rights (WR-rights, resources, conservation)	OPPOSE
AB34 Committee on Government Affairs	Revises provisions governing the investment of money held by the State or certain political subdivisions of the State. (BDR 31-476) General File	Senate Committee on Government Affairs 5/10/2019 1:00 PM Do pass		Financial, Risk Management	SUPPORT
AB51 Committee on Natural Resources, Agriculture, and Mining	Revises provisions governing the management of water. (BDR 48-213) Failed Deadline:4/12/201914.3.1	Assembly Committee on Natural Resources, Agriculture, and Mining 2/27/2019 4:00 PM Heard		Water Rights (WR-rights, resources, conservation)	WATCH
AB62 Committee on Natural Resources, Agriculture, and Mining	Revises provisions related to water. (BDR 48-215) Natural Resources	Senate Committee on Natural Resources 5/16/2019 4:00 PM Amend, and do pass as amended		Water Rights (WR-rights, resources, conservation)	OPPOSE
AB84 Committee on Ways and Means	Provides for the issuance of state general obligation bonds to protect, preserve and obtain the benefits of the property and natural and cultural resources of the State of Nevada. (BDR S-326) Ways and Means	Senate Committee on Government Affairs 3/15/2019 1:00 PM Mentioned No Jurisdiction		Property	SUPPORT
AB86 Committee on Government Affairs	Revises provisions relating to governmental purchasing. (BDR 27-182) Government Affairs	Senate Committee on Government Affairs 5/17/2019 1:00 PM		Financial, Risk Management	SUPPORT
AB95 Committee on Natural Resources, Agriculture, and Mining	Revises provisions relating to water. (BDR 48-504) General File	Senate Committee on Natural Resources 5/9/2019 4:00 PM Do pass		Water Rights (WR-rights, resources, conservation)	WATCH

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
AB101	Authorizes a private plaintiff to bring an action for a declaratory judgment regarding a violation of state law or a local ordinance by certain governmental entities. (BDR 3-26)				
Daly	Failed Deadline:4/12/201914.3.1	Assembly Committee on Judiciary 2/14/2019 8:00 AM		Financial, Risk Management, Open Meeting, Records, Boards, Elections, Public Works	OPPOSE
		Heard			
AB132	Revises provisions governing employment practices. (BDR 53-29)				
Neal, McCurdy and Flores	Commerce and Labor	Senate Committee on Commerce and Labor 5/15/2019 1:30 PM Amend, and do pass as amended		Human Resources	OPPOSE
AB136	Makes various changes relating to public construction. (BDR 28-145)				
Frierson, Benitez-Thompson, Carlton, McCurdy, Daly, Assefa, Backus, Bilbray-Axelrod, Carrillo, Cohen, Duran, Flores, Fumo, Gorelow, Jauregui, Martinez, Miller, Monroe-Moreno, Munk, Neal, Nguyen, Peters, Spiegel, Swank, Thompson, Torres, Watts and Yeager	General File	Senate Committee on Government Affairs 5/15/2019 1:00 PM		Public Works	OPPOSE
		Do pass			
AB138	Revises provisions governing workers' compensation. (BDR 53-708)				
Sprinkle, Carrillo, Flores, Monroe- Moreno, Frierson, Assefa, Backus, Benitez-Thompson, Bilbray-Axelrod, Cohen, Daly, Duran, Fumo, Gorelow, Martinez, Miller, Munk, Neal, Nguyen, Peters, Swank and Yeager	Failed Deadline:4/12/201914.3.1			Human Resources	OPPOSE
AB163	Revises provisions governing water conservation. (BDR 48-798)				
Assemblymen Watts, Cohen, Nguyen, Peters and Swank; Senators Brooks and Scheible	General File	Senate Committee on Natural Resources 5/9/2019 4:00 PM Amend, and do pass as amended		Water Rights (WR-rights, resources, conservation)	WATCH

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
AB220	Requires the issuance of bonds for environmental improvement projects in the Lake Tahoe Basin. (BDR S-435)				
Committee on Ways and Means	General File	Senate Committee on Government Affairs 5/15/2019 1:00 PM		Financial, Risk Management, Water Quality (NDEP), Water Rights (WR-rights, resources, conservation)	SUPPORT
		Do pass			
AB233	Revises provisions related to water. (BDR 48-45)				
Assemblymen Kramer, Hardy and Hafen; Senators Goicoechea, Parks and Settlemeyer	Natural Resources	Senate Committee on Natural Resources 5/16/2019 4:00 PM		Property, Water Rights (WR- WATCH rights, resources, conservation)	
		Do pass			
AB265	Requires the Desert Research Institute to conduct a study concerning water treatment and recycling. (BDR S-901)				
Assemblymen Peters, Swank and Watts; Senators Brooks, Goicoechea and Scheible	Failed Deadline:4/23/201914.3.2	Assembly Committee on Natural Resources, Agriculture, and Mining 4/3/2019 4:00 PM Amend, and do pass as amended		Water Quality (NDEP), Water Rights (WR-rights, resources, conservation)	SUPPORT, if amended
AB371	Temporarily requires the reporting of certain information relating to requests for public records by certain governmental entities. (BDR S-16)				
Daly	Government Affairs	Senate Committee on Government Affairs 5/8/2019 1:00 PM Heard, No Action		Open Meeting, Records, Boards, Elections	OPPOSE

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
SB42 Committee on Growth and Infrastructure	Repeals provisions requiring certain fleets of motor vehicles to use alternative fuels, clean vehicles or vehicles that use alternative fuels. (BDR 43-361) Growth and Infrastructure	Assembly Committee on Growth and Infrastructure 5/16/2019 1:30 PM Do pass		Emergency Mgmt, Safety, Motor Vehicles	SUPPORT
SB54 Committee on Natural Resources	Revises provisions governing the annual reporting requirements of the Tahoe Regional Planning Agency. (BDR 22-205) General File	Assembly Committee on Government Affairs 5/14/2019 8:30 AM Do pass		Governance	WATCH
SB136 Committee on Government Affairs	Revises the provisions of the Tahoe Regional Planning Compact. (BDR 22-736) General File	Assembly Committee on Government Affairs 5/14/2019 8:30 AM Do pass		Governance	WATCH
SB140 Committee on Natural Resources	Revises provisions relating to the use of groundwater in certain basins. (BDR 48-541) Natural Resources, Agriculture, and Mining	Assembly Committee on Natural Resources, Agriculture, and Mining 5/15/2019 4:00 PM Amend, and do pass as amended		Water Rights (WR-rights, resources, conservation)	WATCH
SB207 Atkinson, Denis, Cannizzaro, Brooks, Cancela, Dondero Loop, Harris, Ohrenschall, Parks, Ratti, Scheible, Spearman and Woodhouse	Revises provisions governing apprentices. (BDR 28-740) Government Affairs	Assembly Committee on Government Affairs 5/16/2019 9:30 AM Amend, and do pass as amended		Human Resources, Public Works	OPPOSE
SB231 Brooks, Cannizzaro, Parks, Atkinson, Cancela, Denis, Harris, Ohrenschall, Ratti, Scheible and Woodhouse	Revises provisions relating to certain construction. (BDR 28-910) General File	Senate Committee on Government Affairs 5/15/2019 1:00 PM After Passage Discussion		Financial, Risk Management, Public Works	OPPOSE
SB232 Settelmeyer	Revises certain provisions related to irrigation districts. (BDR 48-644) Governor	Assembly Committee on Natural Resources, Agriculture, and Mining 5/6/2019 4:00 PM Do pass		Governance, Water Rights (WR-rights, resources, conservation)	WATCH

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
SB236 Goicoechea, Brooks and Hansen	Establishes provisions relating to a change in the place of diversion of water for certain wells. (BDR 48-635) Natural Resources, Agriculture, and Mining	Assembly Committee on Natural Resources, Agriculture, and Mining 5/17/2019 Upon Adjournment Amend, and do pass as amended		Water Rights (WR-rights, resources, conservation)	SUPPORT
SB245 Ohrenschall, Cannizzaro, Ratti, Parks, Pickard, Brooks, Cancela, Denis, Dondero Loop, Spearman and Woodhouse	Revises provisions relating to civil actions. (BDR 3-965) Finance	Senate Committee on Judiciary 4/12/2019 8:00 AM Amend, and do pass as amended		Financial, Risk Management, Governance	OPPOSE
SB250 Settlemeyer, Goicoechea, Hardy, Hansen and SeEVERS Gansert	Revises provisions relating to the dedication of water rights. (BDR 48-664) Natural Resources, Agriculture, and Mining	Assembly Committee on Natural Resources, Agriculture, and Mining 5/15/2019 4:00 PM Amend, and do pass as amended		Water Rights (WR-rights, resources, conservation)	OPPOSE, unless amended
SB280 Settlemeyer, Kieckhefer and Goicoechea	Revises provisions relating to state lands. (BDR 26-975) Failed Deadline:4/12/201914.3.1	Senate Committee on Natural Resources 4/4/2019 4:00 PM Heard, No Action		Property, Water Rights (WR- OPPOSE, as written rights, resources, conservation)	
SB287 Parks, Hansen, Spearman, Denis and Woodhouse	Revises provisions governing public records. (BDR 19-648) Finance	Senate Committee on Government Affairs 4/12/2019 Upon Adjournment Re-refer		Governance, Open Meeting, OPPOSE Records, Boards, Elections	

Sponsor	Status / Location	Last Meeting and Action	Next Meeting	Tags	Board/Committee Position
SB334 Senator Cannizzaro; Assemblywoman Billbray-Axelrod	Establishes provisions relating to net neutrality. (BDR 27-68) Finance	Senate Committee on Government Affairs (Floor Meeting) 4/10/2019 11:45 AM Re-refer		Financial, Risk Management, Governance, Information Tech	OPPOSE
SB340 Dondero Loop, Parks, Brooks, Cancela, Cannizzaro, Ratti and Woodhouse	Revises provisions relating to public works. (BDR 28-808) Finance	Senate Committee on Government Affairs 4/12/2019 Upon Adjournment Amend, and do pass as amended		Public Works	OPPOSE
SB358 Brooks, Cannizzaro, Denis, Spearman, Woodhouse, Ohrenschall, Parks, Scheible and Washington	Revises provisions relating to the renewable energy portfolio standard. (BDR 58-301) Governor	Assembly Committee on Growth and Infrastructure 5/9/2019 1:30 PM Mentioned no jurisdiction		Energy	OPPOSE, unless amended
SB499 Committee on Finance	Creates the Advisory Board on Water Resources Planning and Drought Resiliency. (BDR 48-1243) Natural Resources	Senate Committee on Finance and Assembly Committee on Ways and Means, Subcommittees on General Government 4/25/2019 8:00 AM Mentioned No Jurisdiction		Governance, Water Rights (WR-rights, resources, conservation)	WATCH
SCR1 Spearman, Brooks, Denis, Parks, Harris, Ohrenschall, Ratti and Woodhouse	Directs the Legislative Committee on Energy to conduct an interim study concerning the development of renewable energy and clean energy resources in this State. (BDR R-117) Legislative Operations and Elections	Senate Committee on Legislative Operations and Elections 4/17/2019 3:30 PM Heard, No Action		Energy	WATCH



STAFF REPORT

TO: Board of Directors
THRU: Mark Foree, General Manager
FROM: Michele Sullivan, Chief Financial Officer
 Matt Bowman, Financial Controller
DATE: May 14, 2019
SUBJECT: Presentation of financial performance for the third quarter ended March 31, 2019

Summary

Please refer to Attachments A-1 and A-2 for full Statements of Revenues, Expenses and Changes in Net Position for both actual to budget and year-over-year comparisons as discussed in the report below.

Budget to Actual

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
CHANGE IN NET POSITION	25,151,783	14,400,498	10,751,285	75 %

Change in net position (or overall P&L) for the first three quarters of FY 2019 was \$10.8m more than budget. This is due to higher than budgeted operating revenues (\$1.3m), lower than budget operating expenses (\$3.0m), lower than budget nonoperating expense (\$2.5m) and higher than budget capital contributions (\$4.0m). These variances will be discussed in further detail in the sections below.

Year over Year

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
CHANGE IN NET POSITION	25,151,783	22,895,014	2,256,768	10%

Year over year, change in net position was \$2.3m more in the first three quarters of FY 2019 compared to the same period in FY 2018. This is due to higher operating revenues (\$4.3m), lower nonoperating expenses (\$1.7m), higher capital contributions (\$1.9m) offset by higher operating expenses (\$5.6m). These variances will be discussed in further detail in the sections below.

RevenueBudget to Actual

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	77,831,631	76,031,074	1,800,557	2%
Hydroelectric Sales	1,862,429	2,110,284	(247,855)	(12%)
Other Operating Sales	2,254,287	2,543,500	(289,213)	(11%)
Total Operating Revenues	81,948,347	80,684,858	1,263,489	2%

Operating revenue was \$1.3m higher than budget due to \$1.8m (2%) more in water sales offset by lower hydroelectric and other operating sales of \$0.5m.

Through the first half of FY 2019, water sales were \$2.0m (3%) over budget driven by additional services (growth) and higher usage by customers. However, during the third quarter, we saw water sales come in slightly lower than budget, \$0.2m (1.5%) less due to lower water usage by customers. Hydroelectric revenue remains under budget due to ongoing maintenance at the Fleish plant.

Year over Year

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	77,831,631	72,626,814	5,204,817	7 %
Hydroelectric Sales	1,862,429	2,801,076	(938,646)	(34)%
Other Operating Sales	2,254,287	2,239,413	14,874	1 %
Total Operating Revenues	81,948,347	77,667,302	4,281,045	6 %

Total operating revenues is \$4.3m (6%) higher than prior year through the third quarter. This is due mostly to higher water sales, offset by lower hydroelectric sales. Water sales increased due to the 3% rate increase in May 2018, additional service connections of 1.6% and increased water use of 2.9%. Hydroelectric sales are lower than prior year due mostly to the ongoing maintenance at Fleish.

Operating ExpensesBudget to Actual

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
OPERATING EXPENSES				
Salaries and Wages	15,625,043	15,769,462	(144,419)	(1)%
Employee Benefits	6,943,366	7,594,490	(651,124)	(9)%
Services and Supplies	20,710,162	21,948,732	(1,238,570)	(6)%
Total Operating Expenses Before Depreciation	43,278,570	45,312,683	(2,034,113)	(4)%
Depreciation	24,450,327	25,396,857	(946,531)	(4)%
Total Operating Expenses	67,728,897	70,709,540	(2,980,643)	(4)%

Total operating expenses are \$3.0m under budget. \$0.9m of this is non-cash depreciation. Employee benefit costs are under budget by \$0.7m, however this is expected to catch up to budget by the end of the fiscal year due to year-end OPEB and PERS adjustments. Services and supplies costs are \$1.2m under budget due largely to lower electric power and water treatment chemical costs which are under budget by approximately \$0.8m. Electrical power costs are lower due to Fish Springs coming online later than expected and chemical costs are lower due to lower treatment requirements in the surface water treatment plants than budgeted.

Year over Year

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
OPERATING EXPENSES				
Salaries and Wages	15,625,043	13,569,619	2,055,423	15%
Employee Benefits	6,943,366	6,312,501	630,866	10%
Services and Supplies	20,710,162	17,662,974	3,047,188	17%
Total Operating Expenses Before Depreciation	43,278,570	37,545,093	5,733,477	15%
Depreciation	24,450,327	24,572,690	(122,364)	—%
Total Operating Expenses	67,728,897	62,117,784	5,611,113	9%

Operating expenses through the third quarter 2019 were \$5.6m more than prior year. Increases in salaries and wages and employee benefits were caused by additions to headcount along with step and cost of living increases. Employee headcount has risen by approximately 10% since March 2018, much of which is temporary increases to backfill upcoming expected retirements where training is required. Services and supplies were higher due to several factors including general price increases in supplies and labor and also additional workload caused by continued growth in the service area. Specific increases year over year include an increased contribution to the Truckee River Fund of \$850k in FY 2019 compared to \$450k in FY 2018, higher chemical costs of approximately \$0.5m due principally to price increases, higher electric power costs of \$0.3m due to the start up of Fish Springs, higher cost for asphalt patches

of \$0.2m, and a property tax assessment related to the acquisition of Donner Lake water rights of \$0.2m. The remaining variance is made up of several smaller increases in services and supplies costs.

Non-Operating ExpensesBudget to Actual

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,254,997	2,125,161	1,129,836	53 %
Net Increase (Decrease) in FV of Investments	1,543,887	—	1,543,887	— %
Gain (Loss) on Disposal of Assets	(81,847)	—	(81,847)	— %
Amortization of Bond/note Issuance Costs	(172,341)	(161,811)	(10,530)	7 %
Interest Expense	(9,926,913)	(10,077,390)	150,477	(1)%
Other Nonoperating Revenue	19	—	19	— %
Other Nonoperating Expense	(222,801)	—	(222,801)	— %
Total Nonoperating Revenues (Expenses)	(5,604,998)	(8,114,040)	2,509,042	(31)%

Nonoperating expenses are \$2.5m less than budget due mostly to higher investment earnings than budgeted. Higher than budgeted investment earnings are the result of more maturities at increased rates than budgeted. In FY 2018 and early in FY 2019, due to the expected continued rise in rates, and the flat yield curve, TMWA focused investment strategy on short term maturity bonds to allow for flexibility in cash flow and investment options. Regarding increase in the fair value of investments (or unrealized gains) TMWA took advantage of increased rates in the early months of FY 2019, with ten year treasury rates passing 3%. As these rates have fallen in the recent months, TMWA recognizes unrealized gains by holding investments at rates higher than market. These unrealized gains, can fluctuate as rates increase or decrease and may not result in actual cash gains.

Year over Year

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,254,997	1,578,519	1,676,478	106 %
Net Increase (Decrease) in FV of Investments	1,543,887	(787,620)	2,331,507	(296)%
Gain (Loss) on Disposal of Assets	(81,847)	657,795	(739,641)	(112)%
Amortization of Bond/note Issuance Costs	(172,341)	(344,970)	172,629	(50)%
Interest Expense	(9,926,913)	(8,392,127)	(1,534,786)	18 %
Other Nonoperating Revenue	19	—	19	— %
Other Nonoperating Expense	(222,801)	—	(222,801)	— %
Total Nonoperating Revenues (Expenses)	(5,604,998)	(7,288,403)	1,683,405	(23)%

Nonoperating expenses are lower than prior year by \$1.7m due to several factors. First, both realized and unrealized investment income increased by a total of \$4.0m due primarily to the reasons discussed above. This is offset primarily by more interest expense incurred following the bond refunding in April 2018 (see Agenda Item 7 from May 2018 BOD Meeting for additional information on the Refunding).

This bond refunding decreased the principal of commercial paper which is effectively variable rate debt, while increasing principal on fixed rate debt. While this transaction increased interest expense in the short term, it reduced risk by fixing a portion of the debt at a reasonable rate and limiting exposure to interest rate fluctuations in future years.

Capital Contributions

Budget to Actual

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
CAPITAL CONTRIBUTIONS				
Grants	331,116	1,275,000	(943,884)	(74)%
Water Meter Retrofit Program	994,706	507,015	487,691	96 %
Water Resource Sustainability Program	319,026	—	319,026	— %
Developer Infrastructure Contributions	161,233	—	161,233	— %
Developer Will-serve Contributions (Net of Refunds)	3,930,146	2,602,674	1,327,472	51 %
Developer Capital Contributions - Other	4,375,211	4,441,500	(66,289)	(1)%
Developer Facility Charges (Net of Refunds)	6,425,893	3,713,031	2,712,862	73 %
Net Capital Contributions	16,537,330	12,539,220	3,998,110	32 %

Capital contributions were \$4.0m more than budget through the third quarter. This was driven by higher water rights will-serve sales and higher developer contributions offset by lower grant revenue. Grant revenue is less than budget due to timing of expenses incurred and reimbursement from both FEMA and non-FEMA federal awards. The remaining line items are mainly over budget and reflect the continued pace of growth and development in the service area. These items each have predictable rates, but volume is difficult to predict as it's tied to development projects in the service area which can fluctuate period to period. Budgets are generally conservative as is the case for FY 2019.

Year over Year

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
CAPITAL CONTRIBUTIONS				
Grants	331,116	217,994	113,122	52 %
Water Meter Retrofit Program	994,706	1,590,967	(596,261)	(37)%
Water Resource Sustainability Program	319,026	—	319,026	— %
Developer Infrastructure Contributions	161,233	—	161,233	— %
Developer Will-serve Contributions (Net of Refunds)	3,930,146	4,152,543	(222,397)	(5)%
Developer Capital Contributions - Other	4,375,211	4,125,854	249,356	6 %
Developer Facility Charges (Net of Refunds)	6,425,893	4,546,540	1,879,353	41 %
Net Capital Contributions	16,537,330	14,633,898	1,903,432	13 %

Year over year, capital contributions are \$1.9m more through three quarters of FY 2019 compared to FY 2018. Overall, contributions other than grants have trended higher beginning with the second half FY 2018 and continuing through Q3 2019. The largest increase between second half FY 2018 and first half FY 2019 came in developer facility charges due to timing of large projects. For example, one project alone in July, yielded facility charges of \$1.7m. This increase was offset by decreases across the other categories.

Capital Spending

Spending on capital outlays and construction projects through three quarters was approximately \$27.5m. Top 5 project spend during the first three quarters were -

- Mount Rose Water Treatment Plant \$5.3m
- Paloma PRS & Pipeline Improvements \$1.8m
- California - Marsh Main Replacement \$1.7m
- Chalk Bluff Pump Building Air Handler \$1.6m
- South Virginia Street Main Replacement \$1.6m

Total capital spend is estimated to be between \$35m and \$40m for FY 2019.

Cash Position

At March 31, 2019, total cash on hand was \$197.0m or \$3.6m higher than at the beginning of the fiscal year. Of the total cash on hand, \$151.5m was unrestricted to be used to meet upcoming and future operating/maintenance expenses, principal/interest payments and construction project payments. The remaining \$45.5m was restricted to pay for scheduled bond principal and interest payments as well as maintaining required reserves as stipulated in our bond covenants.

Truckee Meadows Water Authority

Comparative Statements of Revenues, Expenses and Changes in Net Position
For the nine months ended March 31, 2019

	Actual YTD 2019	Budget YTD 2019	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	\$ 77,831,631	\$ 76,031,074	\$ 1,800,557	2 %
Hydroelectric Sales	1,862,429	2,110,284	(247,855)	(12)%
Other Operating Sales	2,254,287	2,543,500	(289,213)	(11)%
Total Operating Revenues	81,948,347	80,684,858	1,263,489	2 %
OPERATING EXPENSES				
Salaries and Wages	15,625,043	15,769,462	(144,419)	(1)%
Employee Benefits	6,943,366	7,594,490	(651,124)	(9)%
Services and Supplies	20,710,162	21,948,732	(1,238,570)	(6)%
Total Operating Expenses Before Depreciation	43,278,570	45,312,683	(2,034,113)	(4)%
Depreciation	24,450,327	25,396,857	(946,531)	(4)%
Total Operating Expenses	67,728,897	70,709,540	(2,980,643)	(4)%
OPERATING INCOME	14,219,450	9,975,318	4,244,133	43 %
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,254,997	2,125,161	1,129,836	53 %
Net Increase (Decrease) in FV of Investments	1,543,887	—	1,543,887	— %
Gain (Loss) on Disposal of Assets	(81,847)	—	(81,847)	— %
Amortization of Bond/note Issuance Costs	(172,341)	(161,811)	(10,530)	7 %
Interest Expense	(9,926,913)	(10,077,390)	150,477	(1)%
Other Nonoperating Revenue	19	—	19	— %
Other Nonoperating Expense	(222,801)	—	(222,801)	— %
Total Nonoperating Revenues (Expenses)	(5,604,998)	(8,114,040)	2,509,042	(31)%
Gain (Loss) Before Capital Contributions	8,614,453	1,861,278	6,753,175	363 %
CAPITAL CONTRIBUTIONS				
Grants	331,116	1,275,000	(943,884)	(74)%
Water Meter Retrofit Program	994,706	507,015	487,691	96 %
Developer Infrastructure Contributions	161,233	—	161,233	— %
Developer Will-serve Contributions (Net of Refunds)	3,930,146	2,602,674	1,327,472	51 %
Developer Capital Contributions - Other	4,375,211	4,441,500	(66,289)	(1)%
Developer Facility Charges (Net of Refunds)	6,425,893	3,713,031	2,712,862	73 %
Net Capital Contributions	16,537,330	12,539,220	3,998,110	32 %
CHANGE IN NET POSITION	25,151,783	14,400,498	10,751,285	75 %

Truckee Meadows Water Authority

Comparative Statements of Revenues, Expenses and Changes in Net Position
For the nine months ended March 31, 2019

	Actual YTD 2019	Actual YTD 2018	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	\$ 77,831,631	\$ 72,626,814	\$ 5,204,817	7 %
Hydroelectric Sales	1,862,429	2,801,076	(938,646)	(34)%
Other Operating Sales	2,254,287	2,239,413	14,874	1 %
Total Operating Revenues	81,948,347	77,667,302	4,281,045	6 %
OPERATING EXPENSES				
Salaries and Wages	15,625,043	13,569,619	2,055,423	15 %
Employee Benefits	6,943,366	6,312,501	630,866	10 %
Services and Supplies	20,710,162	17,662,974	3,047,188	17 %
Total Operating Expenses Before Depreciation	43,278,570	37,545,093	5,733,477	15 %
Depreciation	24,450,327	24,572,690	(122,364)	— %
Total Operating Expenses	67,728,897	62,117,784	5,611,113	9 %
OPERATING INCOME	14,219,450	15,549,519	(1,330,068)	(9)%
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,254,997	1,578,519	1,676,478	106 %
Net Increase (Decrease) in FV of Investments	1,543,887	(787,620)	2,331,507	(296)%
Gain (Loss) on Disposal of Assets	(81,847)	657,795	(739,641)	(112)%
Amortization of Bond/note Issuance Costs	(172,341)	(344,970)	172,629	(50)%
Interest Expense	(9,926,913)	(8,392,127)	(1,534,786)	18 %
Other Nonoperating Revenue	19	—	19	— %
Other Nonoperating Expense	(222,801)	—	(222,801)	— %
Total Nonoperating Revenues (Expenses)	(5,604,998)	(7,288,403)	1,683,405	(23)%
Gain (Loss) Before Capital Contributions	8,614,453	8,261,116	353,337	4 %
CAPITAL CONTRIBUTIONS				
Grants	331,116	217,994	113,122	52 %
Water Meter Retrofit Program	994,706	1,590,967	(596,261)	(37)%
Developer Infrastructure Contributions	161,233	—	161,233	— %
Developer Will-serve Contributions (Net of Refunds)	3,930,146	4,152,543	(222,397)	(5)%
Developer Capital Contributions - Other	4,375,211	4,125,854	249,356	6 %
Developer Facility Charges (Net of Refunds)	6,425,893	4,546,540	1,879,353	41 %
Net Capital Contributions	16,537,330	14,633,898	1,903,432	13 %
CHANGE IN NET POSITION	25,151,783	22,895,014	2,256,768	10 %



STAFF REPORT

TO: Board of Directors
THRU: Mark Foree, General Manager
FROM: Michele Sullivan, Chief Financial Officer
Matt Bowman, Financial Controller
Joe Petrelli, Principal Financial Analyst
DATE: May 14, 2019
SUBJECT: **Discussion and action on request for adoption of Resolution No. 274: A resolution to adopt the final budget for the Fiscal Year ending June 30, 2020 and the 2020-2024 Five-Year Capital Improvement Plan**

Recommendation

That the TMWA Board approve the proposed Final Budget for the fiscal year ending June 30, 2020 and direct staff to file the adopted Final Budget and related 2020-2024 Capital Improvement Plan with the State of Nevada Department of Taxation as required by statute.

Summary

TMWA has prepared the proposed Final Budget for consideration and approval by the TMWA Board. Changes to the tentative budget presented originally at the March 20, 2019 board meeting result in a favorable increase in the change in net position of \$0.3m. This is due to an increase in hydroelectric revenue estimates. CIP spending for 2020-2024 increased slightly from \$213.4m to \$213.7m. Changes to FY 2020 are discussed in more detail below.

Discussion

A comparison of the proposed Final Budget to the original approved Tentative Budget is accompanying this report in *Attachments A and B*. Higher optimization (less downtime) is expected at the hydroelectric plants, which led to an increased revenue projection of \$0.3m in FY 2020. Regarding cash flow, an additional \$2.3m in capital spending was identified in FY 2020 which is discussed in more detail below. Finally, the beginning cash balance was revised lower by \$10.0m to reflect the actual cash on hand as of March 31, 2019.

A draft CIP document was presented at the March 20, 2019 board meeting. The final CIP document is accompanying this report in **Attachment C**. FY 2020 changes in the accompanying CIP document are listed below and result in a net increase of \$2.23m:

Additions:

• Gear, Vine, Washington Main Replacement	\$2.00m
• Street & Highway Main Replacements	1.00m
• Stonebrook West Main Oversizing	.45m
• South Virginia 24" Main (Kumle to Peckham)	.16m

Deletions:

• California Marsh 24" Main Replacement	-1.20m
• Longley Booster Pump Station / Double R Capacity Increase	<u>- .18m</u>
	\$2.23m

Total spending in the five year CIP plan increased \$0.3m.

Based on inquiries from Board Members related to employee headcount, the following section outlines additions to headcount and overstaffing for retirements included in TMWA's FY2020 salaries budget.

Additions to Headcount

Electrical Engineer

Engineering desires to add an electrical engineer to our in-house staff to provide focused, standardized design of power, lighting and control systems for TMWA facilities that span approximately 350 energized sites. This individual would also provide support to Operations for ongoing arc flash electrical safety analyses and on an as-needed basis. TMWA has found it very difficult to obtain timely, professional electrical engineering designs for our facilities from local consultants. Not only is there a shortage of qualified electrical engineers, but the engineers who are interested in working on TMWA projects have such a high workload that we don't get the level of participation and quality that we desire.

GIS Analyst

An additional GIS analyst is needed to build upon, expand and modernize the current GIS platform, and for asset management and project tracking purposes. Improvements to the training and support of users is also desired.

Associate MIS analyst

This position would allow Business Information Systems to achieve and maintain the strategic transformation of the existing team from a reactionary to a more proactive approach for application configurations, business process creation, support and maintenance.

Network Analyst

TMWA currently outsources the management of its networking equipment, and will instead hire a full time position in order to meet IT's goals and objectives in terms of security updates and hardware replacement to secure TMWA's networks from vulnerabilities.

Exceptional Quality Reclaimed Water Program Administrator

The Exceptional Quality Reclaimed Water Program Administrator will be responsible to initiate, manage and direct analyses and programs that strive to establish the feasibility and viability of Category A+ water resources for the Truckee Meadows. Under direction of the Director of Natural Resources, the incumbent will plan for the development and implementation of pilot studies and demonstration projects, which may eventually include full scale facilities; including groundwater augmentation and recharge programs.

Overstaffing for Retirements

The Distribution Maintenance, Inspection, Facilities Maintenance, Hydro and Field & Meter Services groups currently have five (5) supervisory positions that will be eligible for retirement in 3 years or less. One Supervisor position will have his 30 years in PERS in about a year. This is the **Supervisor** we will Overstaff in the 2020 Budget. The Facilities Coordinator is eligible for retirement now.

In addition to the above, the represented employees from these same groups that are eligible for retirement in the next 3 years, (and a number of them have verbally indicated their intent to retire include):

- 3 Foreman - 2 have indicated retirement in 2021.
- 3 Inspectors - All 3 are currently eligible.
- 3 Equipment operators - (This is the **Equipment Operator** overstaff position).
- 1 Service Utility worker - Has indicated 2020

These departments saw 3 Inspectors and 2 Foreman retire this last year and with the potential of 15 more employees eligible in the next 3 years, this would be a 25% turnover of journeyman level positions. The current journeyman level employees left to back fill these positions is insufficient (2 fitters & 2 Fitter Welders). The additional overstaffing with the **Helper**, is designed to feed into the apprentice fitter program which is a 2-year program. We will have 4 employees finish the apprentice program this year and 4-6 more the following year. We will continue to feed into this program as positions are available. This will provide us with a base of employees with some level of experience to fill the vacated positions.

Meter Specialist –This temporary position will provide additional help in implementing a new customer information and billing system and the Sensus meter conversion. These are two major projects occurring over the next 2-5 years.

TRUCKEE MEADOWS WATER AUTHORITY
(TMWA)

RESOLUTION NO. 274

A RESOLUTION ADOPTING THE FINAL BUDGET FOR THE FISCAL YEAR ENDING
JUNE 30, 2020 AND
THE 2020-2024 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 23, 2019, the fourth Thursday 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, 2020 and adopt the 2020-2024 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 23, 2019 by the following vote of the Board:

Ayes: _____

Nays: _____

Abstain: _____ Absent: _____

Approved: _____

Vaughn Hartung, Chairman

Truckee Meadows Water Authority
Resolution 274 (continued)

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

On this 23rd day of May, 2019, Vaughn Hartung, 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.

Notary Public

TRUCKEE MEADOWS WATER AUTHORITY
Comparative Statements of Revenues, Expenses and Changes in Net Position

	Proposed Final Budget 2020	Tentative Budget 2020	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	\$ 102,508,086	\$ 102,508,086	\$ -	0%
Hydroelectric Sales	3,664,180	3,343,517	320,663	10%
Other Operating Sales	3,518,950	3,518,950	-	0%
Total Operating Revenues	109,691,216	109,370,553	320,663	0%
OPERATING EXPENSES				
Salaries and Wages	23,183,489	23,183,489	-	0%
Employee Benefits	12,324,771	12,324,771	-	0%
Services and Supplies	31,125,499	31,125,499	-	0%
Total Operating Expenses Before Depreciation	66,633,759	66,633,759	-	0%
Depreciation	33,136,227	33,136,227	-	0%
Total Operating Expenses	99,769,986	99,769,986	-	0%
OPERATING INCOME	9,921,230	9,600,567	320,663	3%
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,409,815	3,409,815	-	0%
Net Increase (Decrease) in FV of Investments	-	-	-	-
Gain (Loss) on Disposal of Assets	-	-	-	-
Amortization of Bond/note Issuance Costs	(190,800)	(190,800)	-	0%
Interest Expense	(13,052,442)	(13,052,442)	-	0%
Other Nonoperating Revenue	-	-	-	-
Other Nonoperating Expense	-	-	-	-
Total Nonoperating Revenues (Expenses)	(9,833,427)	(9,833,427)	-	0%
Gain (Loss) Before Capital Contributions	87,803	(232,860)	320,663	-138%
CAPITAL CONTRIBUTIONS				
Grants	1,937,500	1,937,500	-	0%
Resource Sustainability/Water Meter Retrofit	926,425	926,425	-	0%
Developer Infrastructure Contributions	15,768,318	15,768,318	-	0%
Developer Will-serve Contributions (Net of Refunds)	5,067,536	5,067,536	-	0%
Developer Capital Contributions - Other	6,697,000	6,697,000	-	0%
Developer Facility Charges (Net of Refunds)	8,517,248	8,517,248	-	0%
Contributions from Others	-	-	-	-
Net Capital Contributions	38,914,027	38,914,027	-	0%
CHANGE IN NET POSITION	39,001,830	38,681,167	320,663	1%
NET POSITION, BEGINNING PERIOD	620,493,077	620,493,077	0	0%
NET POSITION, END OF PERIOD	\$ 659,494,907	\$ 659,174,244	\$ 320,663	0%

TRUCKEE MEADOWS WATER AUTHORITY

Statements of Cash Flows

	Proposed Final Budget 2020	Tentative Budget 2020	Variance \$	Variance %
OPERATING ACTIVITIES				
Cash Received From Customers	\$ 109,691,216	\$ 109,370,553	\$ 320,663	0%
Cash Paid to Employees	(35,508,260)	(35,508,260)	-	0%
Cash Paid to Suppliers	(31,125,499)	(31,125,499)	-	0%
Net Cash From Operating Activities	43,057,457	42,736,794	320,663	1%
CAPITAL AND RELATED FINANCING ACTIVITIES				
Acquisition & Construction of Capital Assets	(58,466,000)	(56,181,000)	(2,285,000)	4%
Interest Paid on Financing	(17,765,145)	(17,765,145)	-	0%
Principal Paid on Financing	(2,829,056)	(2,829,056)	-	0%
Proceeds from Capital Debt Issuance	-	-	-	-
Redemptions of Commercial Paper Notes	(5,000,000)	(5,000,000)	-	0%
Proceeds from Refunding Bonds	-	-	-	-
Proceeds Transferred to Refunding/Redemption Escrow	-	-	-	-
Proceeds (Spending) from (on) Capital Asset Disposal	-	-	-	-
Contributions for Water Meter Retrofit Program	926,425	926,425	-	0%
Contributions From Developers-Will-Serve Letters	5,067,536	5,067,536	-	0%
Contributions from Developers - Other	6,697,000	6,697,000	-	0%
Contributions from Developers - Facility Charges	8,517,248	8,517,248	-	0%
Grants	1,937,500	1,937,500	-	0%
Bond/Note Issuance Costs	(190,800)	(190,800)	-	0%
Net Cash Used For Capital & Relating Financing Activities	(61,105,292)	(58,820,292)	(2,285,000)	4%
INVESTING ACTIVITIES				
Interest Received	3,409,815	3,409,815	-	0%
Net Cash From Investing Activities	3,409,815	3,409,815	-	0%
NET CHANGE IN CASH AND CASH EQUIVALENTS	(14,638,020)	(12,673,683)	(1,964,337)	15%
CASH AND CASH EQUIVALENTS, BEGINNING PERIOD	197,000,000	207,000,000	(10,000,000)	-5%
CASH AND CASH EQUIVALENTS, END OF PERIOD	\$ 182,361,980	\$ 194,326,317	\$ (11,964,337)	-6%



June 2019



Photo By: Eric Rasmussen,
TMWA Mechanic Specialist

Photo Of: Pyramid - Point View Booster Pump Station
Electronic Motor Bearing Replacement

Five Year Capital Improvement Plan

Fiscal Year 2020 - 2024

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



June 2019



Photo By: Eric Rasmussen,
TMWA Mechanic Specialist

Photo Of: Pyramid - Point View Booster Pump Station
Electronic Motor Bearing Replacement

Five Year Capital Improvement Plan

Fiscal Year 2020 - 2024

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 2020-2024 (CIP), describes all infrastructure construction and major capital outlays that will take place between July 1, 2019 and June 30, 2024. Guidance for identifying and scheduling projects in the 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 2019. 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.

TMWA 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 158 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). TMWA has no authority to provide water service outside of its service area; however, may provide service in the future to developments that are annexed into its service area.

The CIP incorporates a comprehensive compilation of water system improvements for TMWA. A major feature of the CIP is the construction of several 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 drawn upon during periods of persistently dry weather. Another aspect of the CIP is to expand the Aquifer Storage and Recovery Program (ASR Program) which is the recharge of groundwater basins with treated surface water. In addition, this CIP includes several major projects to extend limited water service to the Verdi area, made possible by cost effective oversizing of developer main extensions and Nevada Drinking Water State Revolving Fund (DWSRF) contributions for consolidation of small community water systems. The projects include acquisition of the Boomtown water system assets and a connection to the Boomtown system. This connection will provide a conjunctive use supply to a system that relies 100 percent on local groundwater that will experience increased pumping to serve growth in the area. Full capacity water service for the entire Verdi area will not be available until an additional \$17.0 million of new backbone water facilities are constructed.

The CIP constitutes an essential component in TMWA's system of planning, monitoring and managing the activities of purveying water and generating hydroelectric power. The 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 CIP.

The 2019-2023 FP indicates that TMWA can fund the CIP in light of a significant funding gap. This situation is the result of substantial reductions in water demands resulting from the drought that ended in the spring of 2017. Otherwise there appears to be adequate treasury and revenues from various sources to fund operations, pay principal and interest on existing debt, and capital improvements as presented in the CIP.

The CIP includes total spending of \$213.7 million with approximately 68.6% or \$146.6 million dedicated to upgrades or replacement of existing infrastructure, and approximately 22.1% or \$54.4 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 and capital outlays associated with the former STMGID service area are estimated to be approximately 0.7% or \$1.6 million of total spending over fiscal years 2020-2024. 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 5.4% or \$11.5 million is considered contingency spending which is dependent on certain events occurring to trigger spending. The \$213.7 million in projected spending is grouped into broad categories of improvements and spending outlays. These categories are described below with detailed project descriptions to be found in the Project Description Section.

Raw Water Supply Improvements contains 1.8% or approximately \$4.0 million of total spending in the 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 as it 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.

Ground Water Supply Improvements contains 9.3% or approximately \$19.9 million of total spending in the CIP. These projects focus on preserving existing well capacities, drilling and equipping of new wells and at times complete replacement of existing wells.

Treatment Plant Improvements contains 17.1% or approximately \$36.6 million of total spending in the CIP. The principal spending in this category is construction of 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, and the Glendale Diversion for emergency flood repairs. Additionally, 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. 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.

Distribution System Pressure Improvements contains 18.5% or approximately \$39.6 million of total spending and is the most significant spending category in the CIP. This spending is bifurcated into pressure improvements and water main and service line improvements. Pressure improvements include pump station rebuilds and new construction, such as Kings Row 1 and Stonegate Booster Pump Stations, correction of pressure or fire flow deficiencies, pressure regulating station rebuilds and new construction, as well as reconstruction of pressure regulating valves.

Water Main Distribution & Service Line Improvements contains 24.8% or approximately \$53.0 million of total spending in the CIP. These 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, Boomtown water system improvements and connection to TMWA, Spanish Springs Main Replacement, 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.

Potable Water Storage Improvements contains 10.3% or approximately \$22.0 million of total spending in the CIP. These projects are comprised mainly of new treated water storage tank construction to serve new and expanded service (STMGID Tank East Zone 11 Tank), 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.

Hydroelectric Improvements contains 2.6% or approximately \$5.7million of total spending in the 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.

Customer Service Outlays contains 6.0% or approximately \$12.8 million of total spending in the CIP. Spending in this category focuses on meter reading device replacements and meter replacement if required. The principal spending in this category focuses on consolidating the meter system to one format which will provide more frequent and automatic meter reading, and meter data management. Also in this category is a spending provision for new business meters which is funded by development.

Administrative Outlays contains 5.5% or approximately \$11.7 million of total spending in the CIP. These outlays are primarily for Information Technology equipment, licenses, and hardware replacements as required. Included in this category of spending are fleet upgrades for heavy and light vehicles as well as excavation equipment. A significant portion of the spending in this category will be updating the Customer Information Services (CIS) system replacement in FY20 and FY21, including a customer portal for water usage information and bill payment.

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. These projects comprise 0.7% or approximately \$1.6 million of total spending in the CIP. These outlays are for water meter retrofit, and opportunistic water right purchases.

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. It contains 3.2% or approximately \$6.9 million of total spending in the 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 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 infrastructure, 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 Five-Year FP is used to analyze total spending, identify various funding alternatives, and 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 2020-2024 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 2020-2024 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. 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 2020-2024 CIP the likelihood that spending will occur may be remote and is based upon future conditions that are difficult to predict.

FUNDING OF CAPITAL SPENDING

Funding Sources

The 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 rebounded since reaching historical lows during the great recession . TMWA continues a non-reliance policy on these fees to fund operations or fund annual principal and interest payments on TMWA's outstanding debt. Residential and commercial development activity has accelerated in a meaningful manner providing financial resources to fund projects listed in the 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 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.

Financing Background

New money revenue bond issuance has been historically an integral part of funding construction spending. TMWA has also taken advantage of lower rate, subordinated debt financing obtained through the Drinking Water State Revolving Loan Fund (DWSRF) and

a tax-exempt commercial paper program (TECP) 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. TMWA plans to avoid relying on additional debt whenever possible and reasonable.

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. During fiscal year 2005, TMWA was able to utilize a low cost (3.21%) DWSRF loan for \$4.7 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 were fully expended before the end of fiscal year 2008, primarily to construct the North Virginia-Stead pump station and transmission pipelines. TMWA inaugurated a TECP 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 in TECP. 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 2011, TMWA completed a \$4.4 million Raw Water Diversion and Intake Structure at its Glendale Plant using a DWSRF loan with an interest rate of 3.25%. In the fourth quarter of fiscal year 2015, TMWA applied for a DWSRF Loan at 2.62% interest, to fund the North Valleys Integration Pipeline Project for \$8.9 million.

Due to recent and projected federal interest rate hikes, in 2018 TMWA successfully reduced \$44.2 million of its TECP with a new senior lien bond offering with fixed interest rate payments. In addition TMWA has applied for and received DWSRF loan forgiveness grants in the amount of \$0.6 million in conjunction with the Old 40 West Project and Riverbelle Consolidation Project in Verdi which will be completed in 2019 at no cost to TMWA.

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 stages. To accomplish this task TMWA has collected \$1,830 for each acre-foot of demand when will-serve commitments based on surface water right dedications are issued for new or expanded service. Proceeds from the fee are used to fund water meter retrofits. Pursuant to Resolution 272 passed by the Board of Directors on January 16, 2019, the fee was broadened to include other uses. The pre-January 16, 2019 balance of these fees will be used to complete any remaining water meter retrofits.

Water Resource Sustainability Fund Fees

Resolution 272, passed on January 16, 2019, broadened the purpose of the Water Meter Retrofit Fee to support projects such as expanded conjunctive use, aquifer storage and recovery, demonstration and validation of exceptional quality reclaimed water uses, future water resource identification and acquisition, and other projects that enhance water resource sustainability and drought resiliency. The fee has been reduced from \$1,830 to \$1,600 for each acre-foot of demand when will-serve commitments based on surface water right dedications are issued for new or expanded service.

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 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 (which was absorbed into TMWA's account) while the STMGID treasury transferred to TMWA was approximately \$15.7 million of which \$7.2 million remains. These cash and investment reserves will continue to 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 Aa2 and AA+ credit ratings from Moody's and S&P, respectively. 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 a 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. Consequently an additional water rate increase of 3.0% was put into effect in May of 2017 and 2018. TMWA Board deferred the 2.5% rate increases scheduled for 2019 through 2021 to 2020 through 2022, effectively delaying the rate increase by one year. Water rate increases are essential for TMWA to maintain sound credit ratings and to preserve access to opportunities in the capital markets. TMWA also funds rehabilitative capital projects in a meaningful manner due to water delivery being an essential municipal service.

FISCAL YEAR 2020 CAPITAL SPENDING-THE CAPITAL BUDGET

TMWA expects to spend \$58.5 million for fiscal year 2020, the first year of the FY 2020-2024 CIP. Of this total \$33.3 million will be paid for by customer rates for water system rehabilitation, hydroelectric improvements, pressure system improvements, water main distribution service line improvements, and administrative and customer service outlays. While \$21.3 million will be paid for by developer fees, which includes \$1.9 million in grants, and will be dedicated to water system expansion, limited opportunistic acquisition of water rights and some water meter retrofit activities. Finally, STMGID treasury reserves account for \$2.8 million of improvements in the STMGID area.

SUMMARY OF PROJECTS FOR THE FISCAL YEAR 2020 BUDGET

Total construction spending, acquisition spending, and capital outlays are expected to be \$58.5 million for the fiscal year 2020. TMWA has established the following projects for the capital budget in fiscal year 2020 (Amounts presented in thousands of dollars):

Detailed project descriptions are provided for all projects in the CIP. These descriptions cover the fiscal year 2020 capital budget as well as the four additional years from 2021-2024.

Summary of Projects for FY 2020	Amount
Raw Water Supply Improvements	
Highland Canal-Upgrades-Downstream	225
Highland Canal-Upgrades-Diversion to Chalk Bluff	100
Independence Lake Permitting Study	50
Indirect Potable Reuse	200
TROA Drought Storage / Implementation	100
Donner Lake Outlet Improvements Phase 2	200
Total	875
Ground Water Supply Improvements	
Well Rehabilitation Improvements	400
Double Diamond #5 and Equipping	50
Campello Capacity Increase	70
Sunrise Well #3 Replacement	100
Bedell Flat Water Bank	500
Well Fix & Finish	200
NDEP Monitoring Wells	100
Thomas Creek Well Replacement and Spring Creek SC5	1,250
Truckee Canyon Well 3 Site Modifications	50
Well Head TTHM Mitigation	500
Spring Creek Well #7 Recharge	425
Kietzke, High, Morrill PCE Treatment	500
STMGID 6 Generator	281
Total	4,426

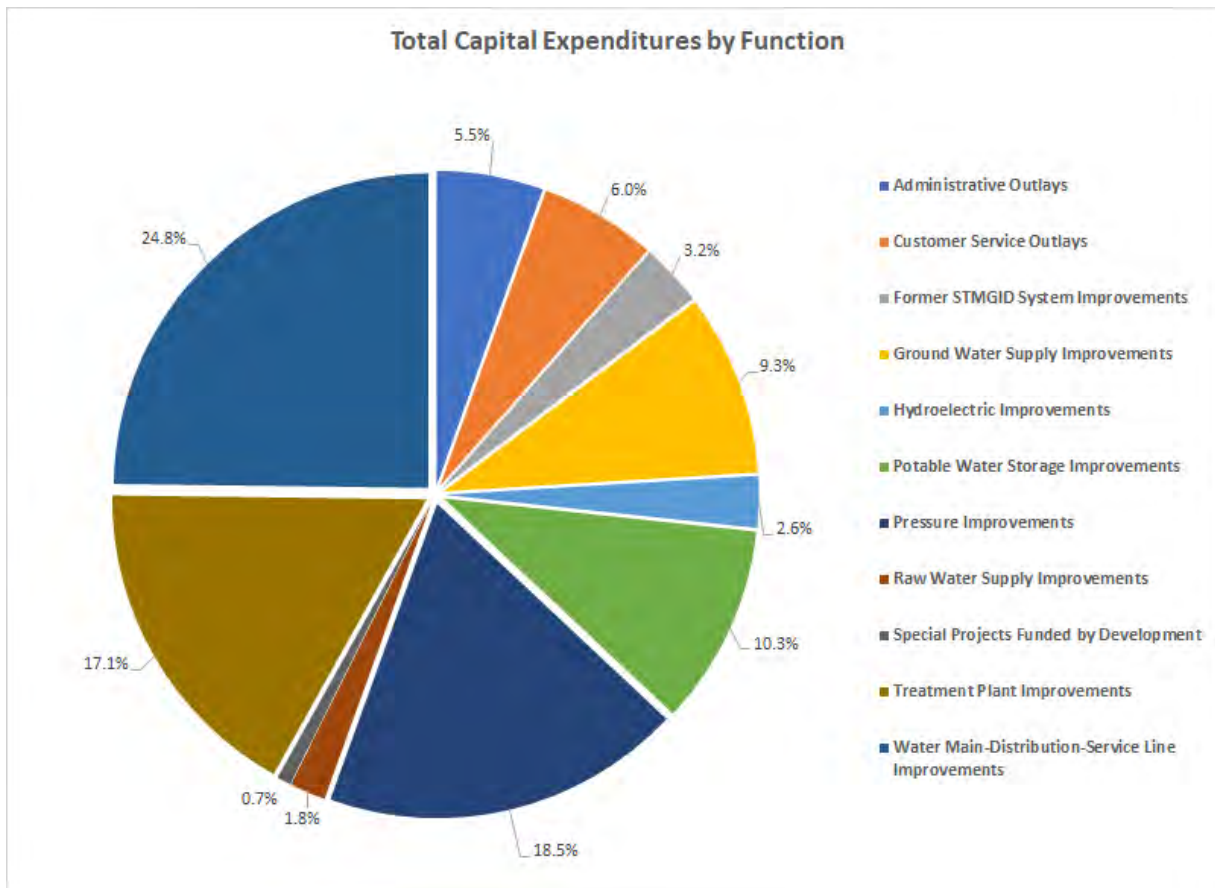
Summary of Projects for FY 2020 (continued)	Amount
Treatment Plant Improvements	
Chalk Bluff Treatment Plant Fix & Finish	600
Glendale Treatment Plant Fix and Finish	400
Chalk Bluff Filter Underdrains	500
Orr Ditch Pump Station Rehab	100
Truckee Canyon Water Treatment Improvements	60
Lightning W Treatment Improvements	10
SCADA Rehab / Plant Operating Software	1,000
Mount Rose Surface Water Treatment Plant	11,000
Longley Plant HV 3 and HV 4 Treatment Improvements	40
Glendale Diversion Emergency Flood Repairs (FEMA)	1,600
Spanish Springs Nitrate Treatment Facility	200
Total	15,510
Pressure Improvements	
Pressure Regulators Rehabilitation	500
Pressure Reducing Valve (Roll Seal) Removal	400
Land Acquisitions	500
Longley Booster Pump Station / Double R Capacity Increase	250
Pump Station Oversizing	100
Pump Station Rebuilds, Rehabilitations	500
Standby Generator Improvements	150
Spanish Springs #1 Pump Zone Intertie	600
STMGID Tank #4 Booster Pump Station/Transmission Line	150
Chalk Bluff Additional Backup Generator	700
Twin Lakes Booster Pump Station	400
Kings Row 1 Booster Pump Station	2,200
Common (Stonegate) Booster Pump Station	2,250
Total	8,700
Water Main-Distribution-Service Line Improvements	
Street & Highway Main Replacements	4,000
Spring Creek South Zone Conversion	850
Gear, Vine, Washington Main Replacement	2,000
Booth, Sharon Way, Monroe 24" Main Replacements	100
South Virginia 24" Main - Kumle to Peckham	160
North East Sparks Feeder Main Relocation	50
Trademark 14" Main Tie	50
Spanish Springs Main Replacement	1,200
South Truckee Meadows Capacity Improvements	350
General Waterline Extensions	300
Mount Rose 5 Distribution/Pressure Improvements	400
Boomtown Water System Improvements	2,550
Boomtown to TMWA Connection	650

Project Summary for FY 2020 (continued)	Amount
Verdi Main Extension	500
Verdi Elementary Main Oversizing	200
Stonebrook West Main Oversizing	450
Total	13,810
Potable Water Storage Improvements	
Sun Valley Tank #2	420
Rattlesnake Ring Addition	100
Storage Tank Recoats; Access; Drainage Improvements	900
STMGID Tank East Zone 11 Tank	3,075
Tank Access Road Flood Repairs (FEMA)	350
Lightning W Tank #2	360
Total	5,205
Hydroelectric Improvements	
Forebay, Diversion, and Canal Improvements	100
Hydro Plant Generator Rewinds	650
Washoe Flume Reconstruction	250
Orr Ditch Hydro Facility	50
Total	1,050
Customer Service Outlays	
Meter Reading Equipment	60
New Business Meters	100
Mueller Pit Replacements former Washoe County	125
Galvanized / Poly Service Line Replacements	250
AMI Automated Meter Infrastructure	2,100
Total	2,400
Administrative Outlays	
GIS / GPS System Mapping Equipment	60
IT Server Hardware	370
IT Network Security Upgrades	30
IT Physical Access Security Upgrades	60
Printer / Scanner Replacement	40
TMWA Refueling Facility	500
Crew Trucks / Vehicles	585
Emergency Response Projects	150
CIS System Replacement	1,400
System Wide Asphalt Rehabilitation	200
Physical Access Control System Upgrade	75
Total	3,470

Project Summary for FY 2020 (continued)	Amount
Special Projects Funded by Development	
Water Meter Retrofits	100
Water Right Purchases	150
Total	250
Former STMGID System Improvements	
Well Bypass & Chlorine Room Improvement	350
STMGID Well Fix & Finish	150
STMGID Conjunctive Use Facilities	1,500
STMGID Mueller Pit Replacements	50
STMGID NAC Deficiencies - Saddlehorn, Upper Toll, STMGID East	360
STMGID NAC Deficiencies - Phase 2 - Sioux Trail, Geiger Grade, Westwind Circle	360
Total	2,770

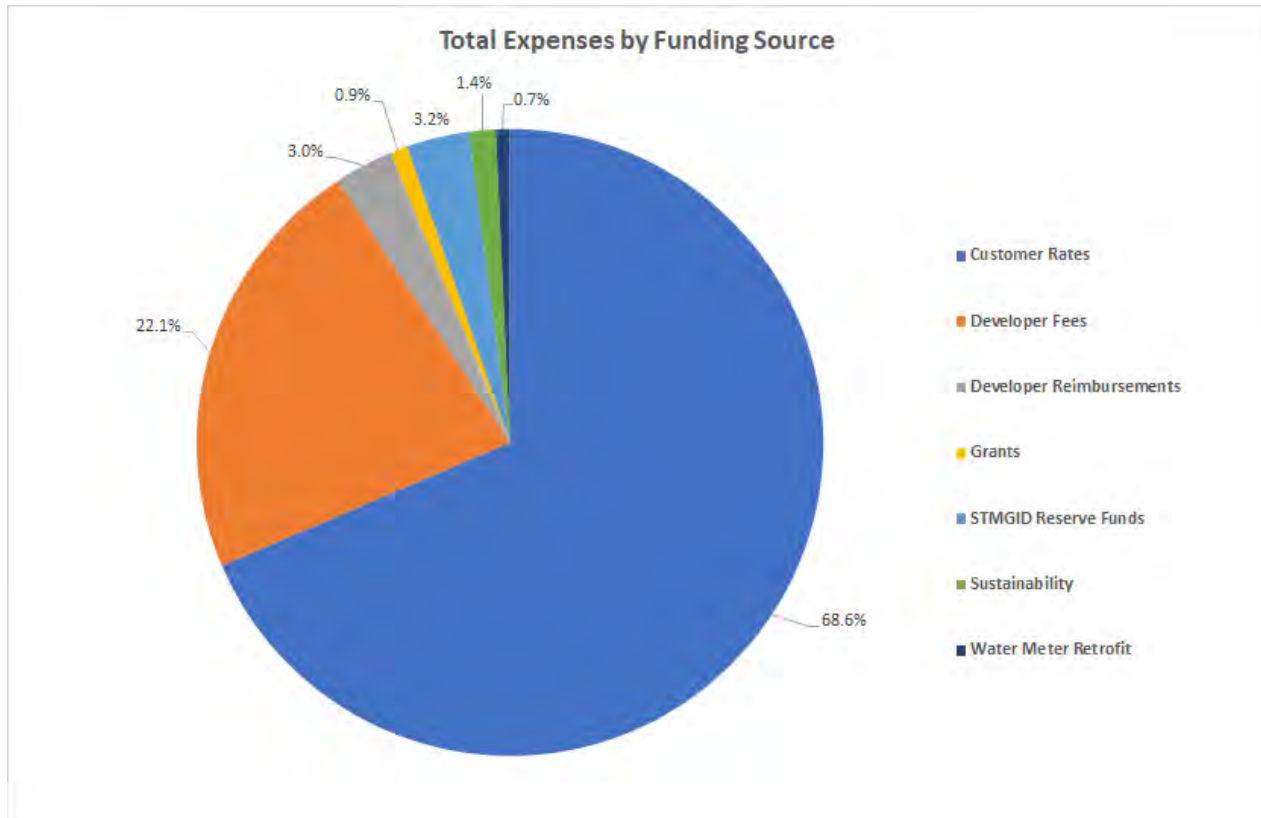
CAPITAL EXPENDITURES BY FUNCTION (Amounts in thousands of dollars)

Summary of Capital Expenditures by Function	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Five Year CIP
Raw Water Supply Improvements	875	1,675	575	575	250	3,950
Ground Water Supply Improvements	4,426	3,510	1,690	4,620	5,690	19,936
Treatment Plant Improvements	15,510	6,520	6,655	5,490	2,390	36,565
Distribution System Pressure Improvements	8,700	6,160	9,100	10,530	5,090	39,580
Water Main Distribution Service Line Improvements	13,810	12,190	6,870	11,440	8,690	53,000
Potable Water Storage Improvements	5,205	4,780	6,070	2,200	3,790	22,045
Hydroelectric Improvements	1,050	3,300	1,100	100	100	5,650
Customer Service Outlays	2,400	2,575	2,635	2,575	2,650	12,835
Administrative Outlays	3,470	2,125	1,670	1,525	2,920	11,710
Water Meter Retrofit / Water Rights Purchases	250	250	250	400	400	1,550
Sub-Total TMWA Construction Spending & Outlays	55,696	43,085	36,615	39,455	31,970	206,821
Former STMGID System Improvements	2,770	3,020	500	450	150	6,890
Total Projected Capital Spending, Including STMGID	58,466	46,105	37,115	39,905	32,120	213,711



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

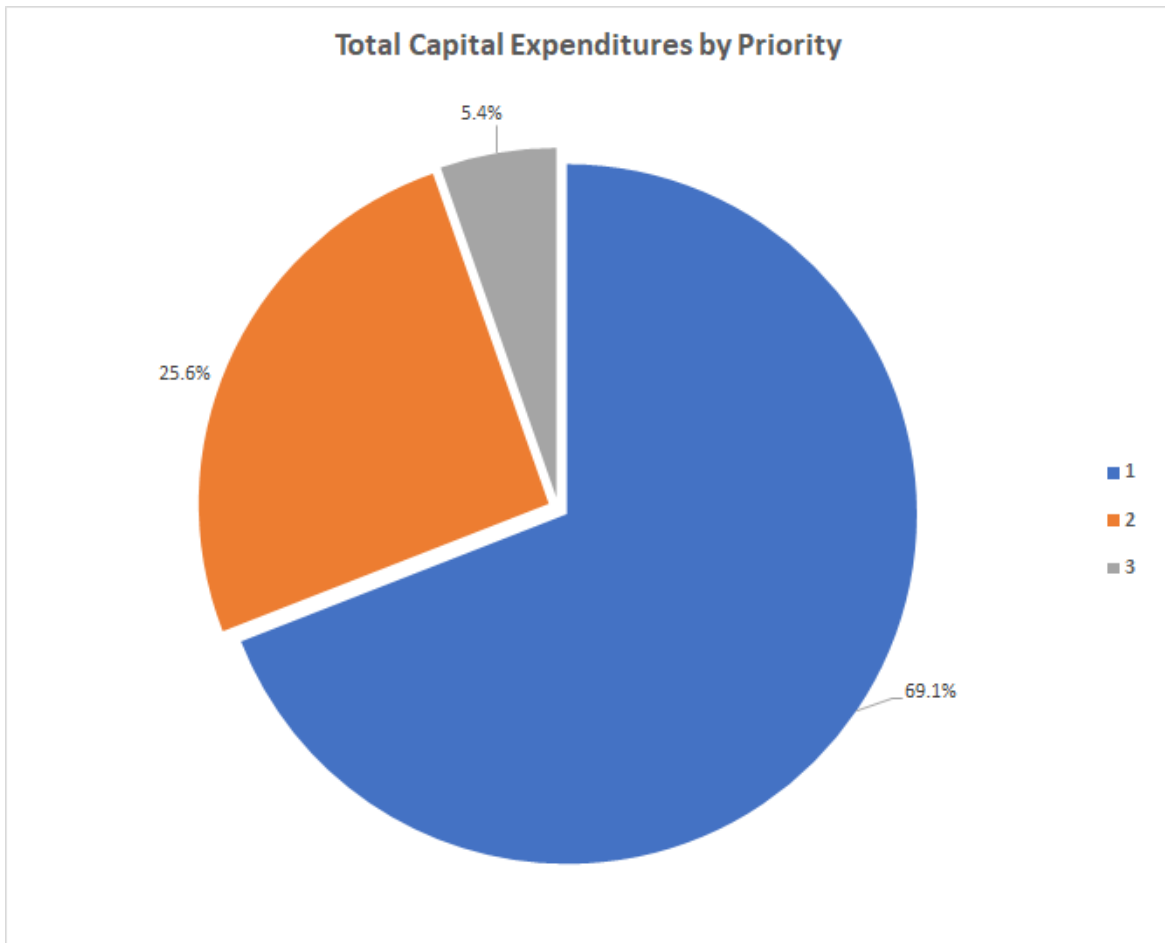
Summary of Funding Sources	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Five Year CIP Total
Capital Improvements Funded by Customer Rates	33,338	33,829	27,007	28,419	23,972	146,565
Capital Improvements Funded by Developer Fees	13,677	8,206	8,558	9,961	6,923	47,325
Capital Improvements Funded by Developer Reimbursements	5,681	200	200	200	200	6,481
Capital Improvements Funded with former STMGID Reserve Funds	2,770	3,020	500	450	150	6,890
Water Meter Retrofit / Water Rights Purchases	250	250	250	400	400	1,550
Capital Improvements Funded by Sustainability Fees	813	600	600	475	475	2,963
Capital Improvements Funded by Grants	1,938	—	—	—	—	1,938
Total Projected Capital Spending	58,466	46,105	37,115	39,905	32,120	213,711



FUNDING BY PRIORITY

(Amounts in thousands of dollars)

Summary of Funding by Priority	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Five Year CIP Total
Priority 1 - Mandatory Spending, Projects in Progress, Regulatory	50,206	35,660	21,045	21,600	19,085	147,596
Priority 2 - Necessary Spending	5,675	7,895	13,260	16,605	11,210	54,645
Priority 3 - Contingency Spending	2,585	2,550	2,810	1,700	1,825	11,470
Total Projected Capital Spending	58,466	46,105	37,115	39,905	32,120	213,711



PROJECT FUNCTIONS AND DESCRIPTIONS

RAW WATER SUPPLY IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Highland Canal- Upgrades-Downstream	225	225	225	225	—	900
2	Customer Rates	Highland Canal- Upgrades-Diversion to Chalk Bluff	100	1,000	100	100	—	1,300
2	Customer Rates	Independence Lake Permitting Study	50	—	—	—	—	50
2	Customer Rates / Sustainability Fees	Indirect Potable Reuse	200	200	200	200	200	1,000
1	Customer Rates	TROA Drought Storage / Implementation	100	50	50	50	50	300
2	Customer Rates	Donner Lake Outlet Improvements Phase 2	200	200	—	—	—	400
Subtotal			875	1,675	575	575	250	3,950

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



Raw Water Supply Improvements Highland Canal-Upgrades-Downstream

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Highland Canal-Upgrades-Downstream	225	225	225	225	—	900

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.



Raw Water Supply Improvements

Highland Canal – Upgrades – Diversion to Chalk Bluff

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Highland Canal-Upgrades-Diversion to Chalk Bluff	100	1,000	100	100	—	1,300

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.



Raw Water Supply Improvements Independence Lake Permitting Study

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Independence Lake Permitting Study	50	—	—	—	—	50

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 2020.



Raw Water Supply Improvements Indirect Potable Reuse

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Sustainability Fees	Indirect Potable Reuse	200	200	200	200	200	1,000

PROJECT DESCRIPTION: In 2016, new regulations were adopted to permit use of "exceptional quality reclaimed water," or advanced purified water, for groundwater augmentation. Advanced purified water is achieved through multiple water treatment steps and natural purification processes. Conceptually, an indirect potable reuse (IPR) project using advanced purified water might be well suited for areas such as the North Valleys or the South Truckee Meadows. IPR in these locations could help diversify the region's water portfolio by adding an option that is both sustainable and energy-efficient. 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: A unique feasibility study is underway over the next 2-3 years to evaluate and determine if advanced purified water can provide long-term benefits for our region's water future. Multiple field scale advanced water treatment demonstration projects have been developed, and several sites have been chosen for innovative research and exploration based on their geographic location and hydrogeologic characteristics. Additional funding support is provided from Reno, Sparks, Washoe County, and WRWC.



Raw Water Supply Improvements TROA Drought Storage/Implementation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	TROA Drought Storage / Implementation	100	50	50	50	50	300

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 are related to the operation of reservoir sites.



Raw Water Supply Improvements Donner Lake Outlet Improvements Phase 2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Donner Lake Outlet Improvements Phase 2	200	200	—	—	—	400

PROJECT DESCRIPTION: Dredging of a portion of the Donner Lake outlet channel was completed in FY2019. The project was scaled back to fit within the CEQA emergency permitting requirements. Additional work is required to extend and improve the outlet channel further into the lake, including possible bank stabilization improvements to minimize future dredging requirements.

SCHEDULE: Permitting and preliminary design will be conducted over the next two years. Construction of improvements is scheduled beyond FY 2024.



GROUND WATER SUPPLY IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	400	400	400	400	400	2,000
1	Developer Fees	Double Diamond #5 Equipping & Blending Main	50	450	—	60	1,140	1,700
1	Developer Fees	Campello Capacity Increase	70	—	—	—	—	70
2	Developer Fees	Callamont Well South Equipping	—	—	60	1,140	—	1,200
2	Customer Rates	Air Guard Well Replacement	—	—	—	1,100	—	1,100
1	Customer Rates	Sunrise Well #3 Replacement	100	—	—	—	—	100
3	Customer Rates / Sustainability Fees	Bedell Flat Water Bank	500	500	500	250	250	2,000
2	Customer Rates	Lemmon Valley Well #8 Replacement	—	—	—	—	1,000	1,000
1	Customer Rates	Well Fix & Finish	200	200	200	200	200	1,000
2	Customer Rates	Well Plugging / Conversion	—	110	—	—	—	110
1	Customer Rates	NDEP Monitoring Wells	100	100	—	—	—	200
1	Customer Rates	Thomas Creek Well Replacement & Spring Creek SC #5	1,250	1,250	—	—	—	2,500
2	Customer Rates	Truckee Canyon Well #3 Site Modifications	50	—	—	—	—	50
1	Customer Rates / Sustainability Fees	Well Head TTHM Mitigation	500	500	500	500	500	2,500
1	Customer Rates / Sustainability Fees	Spring Creek Well #7 Recharge	425	—	—	—	—	425
1	Customer Rates	Kietzke, High, Morrill PCE	500	—	—	—	—	500
2	Customer Rates	Callamont Well North Equipping	—	—	—	60	1,140	1,200
1	Developer Reimbursement	STMGID #6 Generator	281	—	—	—	—	281
2	Developer Fees	Spring Creek Well #8 - Donovan	—	—	30	910	1,060	2,000
Subtotal			4,426	3,510	1,690	4,620	5,690	19,936

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



Ground Water Supply Improvements Well Rehabilitation Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Well Rehabilitation Improvements	400	400	400	400	400	2,000

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 function and capacities. Spending in fiscal years 2020-2024 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 currently under contract for rehabilitation improvements in FY 2020 include Arrowcreek Well #1, STMGID Well #3, Sunrise Estates Well #3, Stampmill East (Stampmill #1) and Corbet Well.



Ground Water Supply Improvements Double Diamond #5 Equipping & Blending Main

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Double Diamond #5 Equipping & Blending Main	50	450	—	60	1,140	1,700

PROJECT DESCRIPTION: Construct pumping facilities for the existing Double Diamond Well #5 including the pump house building, electrical power, pump/motor and valves and piping to provide an additional 1,200 gallons per minute of peak period supply to the Double Diamond area. The project also includes construction of a blending main between Double Diamond Wells #4 & #5.

SCHEDULE: Based on current growth rates, it is anticipated that the additional capacity from the new well will be needed in the summer of FY 2024.



Ground Water Supply Improvements Campello Capacity Increase

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Campello Capacity Increase	70	—	—	—	—	70

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.



Ground Water Supply Improvements Callamont Well South Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	Callamont Well South Equipping	—	—	60	1,140	—	1,200

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 2023, but may be constructed sooner (or later) depending on the actual schedule for the proposed 210 unit Callamont residential development.



Ground Water Supply Improvements

Air Guard Well Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Air Guard Well Replacement Equipping	—	—	—	1,100	—	1,100

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 are scheduled for construction in FY 2023.



Ground Water Supply Improvements Sunrise #3 Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Sunrise Well #3 Replacement	100	—	—	—	—	100

PROJECT DESCRIPTION: This project involves activities associated with relocating a septic tank that is currently within the regulated setback distance of Sunrise Estates Well #3. Groundwater quality and available land space will be reviewed to verify the potential for septic tank relocation. If septic tank relocation efforts are found to be non-feasible, additional exploratory drilling may be carried out in order to attempt to identify a new groundwater resource at a different location.

SCHEDULE: Septic tank relocation activities will begin during FY 2020.



Ground Water Supply Improvements Bedell Flat Water Bank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates / Sustainability Fees	Bedell Flat Water Bank	500	500	500	250	250	2,000

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, Washoe County, and the U.S. Geological Survey (USGS) to evaluate the feasibility of expanding TMWA’s conjunctive use program to include aquifer storage and recovery (ASR) 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 near the existing Fish Springs pipeline; infiltration of highly treated reclaimed water along a natural drainage referred to as Bird Spring Wash; infiltration of highly treated reclaimed water through rapid infiltration basins (RIBs); 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 includes a joint funding agreement with the USGS to conduct water infiltration monitoring and assessments to determine the feasibility of ASR in Bedell Flat, and an NDEP grant for infiltration testing.

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.



Ground Water Supply Improvements Lemmon Valley Well #8 Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	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 while producing at least 20 percent more capacity than the original Lemmon Valley 8 Well. The additional capacity will provide supply to support base load supplied from the Fish Springs groundwater system.

SCHEDULE: Well drilling will occur in FY 2023 and well equipping in FY 2024.



Ground Water Supply Improvements Well Fix & Finish

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Well Fix & Finish	200	200	200	200	200	1,000

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.



Ground Water Supply Improvements Well Plugging / Conversion

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	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 FY 2021.



Ground Water Supply Improvements NDEP Monitoring Wells

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	NDEP Monitoring Wells	100	100	—	—	—	200

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 the Nevada Division of Environmental Protection - Underground Injection Control (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 FY 2020-21.



Ground Water Supply Improvements

Thomas Creek Well Replacement & Spring Creek SC5

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Thomas Creek Well Replacement & Spring Creek SC #5	1,250	1,250	—	—	—	2,500

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 FY 2020 and well equipping in FY 2021.



Ground Water Supply Improvements Truckee Canyon Well 3 Site Modifications

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Truckee Canyon Well #3 Site Modifications	50	—	—	—	—	50

PROJECT DESCRIPTION: Project includes minor site modifications in cooperation with an A&K Earthmovers project to expand their equipment yard by backfilling an existing drainage channel, relocating the Truckee Canyon Well 3 pump to waste discharge, and installing a security fence and gate. The improvements will provide a new TMWA access point to the well site that does not require travel through the A&K equipment yard.

SCHEDULE: Design was completed in FY 2019 and construction will be completed in FY 2020.



Ground Water Supply Improvements Well Head TTHM Mitigation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Sustainability Fees	Well Head TTHM Mitigation	500	500	500	500	500	2,500

PROJECT DESCRIPTION: Planning, permitting and implementation of tank mixers and ventilation equipment technologies to reduce disinfection by product (DBP) formation in recharged water and receiving groundwater.

SCHEDULE: Planning and design began in FY 2018 and is ongoing. Construction of tank mixers and ventilation equipment at Zolezzi and Verdi Business Park tanks were completed in FY 2019 . Other technologies will be implemented at key recharge well sites in subsequent years based on priority.



Ground Water Supply Improvements Spring Creek Well #7 Recharge

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Sustainability Fees	Spring Creek Well #7 Recharge	425	—	—	—	—	425

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 begin in FY 2020.



Ground Water Supply Improvements Kietzke, High, Morrill PCE Treatment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Kietzke, High, Morrill PCE Treatment	500	—	—	—	—	500

PROJECT DESCRIPTION: Currently, the raw water from these wells exceed the PCE limit, and pump-to-waste water discharges directly to the Truckee River without treatment. The project will study treatment alternatives, select a design and construct improvements to reduce PCE to acceptable levels prior to discharge into the Truckee River. It should be noted that discharge of untreated pump-to-waste water only occurs a few times per year and for very short durations since these facilities normally stay on-line for long periods once they are started up. Reimbursement for the project costs will be provided from the remediation district.

SCHEDULE: The improvements are scheduled for completion in FY 2020.



Ground Water Supply Improvements Callamont Well North Equipping

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Callamont Well North Equipping	—	—	—	60	1,140	1,200

PROJECT DESCRIPTION: Construct pumping facilities for the remaining existing Callamont well 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 2024, but may be constructed sooner (or later) depending on the actual schedule for the proposed 210 unit Callamont residential development.



Ground Water Supply Improvements STMGID 6 Generator

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Reimbursement	STMGID #6 Generator	281	—	—	—	—	281

PROJECT DESCRIPTION: The project involves installation of a backup power generator and associated electrical system improvements on STMGID Well #6 to insure fire flow requirements for the new Washoe County School District middle school at Thomas Creek Rd and Arrowcreek Pkwy can be delivered. The Washoe County School District is responsible for all project costs.

SCHEDULE: The improvements will be completed in FY 2020.



Ground Water Supply Improvements Spring Creek Well #8 - Donovan

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	Spring Creek Well #8 - Donovan	—	—	30	910	1,060	2,000

PROJECT DESCRIPTION: The project involves construction and equipping of a new production well located just south of Indian Sage Court in Spanish Springs Valley. TMWA owns a 6,000 square feet parcel at this location where a test well was previously constructed but will need access and pipeline/utility easements. It is anticipated that the new well will produce up to 500 gallons per minute of new supply for the area.

SCHEDULE: This project schedule assumes the new well is drilled and constructed in FY 2023 and the pumping facilities are constructed in FY 2024.



TREATMENT PLANT IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Chalk Bluff Treatment Plant Fix & Finish	600	450	350	350	350	2,100
1	Customer Rates	Glendale Treatment Plant Fix & Finish	400	400	100	100	1,000	2,000
1	Customer Rates	Chalk Bluff Filter Underdrains	500	1,000	1,000	1,000	1,000	4,500
3	Customer Rates	Chalk Bluff Lighting Upgrade	—	—	350	—	—	350
3	Customer Rates	Glendale Lighting Upgrade	—	250	—	—	—	250
2	Customer Rates	Orr Ditch Pump Station Rehabilitation	100	500	500	500	—	1,600
1	Customer Rates	Truckee Canyon Water Treatment Improvements	60	60	35	20	20	195
1	Customer Rates	Lightning W Treatment Improvements	10	60	20	20	20	130
1	Customer Rates	SCADA Rehab / Plant Operating Software	1,000	800	500	500	—	2,800
1	Customer Rates / Developer Fees	Mount Rose Surface Water Treatment Plant	11,000	2,000	—	—	—	13,000
2	Customer Rates	Longley Plant HV 3 & 4 Treatment Improvements	40	500	800	—	—	1,340
1	Grants	Glendale Diversion Emergency Flood Repairs (FEMA)	1,600	—	—	—	—	1,600
2	Customer Rates	Spanish Springs Nitrate Treatment Facility	200	500	3,000	3,000	—	6,700
Subtotal Treatment Improvements			15,510	6,520	6,655	5,490	2,390	36,565

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



Treatment Plant Improvements

Chalk Bluff Treatment Plant Fix & Finish

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Chalk Bluff Treatment Plant Fix & Finish	600	450	350	350	350	2,100

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/sludge removal improvements, treatment train isolation valves, flow meter improvements and safety improvements.

SCHEDULE: Major projects and timelines include: ice fighting improvements to maintain raw water supply via the Highland Canal will continue in FY 2019, instrumentation upgrades will continue within the next five years as obsolete instruments are no longer supported by suppliers, solids removal upgrades started in 2018 will wrap up in FY 2020. Work to isolate sections of the treatment plant influent trains will begin in FY 2019. Filter media replacement will occur when yearly filter media evaluation indicates that replacement will soon be necessary. Since 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.



Treatment Plant Improvements

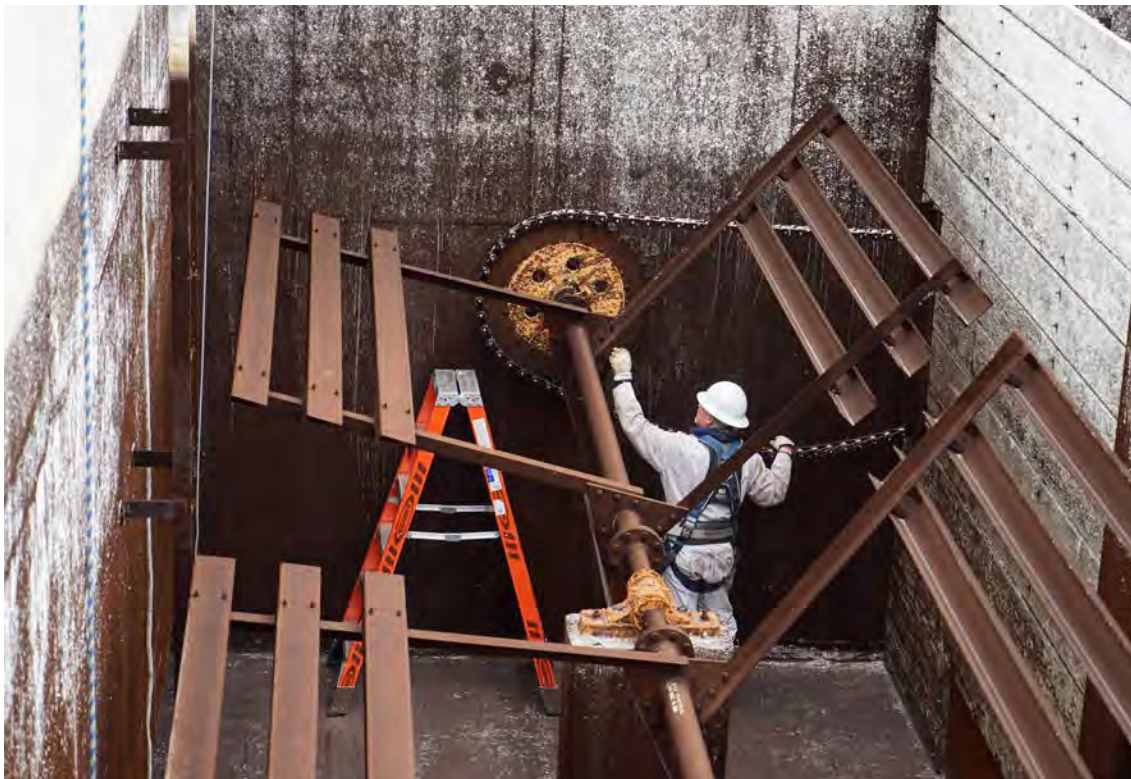
Glendale Treatment Plant Fix & Finish

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Glendale Treatment Plant Fix & Finish	400	400	100	100	1,000	2,000

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 through 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 settler inspections, valve and instrument replacement, Trac Vac improvements, flow meter improvements, treatment chemical upgrades and maintenance storage/shop upgrades.

SCHEDULE: The treatment plant maintenance shop and storage improvements are currently scheduled in FY 2024. Instrumentation upgrades will continue within the next five years as obsolete instruments are no longer supported by suppliers. Filter media replacement will occur when yearly filter media evaluation indicates that replacement will soon be necessary. Since 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.



Treatment Plant Improvements

Chalk Bluff Filter Underdrains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Chalk Bluff Filter Underdrains	500	1,000	1,000	1,000	1,000	4,500

PROJECT DESCRIPTION: The dual media filters at Chalk Bluff are nearing 25 years old and maintenance and/or repairs are needed on filters that have experienced recent underdrain performance issues. An engineering evaluation of the filters has been completed and an entire replacement of one or more filter underdrains is recommended.

SCHEDULE: Due to cost and operational complexities associated with taking a filter out of service, this will be a multi-year effort beginning with design and bidding in FY 2020 and construction taking place in at least FY's 2021-24.



Treatment Plant Improvements

Chalk Bluff Lighting Upgrade

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	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 2022.



Treatment Plant Improvements

Glendale Lighting Upgrade

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	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 2021.



Treatment Plant Improvements Orr Ditch Pump Station Rehab

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Orr Ditch Pump Station Rehabilitation	100	500	500	500	—	1,600

PROJECT DESCRIPTION: This project will increase redundancy and reliability by enhancing the Truckee River source of supply to the Chalk Bluff Water Treatment Plant. Currently, there are very limited options to facilitate repairs or conduct preventative maintenance due to the location and arrangement of the intake structure and wet well. The project design may include modifying the existing proprietary wet well submersible pump design into a pedestal-style vertical turbine pump arrangement with non-submerged motors, may include the construction of a building over the top of the wet well to increase security and allow a safer means of performing maintenance activities and may also incorporate a system to eliminate silting issues within the intake structure.

SCHEDULE: Planning and design will be completed in FY 2020. Construction will commence in FY 2020-21 and scheduled to be completed by FY 2023.



Treatment Plant Improvements

Truckee Canyon Water Treatment Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Truckee Canyon Water Treatment Improvements	60	60	35	20	20	195

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 a new access to WELL #4 from Old Dominion, 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 2020 – 2024 are contingent spending related to treatment efficiency and for chemical changes in the raw water.



Treatment Plant Improvements

Lightning W Treatment Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Lightning W Treatment Improvements	10	60	20	20	20	130

PROJECT DESCRIPTION: The existing treatment process consists of two ion exchange resin pressure vessels to remove uranium. Previous work included change out/replacement of the filter media, disposal of the spent media. The remaining work includes miscellaneous improvements to the building that houses the treatment equipment.

SCHEDULE: The FY 2021 work includes miscellaneous building improvements.



Treatment Plant Improvements

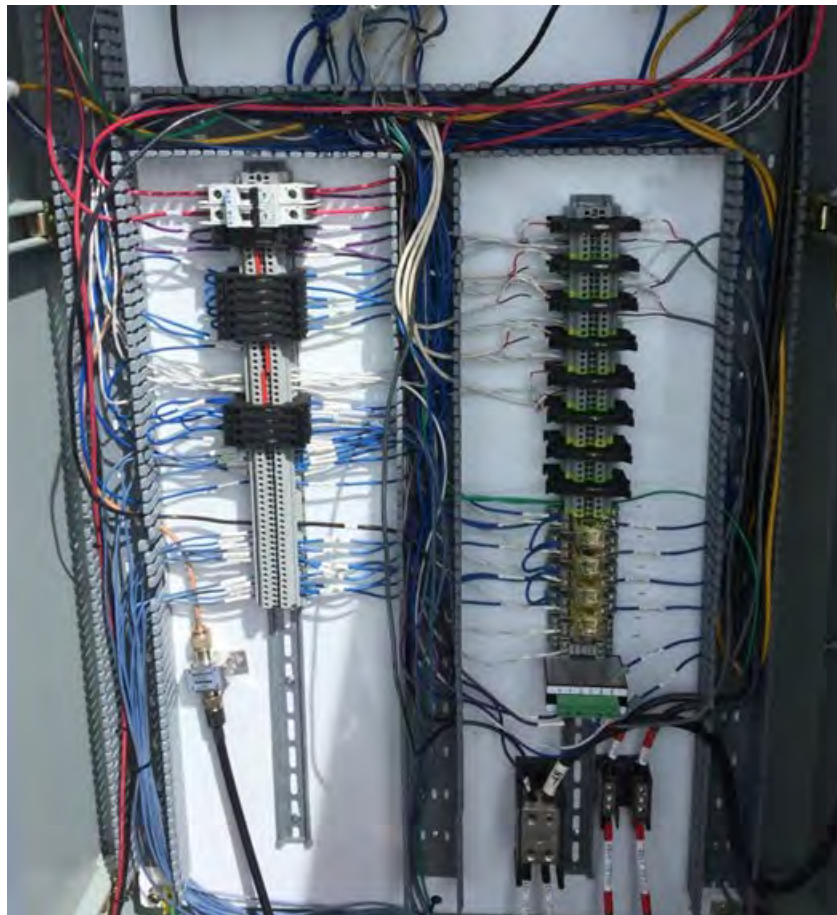
SCADA Rehab/Plant Operating Software

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	SCADA Rehab / Plant Operating Software	1,000	800	500	500	—	2,800

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 are 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 decided 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.



Treatment Plant Improvements

Mt. Rose Surface Water Treatment Plant

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	Mount Rose Surface Water Treatment Plant	11,000	2,000	—	—	—	13,000

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 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 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, design, and bidding was completed in FY 2019. Construction began in FY 2019, and completion of construction in FY 2020.



Treatment Plant Improvements

Longley Lane HV 3 and HV 4 Treatment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Longley Plant HV 3 & 4 Treatment Improvements	40	500	800	—	—	1,340

PROJECT DESCRIPTION: TMWA completed planning and preliminary design of an innovative UV disinfection / Arsenic blending water treatment process to treat the HV 3 and HV 4 groundwater wells that are out of service due to surface water influence and elevated arsenic. These wells were formerly treated at the Longley Lane WTP which is currently not being utilized as a treatment facility due to needed safety improvements on the chemical feed, membrane clean-in-place and the solids handling piping systems. An assessment of the plant was completed, and short-term improvements identified to modify the facility to serve as a booster pump station using either surface water or groundwater supply sources.

SCHEDULE: Planning and permitting to be completed in FY 2020. Design and construction to be performed in FY's 2021 through 2022.



Treatment Plant Improvements

Glendale Diversion Emergency Flood Repairs

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Grants	Glendale Diversion Emergency Flood Repairs (FEMA)	1,600	—	—	—	—	1,600

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: Basic repairs were completed in FY 2018. Improvements to mitigate future failures is scheduled for completion in FY 2020 pending environmental permitting.



Treatment Plant Improvements

Spanish Springs Nitrate Treatment Facility

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Spanish Springs Nitrate Treatment Facility	200	500	3,000	3,000	—	6,700

PROJECT DESCRIPTION: Initiation of planning, permitting, site acquisition and design for a 3 MGD biological water treatment process to treat several groundwater wells in Spanish Springs that are out of service due to elevated nitrate and arsenic. Treatment is required to maintain and restore the service capacity of the wells.

TMWA completed the operation and testing of a 5 GPM pilot treatment plant in 2018. Biological treatment of nitrate in potable water is currently not permitted in Nevada. TMWA, working with Carollo Engineers, UNR and WaterStart, has evaluated this innovative technology and determined it to be a cost-effective treatment solution compared to traditional, high cost alternatives such as ion exchange.

SCHEDULE: Planning, permitting, site acquisition and design to be conducted in FY's 2020 through 2021.



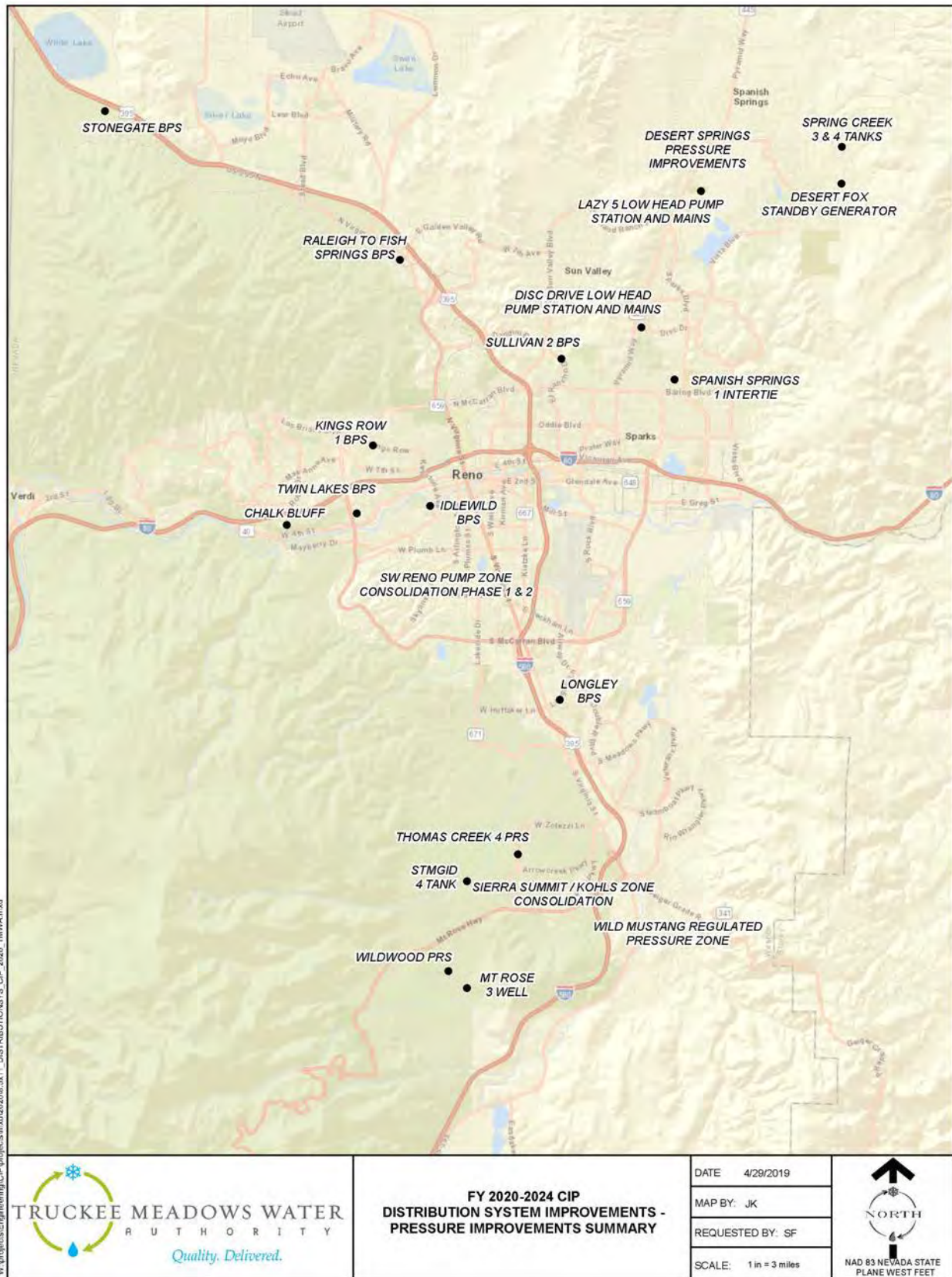
DISTRIBUTION SYSTEM PRESSURE IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	500	500	500	500	500	2,500
1	Customer Rates	Pressure Reducing Valve (Roll Seal) Removal	400	400	400	400	400	2,000
2	Customer Rates	Land Acquisitions	500	500	250	250	250	1,750
2	Customer Rates	Desert Fox Standby Generator	—	150	—	—	—	150
1	Developer Fees	Disc Drive Low Head Pump Station & Mains	—	130	3,170	—	—	3,300
1	Developer Fees	Longley BPS / Double R Capacity Increase	250	—	—	—	—	250
3	Customer Rates	Pump Station Oversizing	100	100	100	100	100	500
1	Customer Rates	Pump Station Rebuilds, Rehabilitations	500	1,500	1,000	1,000	1,000	5,000
1	Customer Rates / Developer Fees	Sullivan #2 BPS Replacement	—	80	1,150	—	—	1,230
1	Customer Rates	Mount Rose Well #3 Pump Station Improvements	—	250	—	—	—	250
3	Customer Rates	Standby Generator Improvements	150	150	150	150	150	750
2	Customer Rates	Idlewild BPS Improvements	—	100	1,200	—	—	1,300
1	Developer Fees	Raleigh to Fish Springs BPS Station	—	—	300	1,600	—	1,900
2	Customer Rates / Developer Fees	Southwest Pump Zone Consolidation Phase 1	—	—	330	6,330	—	6,660
2	Customer Rates	Spanish Springs #1 Pump Zone Intertie	600	—	—	—	—	600
1	Developer Fees	STMGID Tank #4 BPS / Transmission Line	150	2,300	550	—	—	3,000
3	Developer Fees	Wildwood Pressure Regulating Station Scada Control	—	—	—	50	—	50
2	Customer Rates / Developer Fees	Southwest Pump Zone Consolidation Phase 2	—	—	—	50	990	1,040

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Sierra Summit-Kohl's Zone Consolidation	—	—	—	50	400	450
1	Customer Rates / Developer Fees	Chalk Bluff Additional Backup Generator	700	—	—	—	—	700
2	Customer Rates	Wild Mustang Regulated Pressure Zone	—	—	—	50	380	430
1	Customer Rates	Twin Lakes BPS	400	—	—	—	—	400
2	Customer Rates	Thomas Creek #4 PRS	—	—	—	—	170	170
1	Customer Rates	Kings Row 1 BPS	2,200	—	—	—	—	2,200
2	Developer Fees	Spring Creek Tanks #3&4 BPS Modifications	—	—	—	—	600	600
2	Developer Fees	Lazy 5 Low Head Pump Station & Mains	—	—	—	—	150	150
1	Developer Fees	Common (Stonegate) BPS	2,250	—	—	—	—	2,250
Sub-Total Pressure Improvements			8,700	6,160	9,100	10,530	5,090	39,580

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



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Distribution System Pressure Improvements Pressure Regulators Rehabilitation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Pressure Regulators Rehabilitation	500	500	500	500	500	2,500

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.



Distribution System Pressure Improvements Pressure Reducing Valve (Roll Seal) Removal

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	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 Claval 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.



Distribution System Pressure Improvements Land Acquisitions

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Land Acquisitions	500	500	250	250	250	1,750

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.



Distribution System Pressure Improvements Desert Fox Standby Generator

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Desert Fox Standby Generator	—	150	—	—	—	150

PROJECT DESCRIPTION: This project involves furnishing and installing a new standby generator and ATS to power one 50 Hp pump at the existing Desert Fox booster pump station. This alternative pumping capacity is needed when the existing 0.5 MG Spring Creek #5A Tank is out of service for recoating or other maintenance or if an extended power outage occurs in the area.

SCHEDULE: Improvements are scheduled for design in FY 2020 and construction in FY 2021.



Distribution System Pressure Improvements Disc Drive Low Head Pump Station and Mains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Disc Drive Low Head Pump Station & Mains	—	130	3,170	—	—	3,300

PROJECT DESCRIPTION: This involves construction of a new low head pump station located just north of the intersection of Disc Dr. and Sparks Blvd. in North-East Sparks/Spanish Springs Valley, along with suction and discharge mains. TMWA owns a 6,000 square foot parcel in this location and has obtained an easement out to Vista Blvd. A suction pipe must be extended from Disc Dr. to Sparks Blvd. The pump station is needed to maintain peak period distribution pressure in the area and to provide adequate suction pressure to the Vista #1 and Spanish Springs #2 pump stations. The low-head pumping option was determined to be more cost effective than oversizing of the Sparks Feeder Main projects.

SCHEDULE: Improvements are scheduled for design in FY 2021 and construction in FY 2022.



Distribution System Pressure Improvements

Longley Booster Pump Station/Double R Capacity Increase

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Longley BPS / Double R Capacity Increase	250	—	—	—	—	250

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 be replaced to provide the additional capacity without excessive friction losses.

SCHEDULE: The improvements are scheduled for FY 2020. The improvements are necessary when supply through the Double R Intertie must exceed 5,400 gallons per minute.



Distribution System Pressure Improvements Pump Station Oversizing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Pump Station Oversizing	100	100	100	100	100	500

PROJECT DESCRIPTION: The FY 2020 project may consist of cash contributions towards construction of a new above ground booster pump station located off of W. 4th Street near Twin Lakes Blvd or one 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.



Distribution System Pressure Improvements Pump Station Rebuilds, Rehabilitations

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Pump Station Rebuilds, Rehabilitations	500	1,500	1,000	1,000	1,000	5,000

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.

SCHEDULE: In FY 2020, TMWA plans to reconstruct the Kings Row #1 pump station above ground.



Distribution System Pressure Improvements Sullivan #2 Booster Pump Station Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	Sullivan #2 BPS Replacement	—	80	1,150	—	—	1,230

PROJECT DESCRIPTION: The project involves construction of a new above grade pump station at the site of the existing Sullivan Tank on El Rancho. The new pump station will pump to the proposed Sun Valley #2 Tank tentatively located off of Dandini Drive near the TMCC/DRI complex. Completion of these facilities should allow the retirement of the existing Sun Valley #1 pump station.

SCHEDULE: Planning and design are scheduled for FY 2021. Construction is scheduled for FY 2022.



Distribution System Pressure Improvements Mt. Rose Well #3 Pump Station Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Mount Rose Well #3 Pump Station Improvements	—	250	—	—	—	250

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 Well #5 improvements and upgrades to electrical and control systems.

SCHEDULE: Construction is scheduled in FY 2021.

Distribution System Pressure Improvements Standby Generator Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Standby Generator Improvements	150	150	150	150	150	750

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 2020, a second generator will be installed pump at Chalk Bluff to allow more pumping and treatment processes to continue during a power failure. This project is contained in a stand alone line item as reflected in the budget above.



Distribution System Pressure Improvements Idlewild Booster Pump Station Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	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 FY2021 and construction should begin in FY 2022. This schedule may be moved based on system needs.



Distribution System Pressure Improvements Raleigh to Fish Springs Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Raleigh to Fish Springs BPS Station	—	—	300	1,600	—	1,900

PROJECT DESCRIPTION: The project involves acquisition of property and construction of a new pump station to pump water from the Raleigh Heights zone to the Fish Springs terminal tank when the Fish Springs Wells are off-line or if a main break occurs on the Fish Springs transmission line. In the future, there will be a number of customers served directly from the Fish Springs terminal tank; therefore, it is necessary to provide a secondary supply to maintain continuous water service.

SCHEDULE: Implementation will begin in FY 2022 and construction in FY 2023.



Distribution System Pressure Improvements SW Pump Zone Consolidation Phase 1

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Southwest Pump Zone Consolidation Phase 1	—	—	330	6,330	—	6,660

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 2022. Construction is scheduled for FY 2023.



Distribution System Pressure Improvements Spanish Springs #1 Pressure Zone Intertie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Spanish Springs #1 Pump 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 2020.



Distribution System Pressure Improvements

STMGID Tank #4 Booster Pump Station / Transmission Line

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	STMGID Tank #4 BPS / Transmission Line	150	2,300	550	—	—	3,000

PROJECT DESCRIPTION: The project includes a new booster pump station located near the STMGID Tank 4/5 site and approximately 6,000 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 FY 2020.



Distribution System Pressure Improvements Wildwood Pressure Regulating Station/Scada Control

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Developer Fees	Wildwood Pressure Regulating Station 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 #2 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.



Distribution System Pressure Improvements Southwest Pump Zone Consolidation Phase #2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Southwest Pump Zone Consolidation Phase 2	—	—	—	50	990	1,040

PROJECT DESCRIPTION: The project is a continuation of Phase 1 and involves construction of additional water main to further integrate the new SW pump station and allow the retirement of one more existing underground pump station plus provide backup to two other pump zones.

SCHEDULE: Design of the construction is scheduled to begin in FY 2023. Construction is scheduled to start in FY 2024.



Distribution System Pressure Improvements Sierra Summit-Kohl's Zone Consolidation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Sierra Summit-Kohl's Zone Consolidation	—	—	—	50	400	450

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 950 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 and 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 2024.



Distribution System Pressure Improvements

Chalk Bluff Additional Backup Generator

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	Chalk Bluff Additional Backup Generator	700	—	—	—	—	700

PROJECT DESCRIPTION: The project was originally scoped as a dedicated generator for the 6,000 gallon per minute Northgate booster pump located at Chalk Bluff; however, studies revealed that it was more efficient and effective to add a larger standby generator in parallel with the existing generator at Chalk Bluff to allow more treatment processes and pumps (raw water and effluent pumps) to be operated during power outages.

SCHEDULE: Construction is scheduled to be completed in FY 2020.



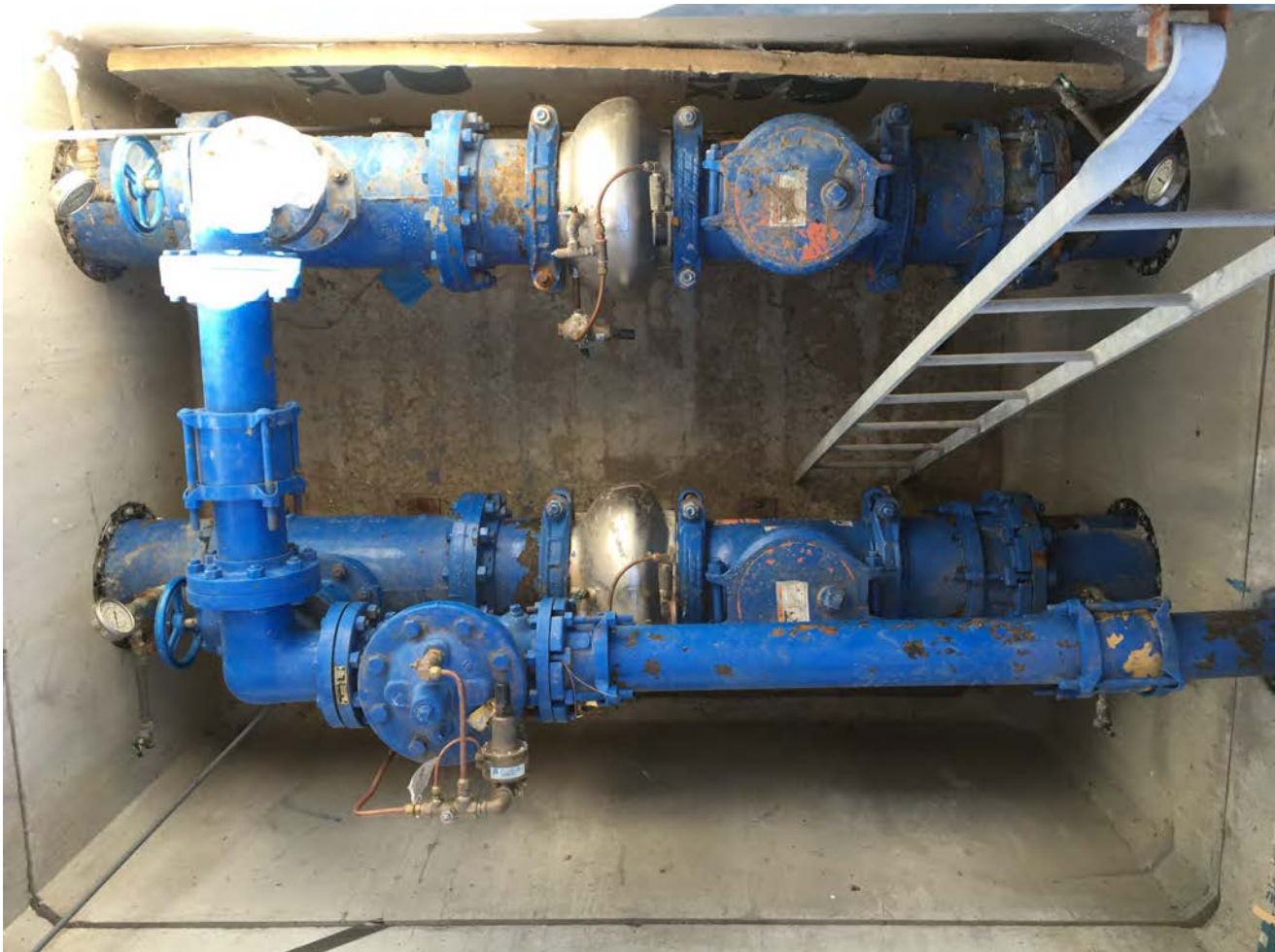
Distribution System Pressure Improvements Wild Mustang Regulated Pressure Zone

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Wild Mustang Regulated Pressure Zone	—	—	—	50	380	430

PROJECT DESCRIPTION: The project involves construction of a new pressure regulator station and approximately 750 LF of water main to create a new pressure zone in the Geiger Grade area of the South Truckee Meadows to reduce distribution system pressures in the area.

SCHEDULE: Design of the construction is scheduled to begin in FY 2023. Construction is scheduled to start in FY 2024.



Distribution System Pressure Improvements Twin Lakes Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Twin Lakes BPS	400	—	—	—	—	400

PROJECT DESCRIPTION: The project cost contains oversizing of a developer funded booster pump station to provide redundant supply to the Summit Ridge Regulated Zone which is currently fed off of the Chalk Bluff / Highland Zone. Supply will be provided from the Hunter Creek zone. The current total is estimated at \$800,000 with TMWA providing 50% reimbursement to the developer.

SCHEDULE: Construction is planned to start in FY 2019 and go into FY 2020 with reimbursement planned in FY 2020.



Distribution System Pressure Improvements Thomas Creek #4 PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Thomas Creek #4 PRS	—	—	—	—	170	170

PROJECT DESCRIPTION: The project involves construction of a new PRS and approximately 160 LF of water main to increase capacity to the Moonrise pressure zone. The increase in capacity will help with replenishing storage in the STMGID Tank and increase fire flow within the zone.

SCHEDULE: The project is scheduled for FY 2024.



Distribution System Pressure Improvements Kings Row 1 Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Kings Row 1 BPS	2,200	—	—	—		2,200

PROJECT DESCRIPTION: This project will replace the existing underground Kings Row #1 pump station with a new above ground pump station on TMWA property. The project is part of annual booster pump station rehabilitation/replacement program focused on reconstructing existing pump stations above grade.

SCHEDULE: Planning and design were completed in FY 2019. Construction will occur in FY 2020.



Distribution System Pressure Improvements

Spring Creek Tanks #3 & #4 Booster Pump Station Modifications

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	Spring Creek Tanks #3&4 BPS Modifications	—	—	—	—	600	600

PROJECT DESCRIPTION: This project will replace an existing 200 GPM pump with a new pump/motor rated for 1800 GPM at the existing Spring Creek 3/4 Tanks site in Spanish Springs Valley. The existing regulated bypass will also be equipped for SCADA control. The improvements will provide redundant supply to the Desert Springs 3 and Spring Creek 6 tank zones.

SCHEDULE: Planning, design and construction will occur in FY 2024.

Distribution System Pressure Improvements Lazy 5 Low Head Pump Station & Mains

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	Lazy 5 Low Head Pump Station & Mains	—	—	—	—	150	150

PROJECT DESCRIPTION: The project involves construction of a new low head pump station located near the existing Lazy 5 Intertie in NE Sparks/Spanish Springs Valley along with suction and discharge mains. TMWA will need to acquire a parcel of land and pipeline easements out to the Pyramid Hwy. The project will increase TMWA's ability to transfer surface water to the Spanish Springs Valley and may defer more costly groundwater treatment options to increase capacity for growth.

SCHEDULE: Planning and design will occur in FY 2024 with construction scheduled in FY's 2024 - 2025.



Distribution System Pressure Improvements Common (Stonegate) Booster Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Common (Stonegate) Booster Pump Station	2,250	—	—	—	—	2,250

PROJECT DESCRIPTION: The project consists of design and construction of a new booster pump station to deliver the water supply for the proposed Stonegate development in Cold Springs. Suction and discharge pipelines on North Virginia and terminal storage facilities in Cold Springs will be constructed by Stonegate as applicant-installed projects. The pump station will be located on a parcel on North Virginia that has already been acquired by Stonegate. Stonegate is responsible for 100 percent of the project costs.

SCHEDULE: Design will be initiated in FY 2019 and construction will occur in FY 2020-2021.



WATER MAIN DISTRIBUTION & SERVICE LINE IMPROVEMENTS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Street & Highway Main Replacements	4,000	5,000	5,000	5,000	5,000	24,000
2	Customer Rates	Spring Creek South Zone Conversion	850	750	—	—	—	1,600
1	Customer Rates	Gear, Vine, Washington Main Replacement	2,000	—	—	—	—	2,000
1	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	100	1,800	1,100	2,200	—	5,200
1	Developer Fees	South Virginia 24" Main - Kumle to Peckham	160	900	—	—	—	1,060
2	Customer Rates	North East Sparks Feeder Main Relocation	50	950	—	—	—	1,000
2	Customer Rates	Goldeneye Parkway Main & CV Tie	—	180	—	—	—	180
1	Developer Fees	Trademark 14" Main Tie	50	300	—	—	—	350
2	Customer Rates	Spanish Springs Main Replacement	1,200	—	—	—	—	1,200
2	Customer Rates	Mt. Rose Tank 1 Fire Flow Improvements	—	400	570	—	—	970
1	Developer Fees	South Truckee Meadows Capacity Improvements	350	—	—	—	—	350
2	Customer Rates / Developer Fees	Stead Golf Course Main Replacement	—	—	—	170	2,300	2,470
3	Developer Reimbursements	General Waterline Extensions	300	100	100	100	100	700
1	Developer Fees	NE Sparks Feeder Main Phase 8	—	—	50	2,050	—	2,100
1	Developer Fees	Mount Rose 5 Distribution / Pressure Improvements	400	—	—	—	—	400
1	Developer Fees	Goldenrod Main	—	—	50	1,200	—	1,250
1	Developer Fees	Boomtown Water System Improvements	2,550	—	—	—	—	2,550
1	Developer Fees	Boomtown to TMWA Connection	650	1,280	—	—	—	1,930
2	Customer Rates	Lemmon Valley Sand Yard	—	530	—	—	—	530
1	Developer Fees	Wildwood 2 PRS SCADA Control	—	—	—	100	—	100
2	Customer Rates / Developer Fees	Sullivan #1 Main Tie & PRS	—	—	—	620	—	620

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Montreux High Pressure ACP Replacment	—	—	—	—	520	520
2	Customer Rates	Galena Creek Main Crossing	—	—	—	—	40	40
2	Customer Rates	Off-River Supply Improvements - STM	—	—	—	—	50	50
2	Customer Rates	Off-River Supply Improvements - NVS Pump Station	—	—	—	—	400	400
2	Customer Rates	Somerset #6 Main Tie & PRS	—	—	—	—	280	280
1	Customer Rates	Verdi Main Extension	500	—	—	—	—	500
1	Developer Reimbursements	Verdi Elementary Main Oversizing	200	—	—	—	—	200
1	Developer Fees	Stonebrook West Main Oversizing	450	—	—	—	—	450
Subtotal Water Main Distribution Improvements			13,810	12,190	6,870	11,440	8,690	53,000



Water Main-Distribution Service Line Improvements Street & Highway Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Street & Highway Main Replacements	4,000	5,000	5,000	5,000	5,000	24,000

PROJECT DESCRIPTION: Provision is made each year for water main replacements in conjunction with repaving efforts by the City of Reno, City of Sparks, Washoe County 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 2019 budget reflects that three large projects totaling \$1.8 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.



Water Main-Distribution Service Line Improvements Spring Creek South Zone Conversion

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Spring Creek South Zone Conversion	850	750	—	—	—	1,600

PROJECT DESCRIPTION: The project involves construction of approximately 2,800 LF of various size water mains, several interties, retirement of several mains and facilities including the existing Spring Creek Tanks. New water mains include 2060 LF of 12" on Pyramid Highway and 300 LF of 8" main across Pyramid Highway at Spring Ridge.

SCHEDULE: Implementation and construction will be completed by FY 2021.



Water Main-Distribution Service Line Improvements Gear, Vine, & Washington Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Gear, Vine, Washington Main Replacement	2,000	—	—	—	—	2,000

PROJECT DESCRIPTION: This project includes replacement of approximately 2,500 linear feet of older cast iron and steel water main along Gear Street and Vine Street ahead of the City of Reno’s 2020 Neighborhood Street Rehabilitation Project. It also includes replacing approximately 2,100 linear feet of old steel water main in Washington Street. This main was identified in a 2015 main replacement prioritization report as being once of the most costly and leaky mains in the system.

SCHEDULE: Design is anticipated through summer of 2019 with the construction being completed by February 2020 ahead of the City of Reno street project.



Water Main-Distribution Service Line Improvements Booth, Sharon Way, Monroe 24" Main Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Booth, Sharon Way, Monroe 24" Main Replacements	100	1,800	1,100	2,200	—	5,200

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 was completed in 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.



Water Main-Distribution Service Line Improvements South Virginia 24" Main (Kumle to Peckham)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	South Virginia 24" Main - Kumle to Peckham	160	900	—	—	—	1,060

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: Construction is scheduled to be completed in FY 2021 subject to adjustment for actual growth or coordination with road improvements.



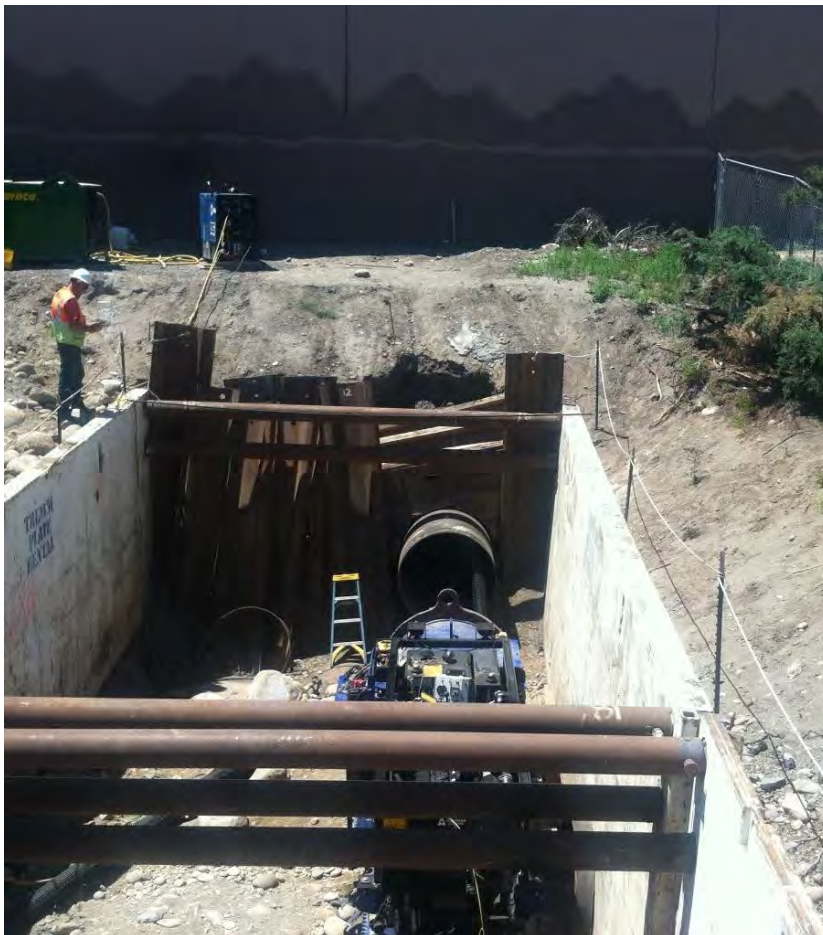
Water Main-Distribution Service Line Improvements North-East Sparks Tank Feeder Main Relocation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	North East Sparks 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 3,000 feet of the 18-inch tank feeder main out into the public right-of-way in South Los Altos Parkway.

SCHEDULE: Design is scheduled for FY 2020 and the improvements will be constructed in FY 2021.



Water Main-Distribution Service Line Improvements Goldeneye Parkway Main & CV Tie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Goldeneye Parkway Main & CV Tie	—	180	—	—	—	180

PROJECT DESCRIPTION: The project involves construction of approximately 450 LF of 8" water main with a Check Valve from the Eagle Canyon PRS to Longspur Way to provide a secondary supply to the Nightingale Regulated Zone and avoid customer outages when maintenance of the Nightingale pressure regulator station is required.

SCHEDULE: Implementation and construction will be completed in FY 2021.



Water Main-Distribution Service Line Improvements Trademark 14" Main Tie

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Trademark 14" Main Tie	50	300	—	—	—	350

PROJECT DESCRIPTION: This project involves construction of approximately 350 LF of 14" water main from Trademark to South Meadows Parkway, including crossing of an existing major drainage channel. The project will increase transmission capacity in the Double Diamond system to meet the needs of growth.

SCHEDULE: Planning and design will be completed in FY20. Construction will occur in FY's 2020 - 2021.



Water Main-Distribution Service Line Improvements

Spanish Springs Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Spanish Springs Main Replacement	1,200	—	—	—	—	1,200

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 scheduled to be completed in FY 2020.



Water Main-Distribution Service Line Improvements

Mt. Rose Tank 1 Fire Flow Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Mt. Rose Tank 1 Fire Flow Improvements	—	400	570	—	—	970

PROJECT DESCRIPTION: The project involves reconstruction of an existing PRS at Mt. Rose Tank #1, a new PRS on Blue Spruce and approximately 3100 LF of 10" water main on Blue Spruce and Douglas Fir to increase system pressure and fire flow capacity to existing customers in Galena Forest Estates. Existing fire flows are currently less than 1,000 GPM in the area.

SCHEDULE: Planning and design will be completed in FY 2021. Construction will occur in FY's 2021- 2022.



Water Main-Distribution Service Line Improvements South Truckee Meadows Capacity Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	South Truckee Meadows Capacity Improvements	350	—	—	—	—	350

PROJECT DESCRIPTION: The project consists of a 2,500 foot long extension of a 12-inch main on Offenhauser and a new SCADA controlled intertie to the Double Diamond 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 occurring.

SCHEDULE: The improvements are scheduled for construction in FY 2020.



Water Main-Distribution Service Line Improvements

Stead Golf Course Main Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Stead Golf Course Main Replacement	—	—	—	170	2,300	2,470

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 FY 2024.



Water Main-Distribution Service Line Improvements General Waterline Extensions

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Developer Reimbursements	General Waterline Extensions	300	100	100	100	100	700

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.



Water Main-Distribution Service Line Improvements North-East Sparks Feeder Main Ph. 8

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	NE Sparks Feeder Main Phase 8		—	50	2,050	—	2,100

PROJECT DESCRIPTION: The project involves construction of approximately 6400 LF of 14" water main on Satellite Drive from Vista Blvd to Sparks Blvd to increase capacity for growth in Spanish Springs and maintain adequate suction pressure at the Satellite Hills booster pump station.

SCHEDULE: Design is scheduled for FY 2022 and the improvements will be constructed in FY 2023.



Water Main-Distribution Service Line Improvements Mount Rose 5 Distribution / Pressure Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Mount Rose 5 Distribution / Pressure Improvements	400	—	—	—	—	400

PROJECT DESCRIPTION: Improvements are intended to provide off-peak conjunctive use supply. The proposed improvements are intended to be consistent with future improvements to improve peaking supply to the Mt. Rose system and will reduce pressure in the high pressure pipeline downhill of Mt. Rose Well 5. It will also increase the off-peak pumping capacity of surface water into the Mt. Rose 1 and 4 tanks to 650 gpm from 400 gpm. Future phases are intended to increase system redundancy and further reduce high pressures in the system.

SCHEDULE: Construction is scheduled for FY 2020.



Water Main-Distribution Service Line Improvements Goldenrod Main

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Goldenrod Main	—	—	50	1,200	—	1,250

PROJECT DESCRIPTION: The project involves construction of approximately 4,500 LF of 12" water main from the Tessa West Well to the intersection of Goldenrod and Mountain Meadows Lane. This project will provide additional capacity between the Arrowcreek and Mt Rose systems for Mt Rose 2 tank fills and for on-peak supply from the Mt Rose Water Treatment Plant.

SCHEDULE: Design is planned in FY 2022 and construction is planned in FY 2023.



Water Main-Distribution Service Line Improvements Boomtown Water System Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Boomtown Water System Improvements	2,550	—	—	—	—	2,550

PROJECT DESCRIPTION: If TMWA successfully acquires the Boomtown water system assets, the system will initially be operated as a stand-alone system that will be 100 percent dependent upon local groundwater resources. To insure reliable water service to existing Boomtown customers, several high priority improvements are necessary to bring the system into compliance with NAC 445A regulations and TMWA standards and to allow efficient operation and maintenance of the water facilities. The improvements consist of upgrades to three existing wells (pump to waste facilities, SCADA, new pumps, new motors, new starters and arc flash analyses), tank site improvements (grading, drainage, overflow, fencing, paving, sampling vault, SCADA) and tank access improvements (improved gravel road, improvements to the existing bridge over Steamboat Ditch).

SCHEDULE: Assuming escrow closes in March 2019, the improvements will be designed and constructed in FY 2020.



Water Main-Distribution Service Line Improvements Boomtown to TMWA Connection

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Boomtown to TMWA Connection	650	1,280	—	—	—	1,930

PROJECT DESCRIPTION: If TMWA successfully acquires the Boomtown water system assets, the system will initially be operated as a stand-alone system that will be 100 percent dependent upon local groundwater resources. Significant growth in the Boomtown area will require increased pumping of Boomtown wells. The additional groundwater pumping may result in deficiencies in water quality and quantity. To insure reliable water service to Boomtown and to protect the viability of the groundwater resource, TMWA plans to connect the Boomtown system to the TMWA system. The connection will provide an emergency backup source of supply and most importantly, an off-peak source of supply that will allow TMWA to implement conjunctive use management of surface water and groundwater resources within the Boomtown system. Assuming the Verdi Main has been extended to the Riverbelle mobile home park, the Boomtown connection consists of about 1,800 feet of 16" main, including a jack and bore crossing of the railroad tracks and a new booster pump station.

SCHEDULE: Assuming the Verdi Main is extended to Riverbelle in FY 2019 and that a suitable property can be acquired for the pump station, the construction of the facilities would occur in FY 2020-21 pending railroad permitting.



Water Main-Distribution Service Line Improvements Lemmon Valley Sand Yard

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Lemmon Valley Sand Yard	—	530	—	—	—	530

PROJECT DESCRIPTION: With continued growth in the area including the acquisition of the Lemmon Valley water system formerly owned by Washoe County, it is very inefficient for TMWA crews to respond to a main break or other major issue in the North Valleys and have to either return to the Truckee Meadows or call out a second crew to transport materials to the site to complete the repairs. To increase the efficiency of maintenance operations in the North Valleys, TMWA plans to improve the balance of the 1.25 acre lot surrounding Lemmon Valley Well #6 (near the intersection of Lemmon Drive and Arkansas Drive) to store the common materials such as sand and base rock normally used in water system maintenance. The improvements consist of import, grading, fencing, drainage, material storage bins, lighting and landscaping. The project has been designed and the building permit has been acquired.

SCHEDULE: Assuming flood water recede sufficiently, the project would be constructed in FY 2021.



Water Main-Distribution Service Line Improvements Wildwood 2 PRS SCADA Control

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Wildwood 2 PRS SCADA Control	—	—	—	100	—	100

PROJECT DESCRIPTION: The project involves the addition of SCADA control to an existing pressure regulator system on Wildwood Drive to increase capacity for Mt Rose Tank 2 filling and the proposed Ascente residential development.

SCHEDULE: This project is scheduled for completing in FY 2023.



Water Main-Distribution Service Line Improvements

Sullivan #1 Main Tie & PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Sullivan #1 Main Tie & PRS	—	—	—	620	—	620

PROJECT DESCRIPTION: The project involves construction of about 1,300 LF of 10” main on El Rancho and a new PRS to supply the Sullivan #1 zone. The project timeline assumes that the proposed Sun Valley #2 Tank and Sullivan #2 pump station are in service.

SCHEDULE: Implementation and construction will be completed in FY 2023.



Water Main-Distribution Service Line Improvements Montreux High Pressure ACP Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Montreux High Pressure ACP Replacment	—	—	—	—	520	520

PROJECT DESCRIPTION: The project involves replacement of approximately 6500 LF of existing 10" transite water main between Mt Rose Well #5 and Joy Lake Road. The existing ACP pipe installed in the 1970's is currently operated at pressures between 120-250 psi.

SCHEDULE: Implementation will occur in FY 2024.



Water Main-Distribution Service Line Improvements Galena Creek Main Crossing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Galena Creek Main Crossing	—	—	—	—	40	40

PROJECT DESCRIPTION: The project involves construction of approximately 2,200 LF of 10" ductile iron water main between Breithorn Cir. and Piney Creek Parklet including a crossing of Galena Creek. The existing 10" ACP pipe that crosses Galena Creek is currently the only tie between well sources and storage tanks.

SCHEDULE: Design will occur in FY 2024.



Water Main-Distribution Service Line Improvements Off-River Supply Improvements - South Truckee Meadows

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Off-River Supply Improvements - STM	—	—	—	—	50	50

PROJECT DESCRIPTION: The project involves construction of four SCADA controlled, pressure reducing bypass stations in strategic locations in the South Truckee Meadows to allow excess well capacity and excess Mt. Rose Water Treatment Plant capacity to be provided to the Highland gravity zone in case of loss supply from the Truckee River. Two additional bypasses (Arrowcreek BPS & future Veteran's BPS) will be constructed separately under the budget for those facilities.

SCHEDULE: Planning and design will occur in FY 2024.



Water Main-Distribution Service Line Improvements

Off-River Supply Improvements - North Virginia-Stead Pump Station

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Off-River Supply Improvements - NVS Pump Station	—	—	—	—	400	400

PROJECT DESCRIPTION: The project involves construction of a SCADA controlled, pressure reducing bypass station at the North Virginia-Stead booster pump station to allow excess Fish Springs well capacity to be provided to the Highland gravity zone in case of loss supply from the Truckee River.

SCHEDULE: Project implementation and construction will occur in FY 2024.



Water Main-Distribution Service Line Improvements

Somerset #6 Main Tie & PRS

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Somerset #6 Main Tie & PRS	—	—	—	—	280	280

PROJECT DESCRIPTION: The project involves construction of about 600 LF of 10" main within improved paved pathway and a new pressure regulator station to provide a secondary source (looping) to Somerset Village 6.

SCHEDULE: Project implementation and construction will occur in FY24.



Water Main-Distribution Service Line Improvements

Verdi Main Extension

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Verdi Main Extension	500	—	—	—	—	500

PROJECT DESCRIPTION: The project involves construction of about 4,900 feet of 18-inch transmission main from the West Meadows subdivision to the Riverbelle MHP and further west on US 40 to the Verdi Mutual Water Company. The project involves a river crossing utilizing an existing casing installed when the Lawton Sewer Interceptor project was constructed. The project is also the first leg in completing a tie to the Boomtown water system. The project has been approved for a DWSRF principle forgiveness loan.

SCHEDULE: The project is scheduled for construction in FY 2019 and may extend into FY 2020 depending on weather delays and river flows.



Water Main-Distribution Service Line Improvements Verdi Elementary Main Oversizing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Reimbursements	Verdi Elementary Main Oversizing	200	—	—	—	—	200

PROJECT DESCRIPTION: This project involves expenditures to oversize approximately 1900 feet of 10-inch water main to be extended from the end of TMWA’s current Verdi Water Main Extension project to the Verdi Elementary school. Verdi Elementary is currently served from groundwater that must be treated for arsenic. The Washoe County School District has obtained a DWSRF Loan to finance a portion of the project.

SCHEDULE: Assuming that TMWA completes construction of the Verdi Main Extension in FY 2019 or early FY 2020, the oversizing expenditures will occur in FY 2020.



Water Main-Distribution Service Line Improvements Stonebrook West Main Oversizing

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Stonebrook West Main Oversizing	450	—	—	—	—	450

PROJECT DESCRIPTION: The project involves oversizing of about 7000 LF of 12" water main on Wingfield Hills Rd and Tierra Del Sol Prkwy to 16" diameter pipe as part of an Applicant-Installed new business project (Stonebrook West, PLL 19-6695 Annex.)

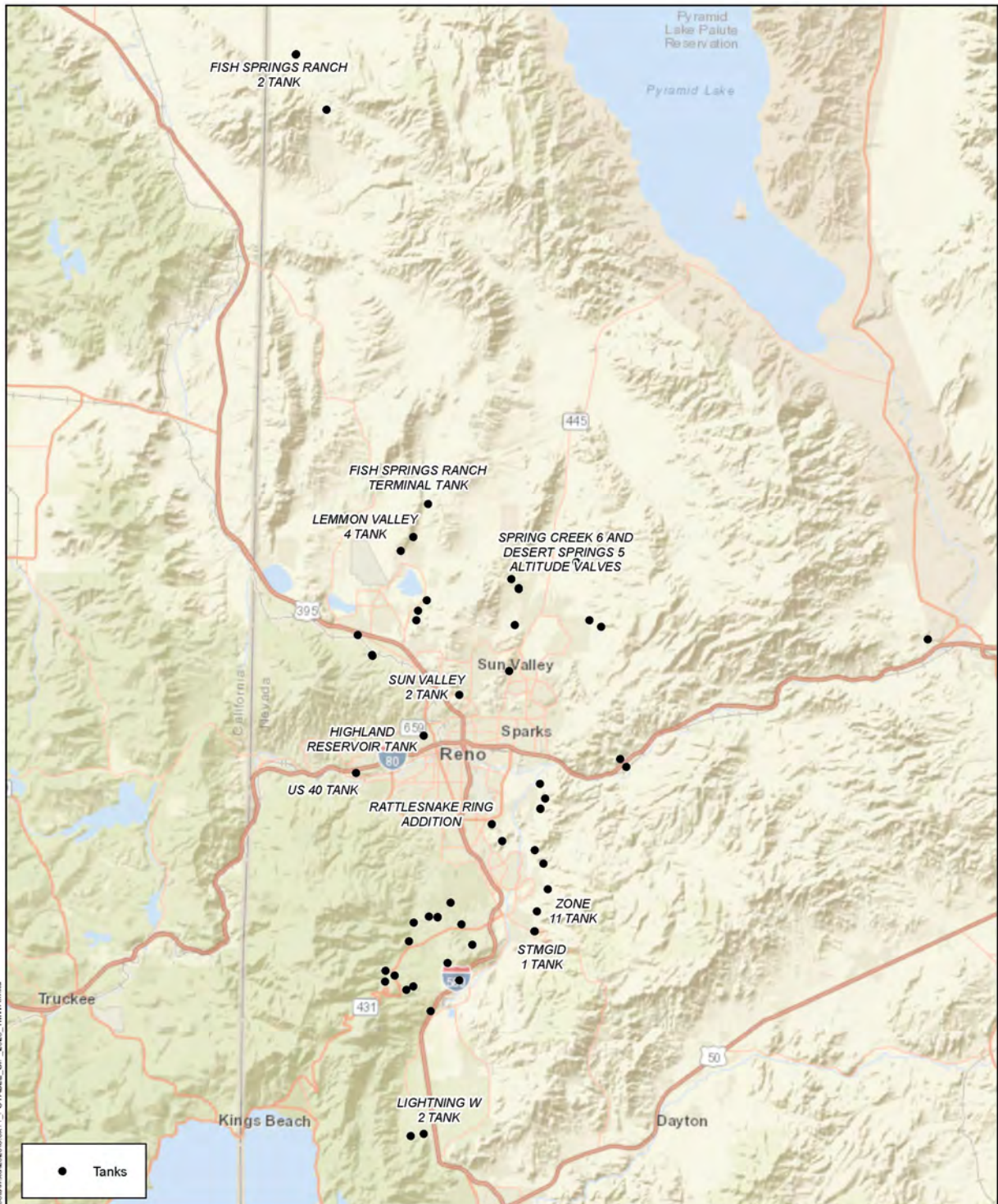
SCHEDULE: This project will be completed by FY 2020.





POTABLE WATER STORAGE IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	Sun Valley Tank #2	420	2,980	—	—	—	3,400
1	Developer Fees	Rattlesnake Ring Addition	100	800	—	—	—	900
2	Developer Fees	Fish Springs Ranch Tank #2	—	—	—	—	160	160
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	900	900	900	900	900	4,500
2	Customer Rates / Developer Fees	Highland Reservoir Tank	—	100	5,000	700	—	5,800
1	Customer Rates / Developer Fees	STMGID Tank East Zone 11 Tank	3,075	—	—	—	—	3,075
1	Customer Rates / Grant	Tank Access Road Flood Repairs (FEMA)	350	—	—	—	—	350
1	Customer Rates	Lightning W Tank #2	360	—	—	—	—	360
1	Customer Rates / Developer Fees	US 40 Tank & Feeder Main	—	—	170	300	2,730	3,200
2	Customer Rates / Developer Fees	Spanish Springs Altitude Valves	—	—	—	300	—	300
Subtotal Storage Improvements			5,205	4,780	6,070	2,200	3,790	22,045

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



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 <p>TRUCKEE MEADOWS WATER AUTHORITY <i>Quality. Delivered.</i></p>	<p>FY 2020-2024 CIP POTABLE WATER STORAGE IMPROVEMENTS SUMMARY</p>		DATE: 4/11/2019	 <p>NORTH</p> <p>NAD 83 NEVADA STATE PLANE WEST FEET</p>
			MAP BY: JK	
REQUESTED BY: SF				
SCALE: 1 in = 7 miles				

Potable Water Storage Improvements Sun Valley #2 Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	Sun Valley Tank #2	420	2,980	—	—	—	3,400

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 2021 subject to successful acquisition of a suitable tank site which is elevation sensitive.



Potable Water Storage Improvements Rattlesnake Ring Addition

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Developer Fees	Rattlesnake Ring Addition	100	800	—	—	—	900

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 scheduled for construction in FY 2021.



Potable Water Storage Improvements Fish Springs Ranch #2 Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	Fish Springs Ranch Tank #2	—	—	—	—	160	160

PROJECT DESCRIPTION: Ultimately, a second 2.5 MG 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 2024 with construction to follow in FY 2025. The actual schedule will be dependent upon the rate of growth in the North Valleys.



Potable Water Storage Improvements

Storage Tank Recoats; Access; Drainage Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Storage Tank Recoats; Access; Drainage Improvements	900	900	900	900	900	4,500

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.



Potable Water Storage Improvements Highland Reservoir Tank

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Highland Reservoir Tank	—	100	5,000	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 the tank may need to be a buried pre-stressed concrete tank, which is reflected in the project budget. 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.



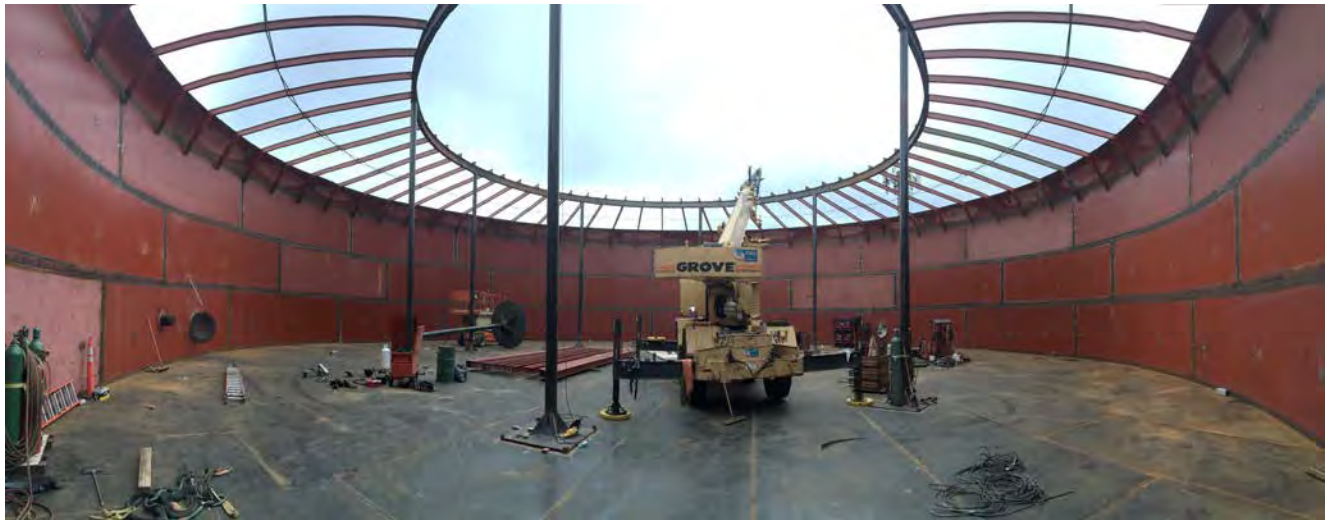
Potable Water Storage Improvements STMGID Tank East (Zone 11 Tank)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	STMGID Tank East Zone 11 Tank	3,075	—	—	—	—	3,075

PROJECT DESCRIPTION: The project involves construction of a 3.7 MG above ground welded steel storage tank in the South Truckee Meadows area off of Geiger Grade 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. The tank will replace an existing 0.75 MG tank providing a net increase in storage of about 3 MG.

SCHEDULE: The project is currently scheduled for construction in FY 2020, subject to acquisition of the Special Use Permit and Bureau of Land Management (BLM) permitting.



Potable Water Storage Improvements Tank Access Road Flood Repairs (FEMA)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Grant	Tank Access Road Flood Repairs (FEMA)	350	—	—	—	—	350

PROJECT DESCRIPTION: Repair of flood damage resulting from heavy snow and rain over the 2016/2017 winter to twelve tank access roads. Repairs include earthwork, grading, cleaning of culverts, and ditch repairs. Also included is mitigation work to protect the roads from future damage.

SCHEDULE: Repair and mitigation work will be conducted in FY 2020.



Potable Water Storage Improvements Lightning W Tank 2

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Lightning W Tank #2	360	—	—	—	—	360

PROJECT DESCRIPTION: Construct a new 0.25 MG steel tank to provide redundancy, system reliability, and alleviate Washoe County Health District concerns related to service in the satellite systems.

SCHEDULE: This project will be completed in FY 2020.



Potable Water Storage Improvements US 40 Tank & Feeder Main

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates / Developer Fees	US 40 Tank & Feeder Main	—	—	170	300	2,730	3,200

PROJECT DESCRIPTION: The project involves construction of two 800,000 gallon steel tanks with site improvements, utilities, drain line and access road including about 2,100 LF of 20" feeder main. The project will improve reliability and hydraulic performance in the zone which experiences a lot of surge issues due to cycling of the Mae Anne pump train and the closed system on the Mogul end. This situation is only expected to worsen when pumping to Verdi begins.

SCHEDULE: The project is currently scheduled for design in FY 2022 - 2023 and construction in FY 2023 - 2024.



Potable Water Storage Improvements

Spanish Springs Altitude Valves

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates / Developer Fees	Spanish Springs Altitude Valves	—	—	—	300	—	300

PROJECT DESCRIPTION: The project involves the construction of altitude valves in underground vaults at the Desert Springs Tank #3 and at Spring Creek Tank #6. The altitude valves will keep the existing tanks from overflowing when well recharge operations are conducted in Spanish Springs Valley.

SCHEDULE: Implementation and construction will occur in FY 2023.



HYDROELECTRIC IMPROVEMENTS



Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Forebay, Diversion, & Canal Improvements	100	100	100	100	100	500
1	Customer Rates	Flume Rehabilitation	—	350	350	—	—	700
3	Customer Rates	Hydro Plant Generator Rewinds	650	650	650	—	—	1,950
1	Customer Rates	Washoe Flume Reconstruction	250	2,200	—	—	—	2,450
3	Customer Rates	Orr Ditch Hydro Facility	50	—	—	—	—	50
Subtotal Hydroelectric Improvements			1,050	3,300	1,100	100	100	5,650

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



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 <p>TRUCKEE MEADOWS WATER AUTHORITY <i>Quality. Delivered.</i></p>	<p align="center">FY 2020-2024 CIP HYDROELECTRIC IMPROVEMENTS SUMMARY</p>	DATE: 4/11/2019	
		MAP BY: JK	
		REQUESTED BY: SF	
		SCALE: 1 in = 1 miles	

Hydroelectric Improvements

Forebay, Diversion, and Canal Improvements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Forebay, Diversion, & Canal Improvements	100	100	100	100	100	500

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.



Hydroelectric Improvements Flume Rehabilitation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Flume Rehabilitation	—	350	350	—	—	700

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.



Hydroelectric Improvements

Hydro Plant Generator Rewinds

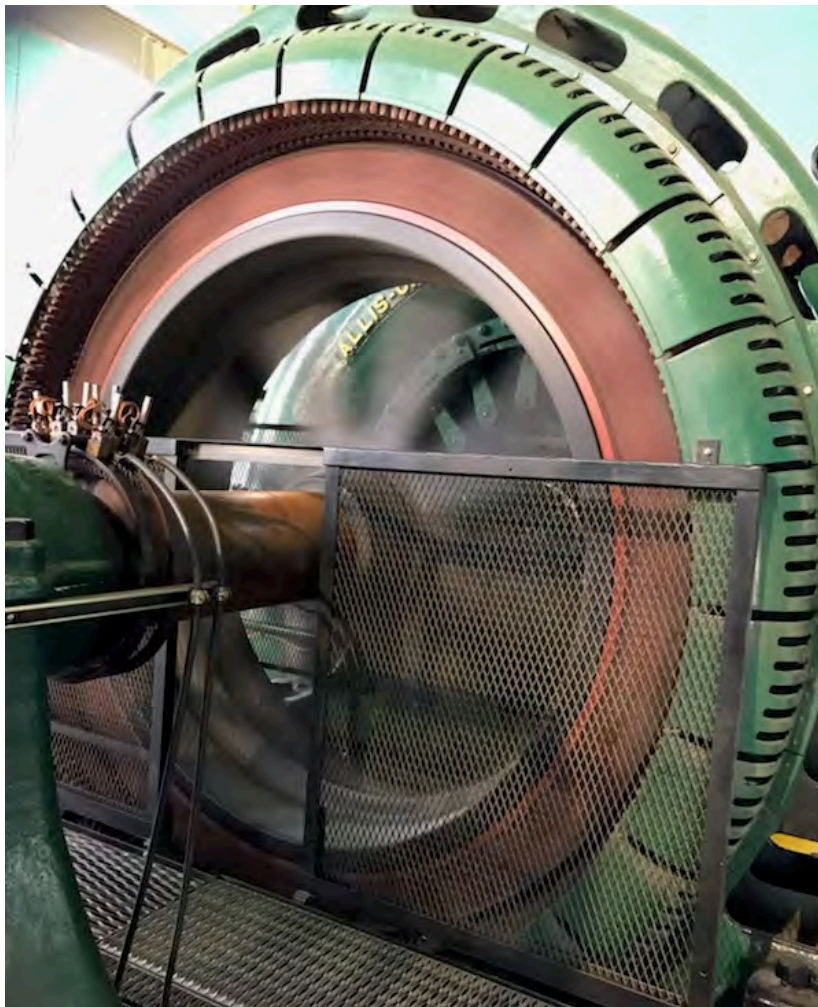
FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Hydro Plant Generator Rewinds	650	650	650	—	—	1,950

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 2020, 2021 and 2022.

SCHEDULE: Washoe Hydro Plant generators FY 2020 and FY 2021, Fleish Hydro Plant generator FY 2022. This schedule may be adjusted depending on river flows and generator condition evaluation.



Hydroelectric Improvements Washoe Flume Reconstruction

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Washoe Flume Reconstruction	250	2,200	—	—	—	2,450

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. Due to limited access of this project a larger section (84 box sections) of flume is scheduled to be replaced. This project requires us to use the flume alignment as access. We will demolish the old flume and build ourselves backwards out of the alignment. This section of flume is more than 30 years old.

SCHEDULE: This project is projected for the Fall of 2021 when river flows are dropping off for the winter months, this will minimize the loss of generation.



Hydroelectric Improvements Orr Ditch Hydro Facility

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Orr Ditch Hydro Facility	50	—	—	—	—	50

PROJECT DESCRIPTION: During periods of low demand, the Highland Canal has available capacity to bring water to the Chalk Bluff Facility. An existing pipeline brings water from the river via the Orr Ditch Pump Station up to Chalk Bluff. A feasibility and financial study will be completed to analyze the possibility of using existing infrastructure with the addition of power generation equipment to produce power for direct use at the Chalk Bluff Water Treatment Facility.

SCHEDULE: A feasibility study will be completed in FY 2020.

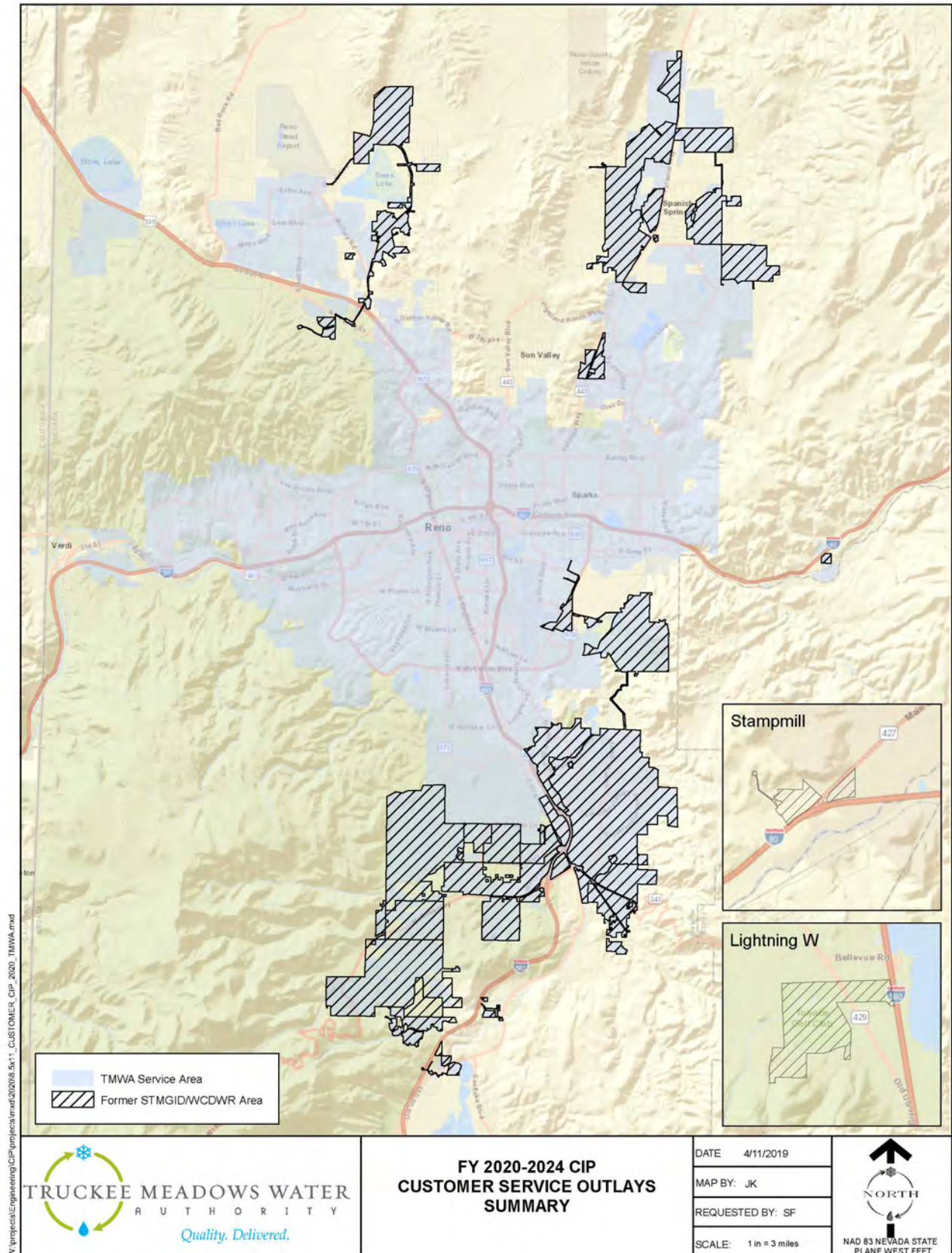


CUSTOMER SERVICE OUTLAYS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Meter Reading Equipment	100	—	60	—	75	235
2	Developer Fees	New Business Meters	175	100	100	100	100	575
1	Customer Rates	Mueller Pit Replacements former Washoe County	125	125	125	125	125	625
2	Customer Rates	Galvanized / Poly Service Line Replacements	250	250	250	250	250	1,250
1	Customer Rates	AMI Automated Meter Infrastructure	1,750	2,100	2,100	2,100	2,100	10,150
Subtotal Customer Service			2,400	2,575	2,635	2,575	2,650	12,835

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



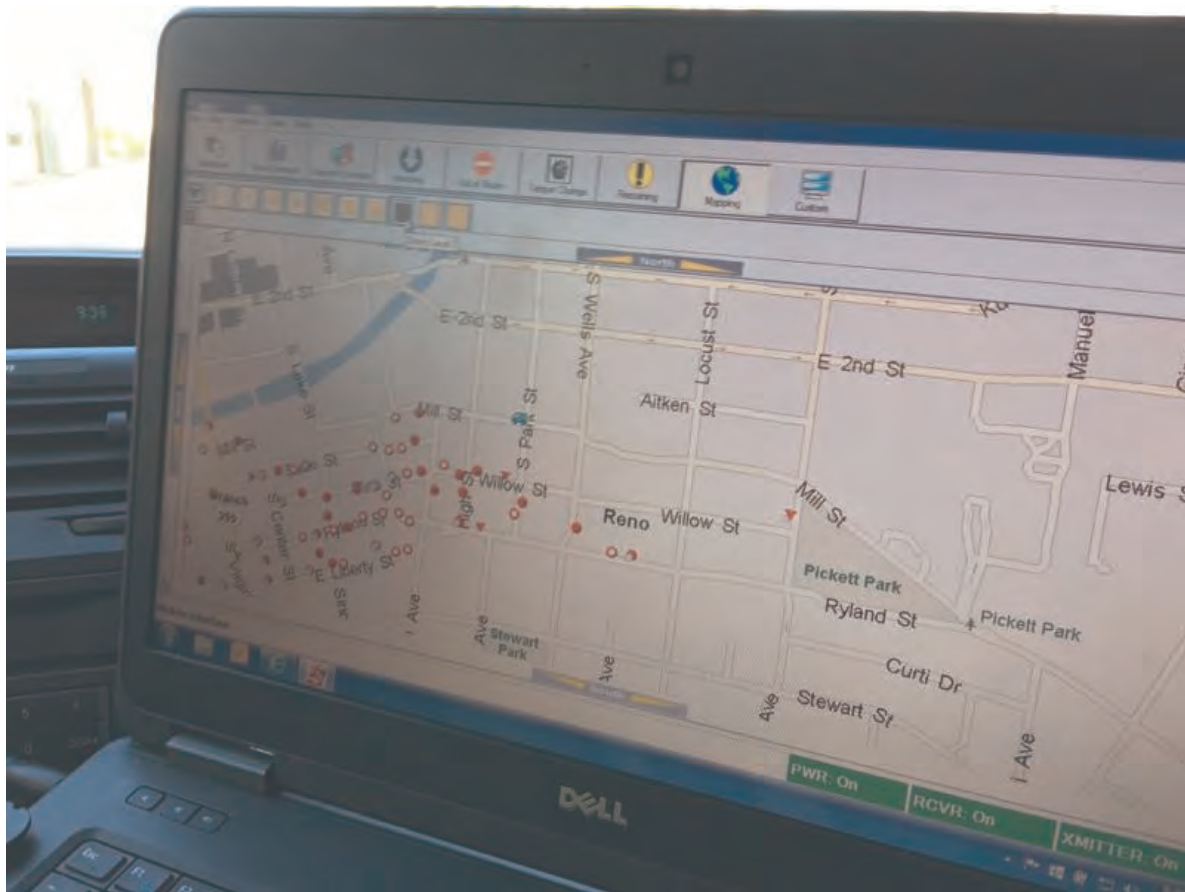
Customer Service Outlays Meter Reading Equipment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Meter Reading Equipment	100	—	60	—	75	235

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.



Customer Service Outlays

New Business Meters

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Developer Fees	New Business Meters	175	100	100	100	100	575

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.



Customer Service Outlays

Mueller Pit Replacements Former Washoe County

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	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.



Customer Service Outlays

Galvanized / Poly Service Line Replacements

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Galvanized / Poly Service Line Replacements	250	250	250	250	250	1,250

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.

Customer Service Outlays

AMI Automated Meter Infrastructure

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	AMI Automated Meter Infrastructure	1,750	2,100	2,100	2,100	2,100	10,150

PROJECT DESCRIPTION: TMWA utilizes multiple meter reading systems in which the transmitters attached to the meters send a signal out to be collected by data collectors. We currently are utilizing two separate systems to collect this data. TMWA utilized a drive-by data collection system and Washoe County used a radio read system. The technology in these systems have improved vastly over the last couple of years and we are currently analyzing both systems, with the goal to move to one system. We are currently using a consultant to assist TMWA in the move to one remote reading data collection system.

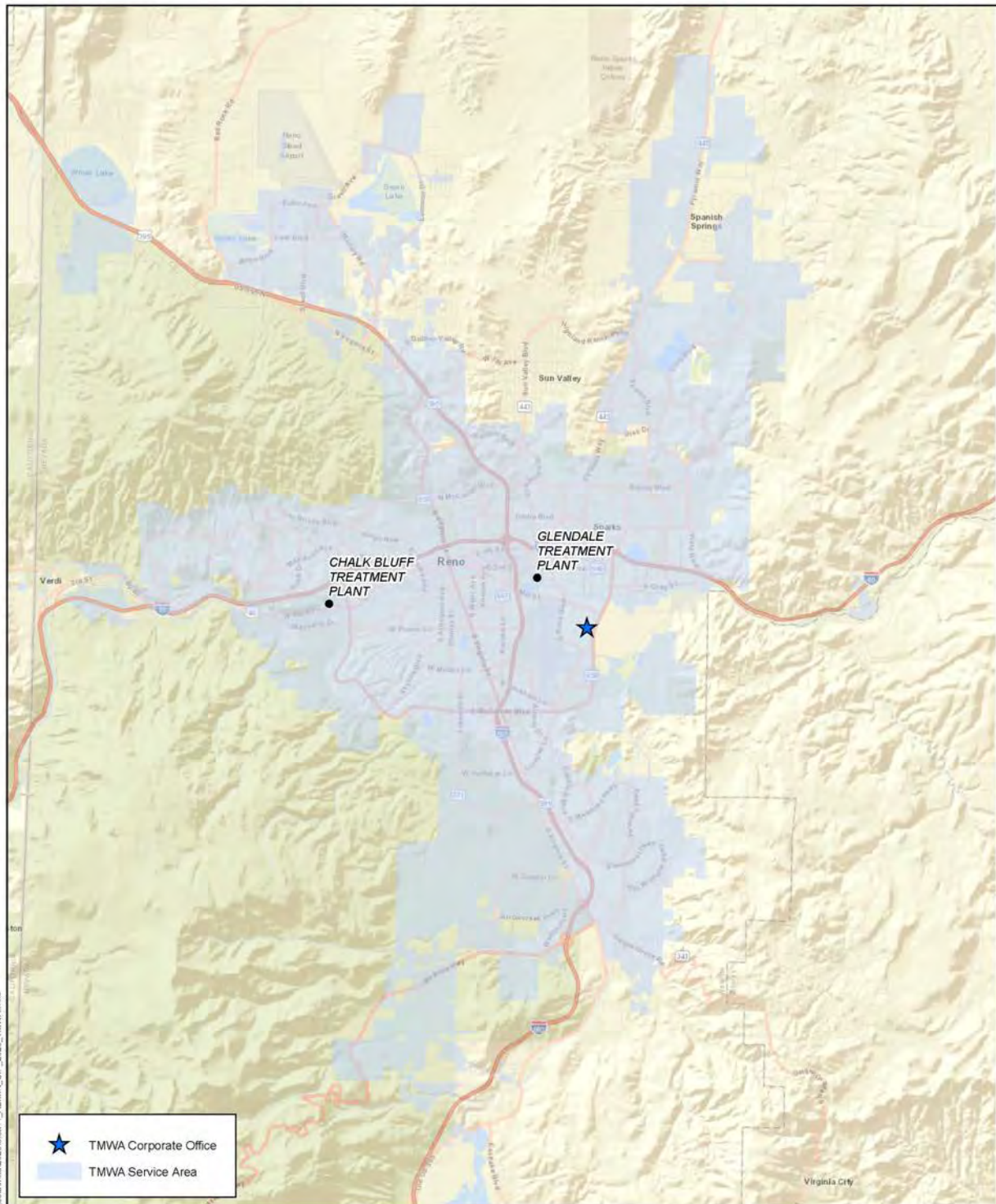
SCHEDULE: Once identified this project would be staged and implemented over the next 4-5 years, the equipment to be replaced or upgraded in many instances is already scheduled for replacement.

ADMINISTRATIVE OUTLAYS

Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	GIS / GPS System Mapping Equipment	60	—	20	—	20	100
2	Customer Rates	IT Server Hardware	370	180	30	45	30	655
2	Customer Rates	IT Network Security Upgrades	30	45	160	70	10	315
2	Customer Rates	IT Physical Access Security Upgrades	60	60	60	60	60	300
2	Customer Rates	Printer / Scanner Replacement	40	40	50	—	100	230
1	Customer Rates	TMWA Refueling Facility	500	—	—	—	—	500
3	Customer Rates	Crew Trucks / Vehicles	585	650	750	750	850	3,585
1	Customer Rates	Emergency Response Projects	150	150	150	150	150	750
1	Customer Rates	CIS System Replacement	1,400	600	—	—	—	2,000
1	Customer Rates	Emergency Operations Annex Design / Construction	—	—	250	250	1,500	2,000
2	Customer Rates	System Wide Asphalt Rehabilitation	200	200	200	200	200	1,000
1	Customer Rates	Physical Access Control System Upgrade	75	200	—	—	—	275
Subtotal Administrative Outlays			3,470	2,125	1,670	1,525	2,920	11,710

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



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FY 2020-2024 CIP ADMINISTRATIVE OUTLAYS SUMMARY

DATE	4/11/2019
MAP BY:	JK
REQUESTED BY:	SF
SCALE:	1 in = 3 miles



Administrative Outlays

GIS/GPS System Mapping Equipment

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	GIS / GPS System Mapping Equipment	60	—	20	—	20	100

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 purchased as needed.



Administrative Outlays

IT Server Hardware

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	IT Server Hardware	370	180	30	45	30	655

PROJECT DESCRIPTION: TMWA currently has over 50 physical servers and 130 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 would be determined on an as needed basis.



Administrative Outlays

IT Network Security Upgrades

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	IT Network Security Upgrades	30	45	160	70	10	315

PROJECT DESCRIPTION: As a leading water purveyor for a major metropolitan area, TMWA is reliant on the internet for employee productivity enhancement and providing valuable customer information and outreach. Such dependency on the internet also carries a significant degree of risk, as it makes TMWA a major target for external security threats looming within globalized networks. To offset this risk and combat network threats, a variety of security specific hardware and software solutions are used, weaving them into a layered deployment strategy called Defense in Depth. In order to continually evolve and reinforce this Defense in Depth strategy and effectively fight new unforeseen threats, TMWA must continually acquire new security platforms that adapt to the continually changing security landscape.

SCHEDULE: Spending occurs only on an as needed basis.



Administrative Outlays

IT Physical Security Upgrades

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	IT Physical Access Security Upgrades	60	60	60	60	60	300

PROJECT DESCRIPTION: Security measures that are designed to deny unauthorized access to facilities, equipment and resources to protect personnel from damage or harm such as theft or attacks. Physical security involves the use of multiple layers of interdependent systems which can include surveillance, security guards, protective barriers, locks and other techniques.

SCHEDULE: Equipment is replaced and/or purchased as needed.



Administrative Outlays

Printer / Scanner Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	Printer / Scanner Replacement	40	40	50	—	100	230

PROJECT DESCRIPTION: TMWA currently has variety of printers and scanners that support TMWA’s daily business operations. All printers 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 printer/scanner performance and business needs and can option a strategy of warranty extension, if cost effective, rather than outright replacement.

SCHEDULE: Equipment is replaced and/or purchased as needed.



Administrative Outlays

TMWA Refueling Facility

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	TMWA Refueling Facility	500	—	—	—	—	500

PROJECT DESCRIPTION: Design and construct an onsite refueling facility located at Corporate TMW A. Project includes a three phased approach accomplishing feasibility study, design and construction. Facility will include an approximate 18,000 gallon tank comprised of 11K gallons of unleaded fuel and 7K gallons on diesel all within a skid mounted tank with 4 fill points. Area will be housed beneath a canopy with lighting and security cameras.

SCHEDULE: This project is scheduled for construction in FY 2020.



Administrative Outlays Crew Trucks/Vehicles

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
3	Customer Rates	Crew Trucks / Vehicles	585	650	750	750	850	3,585

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.



Administrative Outlays

Emergency Response Projects

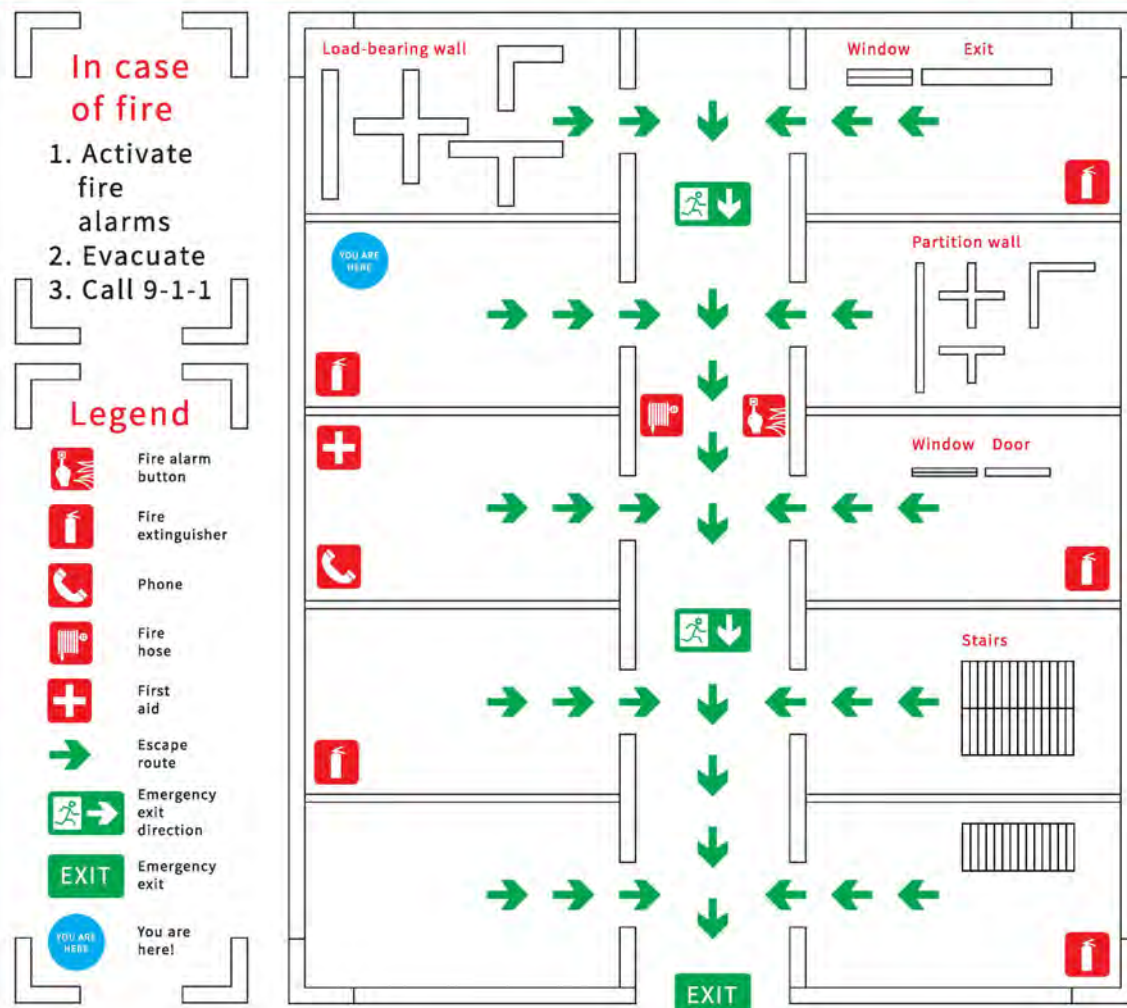
FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Emergency Response Projects	150	150	150	150	150	750

PROJECT DESCRIPTION: Various ongoing improvements to security infrastructure are required to protect TMWA facilities. 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 completed on a review of priorities each year.

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



Administrative Outlays


CIS System Replacement

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	CIS System Replacement	1,400	600	—	—	—	2,000

PROJECT DESCRIPTION: Software selection consulting and purchase of new Customer Information (billing) system, which will also include a customer portal for water usage information and bill payment.

SCHEDULE: Project implementation will begin in FY 2020.



TRUCKEE MEADOWS WATER AUTHORITY
www.tmwa.com

John Doe
Service Address:
123 Corporate Drive
RENO, NV 89502

Page 1
Account No. 00000001
Billing Date 03/21/18
Next Meter Read Date 04/17/18

Previous Statement Balance	Payments	Balance Forward	Additional Activity	New Water Charges	NEW Charges Past Due On	New Balance
		(=)	(+ or -)	(+)		(=)
\$24.11	\$24.11 CR	\$0.00	\$0.00	\$26.00	04/11/18	\$26.00

If "Balance Forward" is not a credit, this amount may be past due. Please pay immediately to avoid collection activity.

Previous Statement Balance \$24.11

Payments

Payment - THANK YOU \$24.11 CR

Total Payments **\$24.11 CR**

Balance Forward

Total Balance Forward **\$0.00**

New Water Charges

Water Charges (see detail on back) \$24.41

Regional Water Mgmt Fee - 1.5% \$0.37

Right of Way Toll-Reno - 5% \$1.22

Total New Water Charges **\$26.00**

New Balance **\$26.00**

Have a new phone number? Please update your account contact number in case we have an emergency and need to contact you. Log into your account at www.tmwa.com or call us at (775) 834-8080.

Customer Service
775-834-8080
Monday - Friday
7:30 a.m. - 5:30 p.m.

Payment Options
Please visit www.tmwa.com
or call 775-834-8080.

Main Office and Payment Location
1355 Capital Blvd., Reno, NV 89502
Monday - Friday
8:00 a.m. - 5:00 p.m.

Please return this portion with your payment to ensure proper credit to your account.
Please write your account number on your check
and make your check payable to TMWA. Thank you!



Account No. 00000001 Amount Due: \$26.00
Past Due On: 04/11/18 Amount Enclosed: \$ _____

Truckee Meadows Water Authority
PO Box 70002
Prescott, AZ 86304-7002

John Doe
123 Corporate Drive
RENO, NV 89502

Administrative Outlays

Emergency Operations Annex-Design / Construction

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Emergency Operations Annex Design / Construction	—	—	250	250	1,500	2,000

PROJECT DESCRIPTION: TMWA is currently in the planning and conceptual design phase for a Primary Emergency Operations Center (EOC) including 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.

SCHEDULE: DR improvements were completed in FY 2018. FY 2019 Project 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. Design and permitting to be completed in FY 2022/23. EOC construction planned for FY 2024.



Administrative Outlays

System Wide Asphalt Rehabilitation

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Customer Rates	System Wide Asphalt Rehabilitation	200	200	200	200	200	1,000

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.



Administrative Outlays

Physical Access Control System Upgrade

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Customer Rates	Physical Access Control System Upgrade	75	200	—	—	—	275

PROJECT DESCRIPTION: Replacement of legacy readers and employee cards with multi-frequency readers and smart cards to address several vulnerabilities and increase the physical security of various TMW A sites.

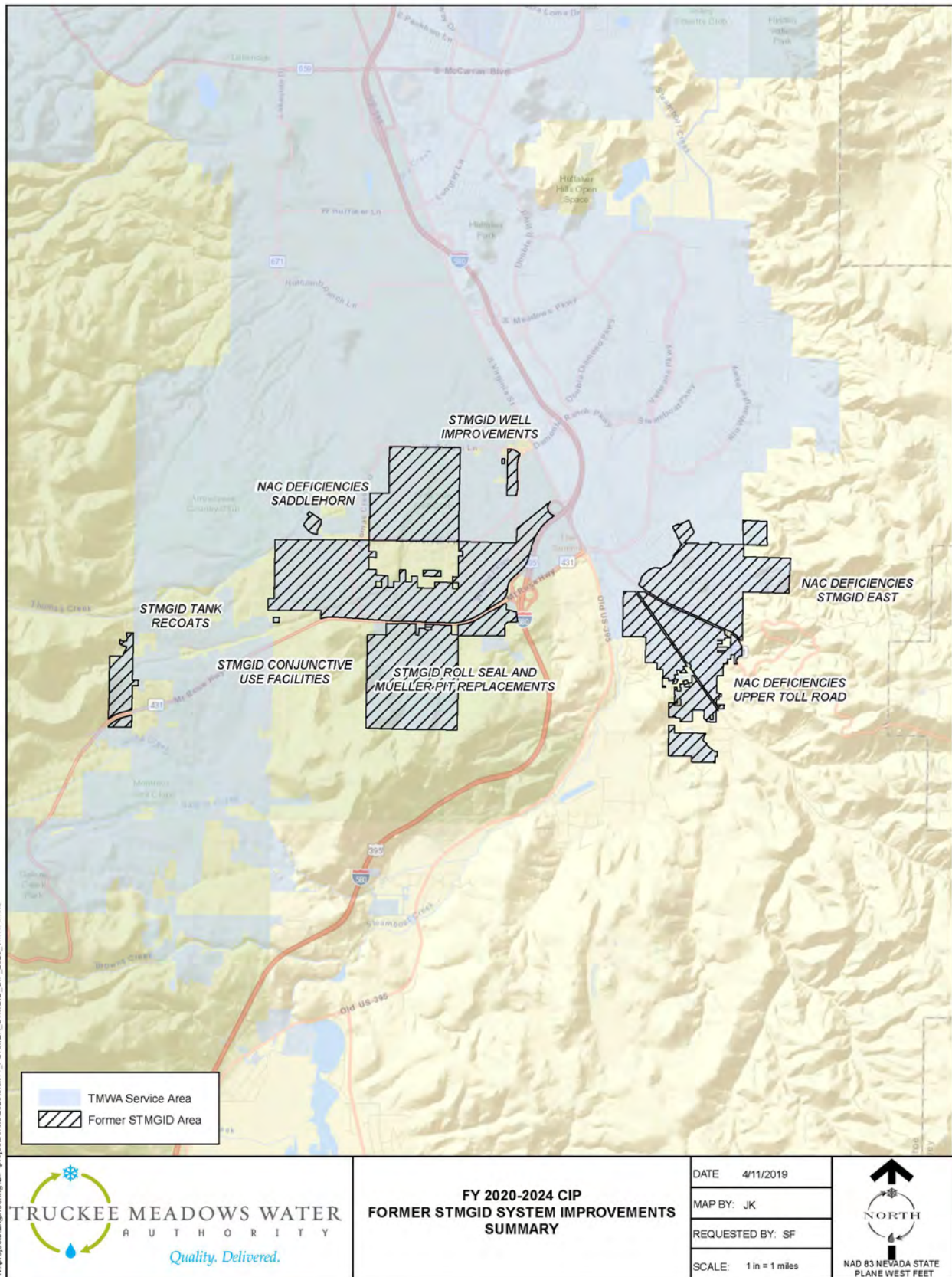
SCHEDULE: Planning and design is scheduled for FY 2020. Construction is scheduled for FY 2021.



FORMER STMGID SYSTEM IMPROVEMENTS Summary

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID Well Bypass & Chlorine Room Improvements Phase 2	350	—	—	—	—	350
2	Reserve	STMGID Well Fix & Finish	150	150	150	150	150	750
1	Reserve	STMGID Conjunctive Use Facilities	1,500	600	—	—	—	2,100
1	Reserve	STMGID Tank Recoats	—	220	—	300	—	520
1	Reserve	STMGID Mueller Pit Replacements	50	50	—	—	—	100
1	Reserve	STMGID NAC Deficiencies - Saddlehorn, Upper Toll, STMGID East	360	1,653	350	—	—	2,363
1	Reserve	STMGID NAC Deficiencies Phase 2 - Sioux Trail, Geiger Grade, Westwind Cr.	360	347	—	—	—	707
Subtotal STMGID System Improvements			2,770	3,020	500	450	150	6,890

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)

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID Well Bypass & Chlorine Room Improvements Phase 2	350	—	—	—	—	350

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.



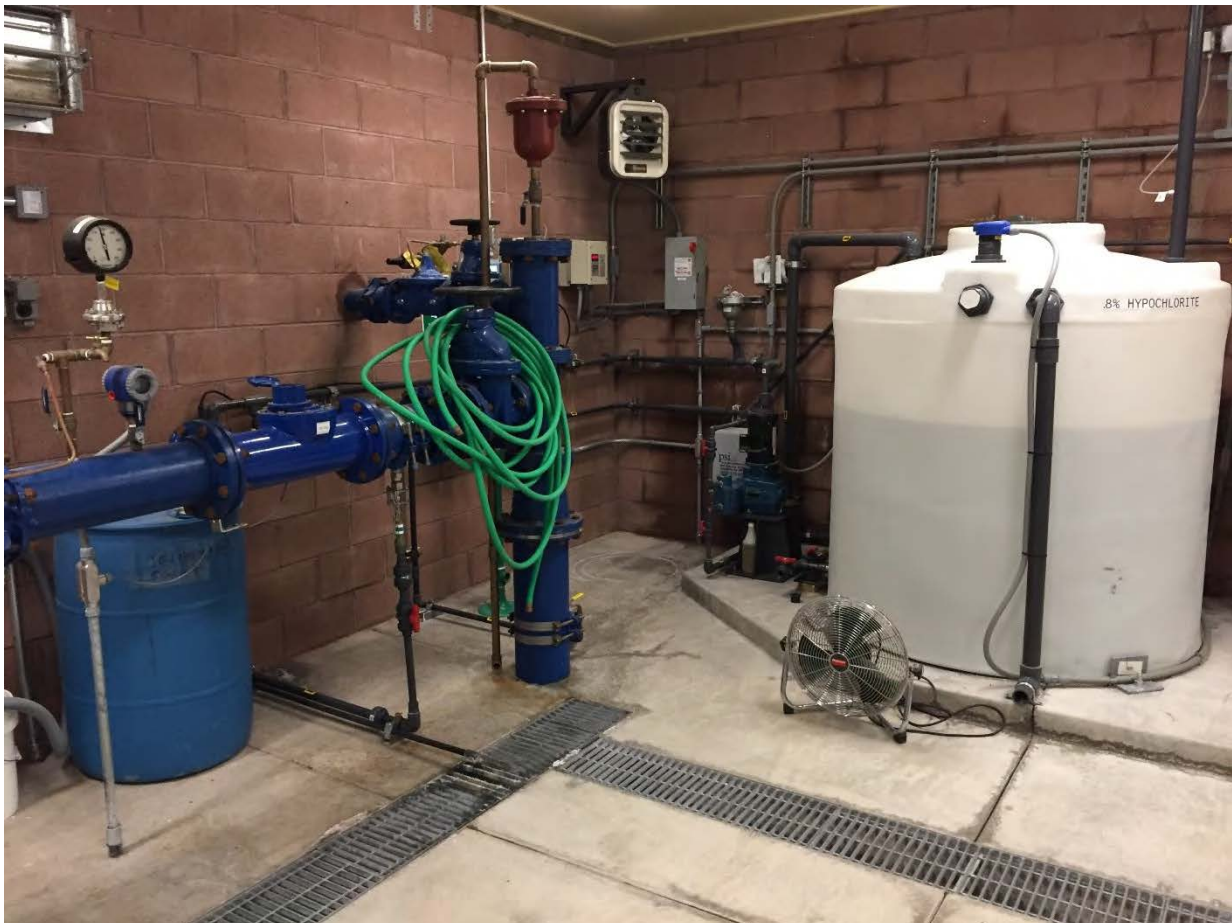
Ground Water Supply Improvements STMGID Well Fix & Finish

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
2	Reserve	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.



Water Main-Distribution & Service Line Improvements

STMGID Conjunctive Use Facilities

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID Conjunctive Use Facilities	1,500	600	—	—	—	2,100

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 which will be allocated to new development. The facilities will provide off-peak supply which will allow TMWA to implement conjunctive use in the STMGID West system.

SCHEDULE: Construction of the pipeline was completed in FY 2019 and the booster station design/construction is scheduled to begin in FY 2020 and completed in FY 2021.



Potable Water Storage Improvements STMGID Tank Recoats

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID Tank Recoats	—	220	—	300	—	520

PROJECT DESCRIPTION: The former STMGID system included a total of seven water 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.



Customer Service Outlays

STMGID Mueller Pit Replacements Former

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID Mueller Pit Replacements	50	50	—	—	—	100

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.



Distribution System Pressure Improvements NAC Deficiencies-Saddlehorn, Upper Toll Road, STMGID East

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID NAC Deficiencies - Saddlehorn, Upper Toll, STMGID East	360	1,653	350	—	—	2,363

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 new pressure zone on upper Toll Road will be constructed in FY 2021 subject to acquisition of the tank site property which may be private or on BLM property.



Distribution System Pressure Improvements

NAC Deficiencies Phase 2 - Sioux Trail, Geiger Grade, Westwind Circle

FUNDING TIMELINE:

Priority	Funding Source	Description	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	CIP Total
1	Reserve	STMGID NAC Deficiencies Phase 2 - Sioux Trail, Geiger Grade, Westwind Cr.	360	347	—	—	—	707

PROJECT DESCRIPTION: Sioux Trail Improvements - Replace existing main with ~204-400 LF of 8" diameter and ~377-410 LF of 10" diameter Geiger Grade Hydrant Improvements - Replace existing main with ~250 LF of 10" diameter Westwind Circle Improvements - Replace existing main with ~1150 LF of 8" diameter Install 9 individual booster pumps.

SCHEDULE: The deficiencies on Sioux Trail, on Geiger Grade, on Westwind Circle and Terry Way will be addressed in FY 2019/20. The individual booster stations will start in FY 2019 and go into FY 2020 depending on customer needs and coordination.





STAFF REPORT

TO: Board of Directors
THRU: Mark Foree, General Manager
FROM: Scott Estes, Director of Engineering
DATE: 13 May 2019
SUBJECT: **Introduction and First Reading of Amendments to TMWA Rate Schedule WSF- Water System Facility Charges Revising Area Fee, Supply and Treatment, and Storage Unit Costs and to TMWA Rate Schedule BSF – Business Services Fees**

RECOMMENDATION

Staff submits for the Board's consideration for First Reading the attached redline of TMWA's Rate Schedule WSF-Water System Facility Charges to revise and update Area Fee, Supply and Treatment, and Storage Unit Costs based on current collection of revenues and cost information. In addition, staff submits for the Board's consideration for First Reading the attached redline of TMWA's Rate Schedule BSF-Business Services Fees to revise and update application fees, engineering review fees and inspection fees based on current collection of revenues and cost information. The Second Reading and adoption of these rate adjustments is scheduled for the Board's June 19, 2019 meeting with changes, if adopted, to be effective July 1, 2019.

DISCUSSION

Rate Schedule WSF contains Area Fee and Facility Charge Unit Costs which are used to calculate fees that TMWA collects from new development to reimburse the utility for facility improvements required to meet the demands of new growth. Area Fee Unit Costs, Supply and Treatment Facility Unit Costs, and Storage Facility Unit Costs apply only to developers applying for new or expanded water service, and do not affect the costs or rates to serve existing customers. In other words, pursuant to prior Board direction on customer rates: growth pays for growth.

Area Fee Unit Costs are applied on a maximum day demand and geographic basis based on the cost to expand the capacity of the water system in specific areas where growth is occurring. Facility Charges is a collective term referring to Supply-Treatment Facility Charges and Storage Facility Charges (STS Charges) that generally apply to growth occurring anywhere in the TMWA system. The only change proposed to the current Area Fee boundaries is the addition of Area 7 (Verdi). A brief background and description of the methodology to calculate the new fees was provided in a separate slide show. Table 1 presents a summary of the proposed changes and provides a comparison with existing Fees and Facility Charges.

At face value, the proposed increases in the Area Fee Unit Costs shown in Table 1 appear to be extremely large; however, the WSF unit costs are only half the equation since the unit cost is multiplied by maximum day demand (MDD) to arrive at the actual fee and ultimately, the focus should be on the cost per residential unit. An explanation of the higher Area Fee unit costs begins

REVISIONS TO TMWA'S RATE SCHEDULE WSF & BSF

May 13, 2019

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with information presented in the last Water Resource Plan (WRP) update. Since the early 2000's, overall water production has been decreasing while population and service count has been increasing. These lower unit demands translate directly into lower future demand projections. The projections presented in the draft 2015-2035 Water Facility Plan (2035 WFP) indicate that new business demand factors should be modified going forward. Existing and proposed demand factors are presented in Table 2. Also included in Table 2 is a comparison of MDD based on the existing and proposed single family residential (SFR) MDD equation.

Future demand projections (growth) are the denominator in the calculation of WSF unit costs. If the numerator (facility costs) remains constant, a lower denominator will result in the calculation of a higher unit cost. However, as mentioned above, these higher unit costs are moderated somewhat by the new lower demand factors that are used to generate the maximum day demand (MDD) for new business projects. The actual fees paid by growth are a result of the unit costs multiplied by the MDD. The actual cost of TMWA fees for a SFR unit on a typical 6000 square foot (SF) lot is shown in Table 3. Considering that finance charges have been accruing for six years and the cost of construction has also increased, an increase per SFR was expected.

Review of historical construction costs and recent construction bids received by TMWA indicate that pipeline costs have not changed significantly; pumping facility and well construction costs have increased significantly; and water storage tank costs are in-line with engineering estimates. The proposed increases in the Area Fees and STS Charges are primarily a result of replacing estimated costs with actual costs; incorporating new facility costs that were not contained in the WFP during the last revision cycle; and the addition of finance charges.

The facility cost increases are needed to ensure that TMWA is reimbursed for the cost to construct improvements to provide additional capacity to serve growth. If adopted, the new Area Fees and STS Charges will apply only to applications for new or expanded water service, and do not affect the cost to serve existing customers. Based on the latest demand projections, construction of many of the future projects recommended in the WFP are still required but will be delayed as compared to previous WFP projections. Staff will continue to review and incorporate opportunities to delay WFP improvements if service levels are not reduced.

The proposed rate changes were presented to a meeting of the Infrastructure & Planning Committee of BANN on April 18, 2019 and during a public workshop conducted on April 24, 2019. No suggestions or significant comments resulted from those discussions. A similar presentation will be made to TMWA's Standing Advisory Committee (SAC) on June 4, 2019. In addition, a separate workshop focusing on the 2035 WFP will be conducted on May 29, 2019.

This is the First Reading of staff's proposed revisions to TMWA's WSF and BSF rates. The Second Reading public hearing is scheduled for the Board's June 19, 2019 meeting, with revisions, if adopted at that time, to be effective the start of business day July 1, 2019. Any comments, written or otherwise, that may be submitted to staff for the Board's further consideration on these proposed rule changes will be brought to the Board at the Second Reading in June. In addition, at the second reading, staff will request formal Board approval/adoption of the 2035 WFP including the new demand factors. With approval, the WFP will be provided to the Health Authority.

REVISIONS TO TMWA'S RATE SCHEDULE WSF & BSF

May 29, 2019

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TABLE 1**PROPOSED TMWA AREA FEE AND FACILITY CHARGE UNIT COSTS**

Area	Description	(1) Existing Fee	(2) New Fee	Change \$\$	% Change
1	South Truckee Meadows	\$ 958	\$ 1,677	\$ 719	75%
2	Sparks-East Reno	\$ 1,711	\$ 2,627	\$ 916	54%
2A	Sparks-Inside McCarran Ring	\$ 856	\$ 1,313	\$ 457	53%
3	NW Reno-Northgate/Mogul	\$ 1,575	\$ 3,679	\$ 2,104	134%
4	Sparks-Spanish Springs	\$ 2,877	\$ 4,483	\$ 1,606	56%
5	Sparks-The Vistas	\$ 4,555	\$ 7,167	\$ 2,612	57%
6	Sun Valley-Sullivan	\$ 1,309	\$ 2,311	\$ 1,002	77%
7	NW Reno-Verdi	n/a	\$ 7,916	n/a	n/a
8	Sierra-North Virginia	\$ 4,142	\$ 9,260	\$ 5,118	124%
9	Southwest Reno	\$ 1,838	\$ 3,290	\$ 1,452	79%
10	Stead-Silver Lake-Lemmon Valley	\$ 5,057	\$ 6,279	\$ 1,222	24%
11	Southeast Truckee Meadows	\$ 2,828	\$ 4,232	\$ 1,404	50%
12	Spanish Springs ⁽³⁾	\$ 5,789	\$ 9,384	\$ 3,595	62%
13A	Heppner Subdivision	\$ 1,011	\$ 2,085	\$ 1,074	106%
14	STMGID West/Thomas Creek	\$ 655	\$ 815	\$ 160	24%
15	Arrowcreek/Mt Rose	\$12,568	\$12,942	\$ 374	3%
	Truckee Canyon ⁽⁴⁾	n/a	\$ 8,036	n/a	n/a
	Supply-Treatment Facility Charge	\$ 4,163	\$ 6,328	\$ 2,165	52%
	Storage Facility Charge	\$ 772	\$ 1,658	\$ 886	115%

Notes to Table:

- Unit Costs are multiplied by maximum day demand to yield the actual fee. Existing unit costs for TMWA Areas became effective on 7/1/13 and were based on demands added and fees collected through 6/30/12. Existing TMWA fees included Finance Charges in Areas 3, 4, 5, 6, 8, 9 & 10 and STS Facility Charges. Existing unit costs for former County Areas became effective on 1/1/15 and included some finance charges (interest paid on bonds). Changes to Areas 14 and 15 were made in 6/1/15 and the consolidated Area 10 unit cost was established 6/16/16.
- Unit Costs are multiplied by maximum day demand to yield the actual fee. The proposed unit costs are based on demands added and fees collected through 6/30/18. Proposed unit costs are scheduled to go into effect on July 1, 2019 subject to the approval of the TMWA Board of Directors.
- The Area 12 unit cost includes the Area 4 unit cost.
- Truckee Canyon is a satellite system (located at Lockwood) where the water treatment plant capacity was expanded in 2016. There are no other improvements planned at any of the other satellite systems (Stampmill, Sunrise Estates, Old Washoe Estates, Lightning W) at this time.

REVISIONS TO TMWA'S RATE SCHEDULE WSF & BSF

May 29, 2019

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TABLE 2**MDD & PEAKING FACTORS BY RATE CLASS**

Rate Code	Description	Old Max Day Demand (gpm)	Proposed Max Day Demand (gpm)	MD:AD Peaking Factor
GMWS	Commercial	AFA x 1.17	AFA x 1.08	1.58
MIS	Metered Irrigation	AFA x 0.38	AFA x 1.73	2.54
MMWS	Metered Multi-Unit Residential	0.15 gpm/unit	0.14 gpm/unit	1.37
RMWS	Metered Residential	see below	see below	2.13

Notes:

1. AFA = Acre Feet Annually; AFA x Multipliers above yield a value in GPM.
2. All results include a 10% Non-Revenue Water factor. Irrigation not included in C&I and MFR results.
3. Max Day Demands are based on Average Day of Max Month x 1.15 Peaking Factor.
4. Residential MDD is calculated on a lot-size basis to account for domestic + irrigation.

SFR MDD EQUATION

SFR Demand Equation is in the form: (Regression Constant) x SQRT(Lot Size, SF)

Old Equation: $MDD (gpm) = 0.0090 \times \text{SQRT}(\text{Lot Size, SF})$

New Equation: $MDD (gpm) = 0.0066 \times \text{SQRT}(\text{Lot Size, SF})$

$$\frac{\text{New Equation Constant}}{\text{Old Equation Constant}} = \frac{0.0066}{0.0090} = \mathbf{0.73}$$

Acre	SF	OLD	NEW	
<u>Lot Size</u>	<u>Lot Size</u>	<u>MDD</u>	<u>MDD</u>	<u>RATIO</u>
	6000	0.7	0.5	0.73
	7000	0.8	0.6	0.73
	8000	0.8	0.6	0.73
	9000	0.9	0.6	0.73
	10000	0.9	0.7	0.73
0.25	10890	0.9	0.7	0.73
	12000	1.0	0.7	0.73
	13000	1.0	0.8	0.73
	14000	1.1	0.8	0.73
0.33	14520	1.1	0.8	0.73
0.50	21780	1.3	1.0	0.73

Due to significant deviation from the curve (data scatter) for lot sizes greater than about 1.25 acres, the MDD for SFR uses will be capped at 1.5 GPM.

REVISIONS TO TMWA'S RATE SCHEDULE WSF & BSF

May 29, 2019

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TABLE 3**WSF FEES PER SFR UNIT ON 6000 SF LOT (MDD = 0.5 GPM)**

Area	Location	Area Fees	Storage Fee	S-T Fee	Total Fees	Comment
1	South Virginia	\$ 839	\$829	\$3,164	\$4,832	
2	Sparks	\$1,314	\$829	\$3,164	\$5,307	
3	NW Reno-Northgate	\$1,840	\$829	\$3,164	\$5,833	
4	NE Sparks-Kiley Ranch	\$2,242	\$829	\$3,164	\$6,235	
5	NE Sparks – The Vistas	\$3,584	\$829	\$3,164	\$7,577	
6	Sun Valley – Sutro	\$1,156	\$829	\$3,164	\$5,149	
7	NW Reno – Verdi	\$3,958		\$3,164	\$7,122	
8	North Virginia	\$4,630	\$829	\$3,164	\$8,623	
9	Southwest Reno	\$1,645	\$829	\$3,164	\$5,638	
10	North Valleys	\$3,140			\$3,140	w/Vidler Resource
11	Double Diamond	\$2,116		\$3,164	\$5,280	
12	Spanish Springs	\$4,692		\$3,164	\$7,856	
14	STMGID W-Thomas Crk	\$ 408		\$3,164	\$3,572	
15	Arrowcreek-Mt Rose	\$6,471			\$6,471	

CHANGE IN FEES PER SFR UNIT ON 6000 SF LOT (vs Existing Fees)

Area	Location	Change in Cost Per SFR Unit	% Change
1	South Virginia	\$ 707	17%
2	Sparks	\$ 655	14%
3	NW Reno-Northgate	\$1,276	28%
4	NE Sparks-Kiley Ranch	\$ 767	14%
5	NE Sparks – The Vistas	\$ 934	14%
6	Sun Valley – Sutro	\$ 778	18%
7	NW Reno – Verdi	n/a	n/a
8	North Virginia	\$2,269	36%
9	Southwest Reno	\$ 897	19%
10	North Valleys	(\$3,315)	(51%)
11	Double Diamond	\$ 386	8%
12	Spanish Springs	\$ 890	13%
14	STMGID W-Thomas Crk	\$ 199	6%
15	Arrowcreek-Mt Rose	(\$2,327)	(26%)
	AVERAGE	\$ 380	12%

REVISIONS TO TMWA'S RATE SCHEDULE WSF & BSF

May 29, 2019

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TABLE 4**WSF FEES PER MFR UNIT (MDD = 0.14 GPM)**

Area	Location	Area Fees	Storage Fee	S-T Fee	Total Fees	Comment
1	South Virginia	\$ 235	\$232	\$886	\$1,353	
2	Sparks	\$ 368	\$232	\$886	\$1,486	
3	NW Reno-Northgate	\$ 515	\$232	\$886	\$1,633	
4	NE Sparks-Kiley Ranch	\$ 628	\$232	\$886	\$1,746	
5	NE Sparks – The Vistas	\$1,003	\$232	\$886	\$2,121	
6	Sun Valley – Sutro	\$ 324	\$232	\$886	\$1,442	
7	NW Reno – Verdi	\$1,108		\$886	\$1,994	
8	North Virginia	\$1,296	\$232	\$886	\$2,414	
9	Southwest Reno	\$ 461	\$232	\$886	\$1,579	
10	North Valleys	\$ 879			\$ 879	w/Vidler Resource
11	Double Diamond	\$ 592		\$886	\$1,478	
12	Spanish Springs	\$1,314		\$886	\$2,200	
14	STMGID W-Thomas Crk	\$ 114		\$886	\$1,000	
15	Arrowcreek-Mt Rose	\$1,812			\$1,812	

CHANGE IN FEES PER MFR UNIT (vs Existing Fees)

Area	Location	Change in Cost Per SFR Unit	% Change
1	South Virginia	\$ 469	53%
2	Sparks	\$ 489	49%
3	NW Reno-Northgate	\$ 657	67%
4	NE Sparks-Kiley Ranch	\$ 574	49%
5	NE Sparks – The Vistas	\$ 698	49%
6	Sun Valley – Sutro	\$ 505	54%
7	NW Reno – Verdi	n/a	n/a
8	North Virginia	\$1,053	77%
9	Southwest Reno	\$ 563	55%
10	North Valleys	(\$ 504)	(36%)
11	Double Diamond	\$ 430	41%
12	Spanish Springs	\$ 707	47%
14	STMGID W-Thomas Crk	\$ 277	38%
15	Arrowcreek-Mt Rose	(\$ 73)	(4%)
	AVERAGE	\$ 428	46%

Truckee Meadows Water Authority

RATE SCHEDULES

WSF – WATER SYSTEM FACILITY CHARGES

APPLICABILITY

Pursuant to procedures set forth in Rule 5, Applicants for new Service or Modified Service to a Service Property(ies) are subject to Water System Facility (WSF) Charges. WSF Charges are based on the Maximum Day Demand estimated in gallons per minute (GPM) by the Authority to serve the Service Property(ies) multiplied by the following Unit Costs. WSF Charges will be assessed where applicable and as identified in the Water Service Agreement.

A. Area Facility Unit Cost by Charge Area

	<u>Charge Area</u>	<u>Amount</u>	
0	Central Reno	\$0.00	per GPM
1	South Truckee Meadows	\$958 1,677.00	per GPM
2	Sparks-East Reno	1,744 2,627.00	per GPM
2A	Sparks-Inside McCarran Blvd	856 1,313.00	per GPM
3	Northwest Reno – Northgate/Mogul	4,575 3,679.00	per GPM
4	Sparks – Pyramid/Spanish Springs	2,877 4,483.00	per GPM
5	Sparks – The Vistas	4,555 7,167.00	per GPM
6	Sun Valley-Sullivan Pump Zones	1,309 2,311.00	per GPM
7	Verdi	TBD 7,916.00	<u>per GPM</u>
8	Sierra-North Virginia Pump System	4,142 9,260.00	per GPM
9	Lakeridge-Plumas Pump System	1,838 3,290.00	per GPM
10	Stead-Silver Lake-Lemmon Valley	5,057 6,279.00	per GPM
11	Southeast Truckee Meadows	2,828 4,232.00	per GPM
12	Spanish Springs	5,789 9,384.00	per GPM
13A	Heppner*	1,041 1,349.00	per GPM
14	STMGID West/Thomas Creek	655 815.00	per GPM
15	Arrowcreek/Mt. Rose**	12,568 12,942.00	per GPM
	<u>Truckee Canyon</u>	<u>8,036.00</u>	<u>per GPM</u>

Where a Service Property is not located within an established Charge Area described above or where the Area Facility Unit Cost for that Charge Area has not been established, applicable Area Facility Unit Costs shall be determined by Authority on a case by case basis and may include charges for on-site and off-site improvements, including Oversizing Costs, to integrate new Water System Facilities or to connect to, expand, relocate or alter existing water Facilities, determined by the Authority as necessary to facilitate annexation of the Service Property into the Authority's Retail Service Area and/or development of the Charge Area or Charge Area Unit Cost to be established, as set forth in the Annexation Agreement or Water Service Agreement between Applicant and Authority.

* Charge Area 13A is subject to an additional charge of \$5,490.00 per lot for on-site distribution improvements.

** Component of fee includes estimated costs of acquiring supplemental resource supply. Fee may be reduced to ~~\$7,648.00~~\$8,641.00 upon Applicant dedication of an acceptable combination of groundwater and creek water rights to satisfy supplemental conjunctive use supply as determined by the Authority pursuant to its Rule 7.

Added: 06/18/03 Amended: 10/01/03; 01/21/04; 03/01/05; 10/18/06; 03/01/08; 05/21/09; 05/21/10; 06/19/13; 10/15/14; 01/01/15; 05/21/15; 06/16/16, 07/01/19

Truckee Meadows Water Authority

RATE SCHEDULES

WSF – WATER SYSTEM FACILITY CHARGES

B. Supply and Treatment Facility Unit Cost By Charge Area

"Supply and Treatment Facility Unit Cost" is the unit cost in dollars per GPM of Maximum Day Demand, representing the cost to construct and finance supply/treatment improvements identified in the Authority's facility plan.

	<u>Charge Area</u>	<u>Amount</u>	
0	Central Reno	\$4,1636,328.00	per GPM
1	South Truckee Meadows	4,1636,328.00	per GPM
2	Sparks-East Reno	4,1636,328.00	per GPM
2A	Sparks-Inside McCarran Blvd	4,1636,328.00	per GPM
3	Northwest Reno – Northgate/Mogul	4,1636,328.00	per GPM
4	Sparks – Pyramid/Spanish Springs	4,1636,328.00	per GPM
5	Sparks – The Vistas	4,1636,328.00	per GPM
6	Sun Valley-Sullivan Pump Zones	4,1636,328.00	per GPM
7	Verdi	TBD6,328.00	per GPM
8	Sierra-North Virginia Pump System	4,1636,328.00	per GPM
9	Lakeridge-Plumas Pump System	4,1636,328.00	per GPM
10	Stead-Silver Lake-Lemmon Valley*	4,1636,328.00	per GPM
11	Southeast Truckee Meadows	4,1636,328.00	per GPM
12	Spanish Springs	4,1636,328.00	per GPM
13A	Heppner	0.00	per GPM
14	STMGID West/Thomas Creek	4,1636,328.00	per GPM
15	Arrowcreek/Mt. Rose	0.00	per GPM
	<u>Satellite Systems**</u>	<u>6,328.00</u>	<u>per GPM</u>

* For Area 10 growth dedicating Fish Springs groundwater resources, the Supply-Treatment Facility Unit Cost is 0 (zero).

** Satellite Systems include Truckee Canyon, Stampmill, Sunrise Estates, Old Washoe Estates and Lightning W.

Truckee Meadows Water Authority

RATE SCHEDULES

WSF – WATER SYSTEM FACILITY CHARGES

C. Storage Facility Unit Cost By Charge Area

“Storage Facility Unit Cost” is the unit cost in dollars per GPM of Maximum Day Demand, representing the cost to construct and finance storage improvements identified in the Authority’s facility plan.

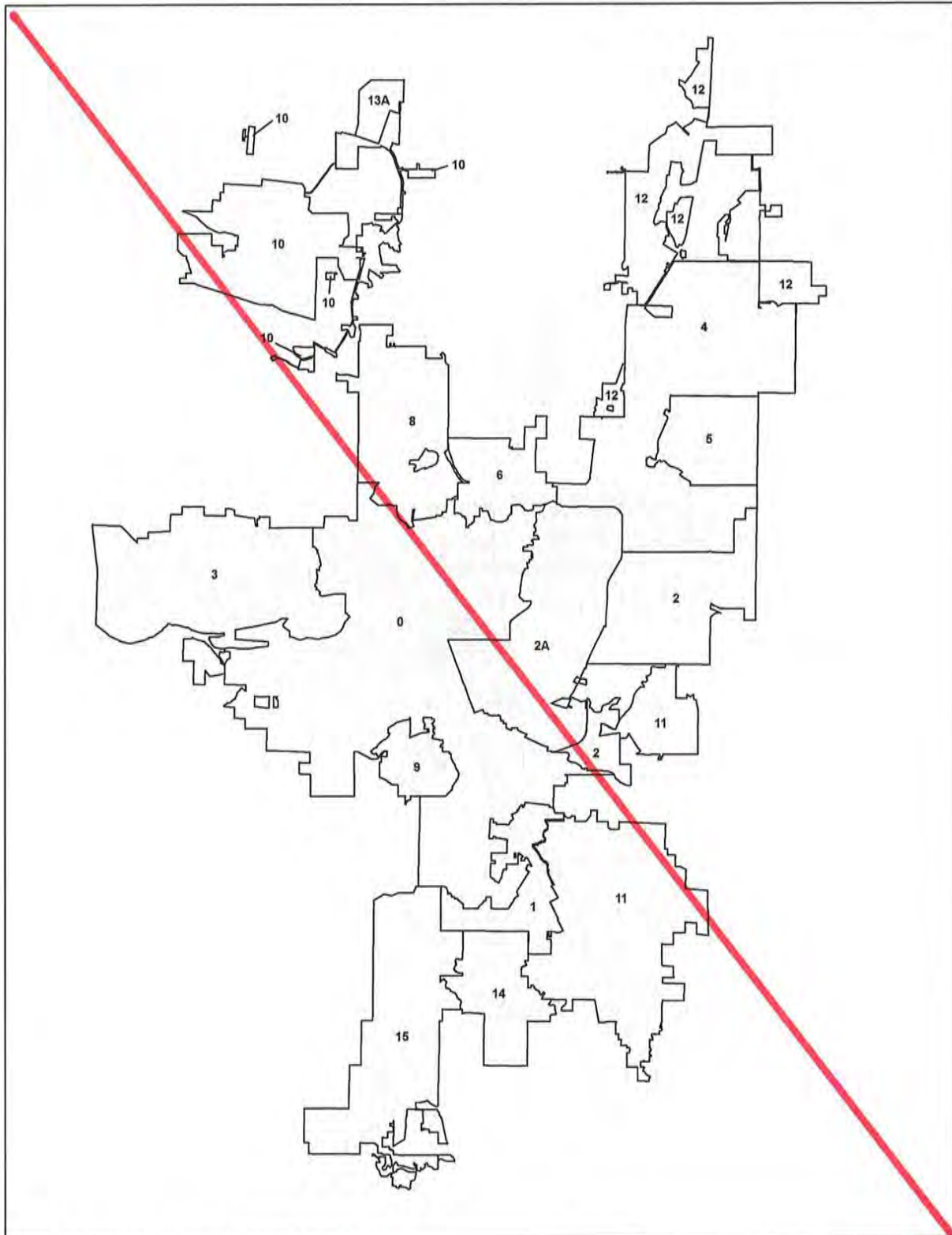
	<u>Charge Area</u>	<u>Amount</u>	
0	Central Reno	\$ <u>7721,658.00</u>	per GPM
1	South Truckee Meadows	<u>7721,658.00</u>	per GPM
2	Sparks-East Reno	<u>7721,658.00</u>	per GPM
2A	Sparks-Inside McCarran Blvd	<u>7721,658.00</u>	per GPM
3	Northwest Reno – Northgate/Mogul	<u>7721,658.00</u>	per GPM
4	Sparks – Pyramid/Spanish Springs	<u>7721,658.00</u>	per GPM
5	Sparks – The Vistas	<u>7721,658.00</u>	per GPM
6	Sun Valley-Sullivan Pump Zones	<u>7721,658.00</u>	per GPM
7	Verdi	<u>TBD0.00</u>	per GPM
8	Sierra-North Virginia Pump System	<u>7721,658.00</u>	per GPM
9	Lakeridge-Plumas Pump System	<u>7721,658.00</u>	per GPM
10	Stead–Silver Lake-Lemmon Valley	0.00	per GPM
11	Southeast Truckee Meadows	0.00	per GPM
12	Spanish Springs	0.00	per GPM
13A	Heppner	0.00	per GPM
14	STMGID West/Thomas Creek	0.00	per GPM
15	Arrowcreek/Mt. Rose	0.00	per GPM
	<u>Satellite Systems</u>	<u>0.00</u>	<u>per GPM</u>

NOTE: The following map depicts only approximate boundaries of the Charge Areas because the Authority’s distribution system undergoes frequent modification, Charge Area boundaries are subject to frequent adjustment and the exact boundaries of the Charge Areas shall be maintained by and may be adjusted from time to time by the General Manager of the Authority. The Authority attempts to keep a current map posted on its website, at www.tmwa.com; however, this map may not show sufficient detail to depict Charge Areas precisely. Pursuant to Rule 5 the Authority will determine the Charge Area and associated Area Facility charges to serve the Applicant’s Service Property(ies) at the time of application based on the most current Charge Area boundary information maintained by the General Manager of the Authority.

Truckee Meadows Water Authority

RATE SCHEDULES

WSF – WATER SYSTEM FACILITY CHARGES

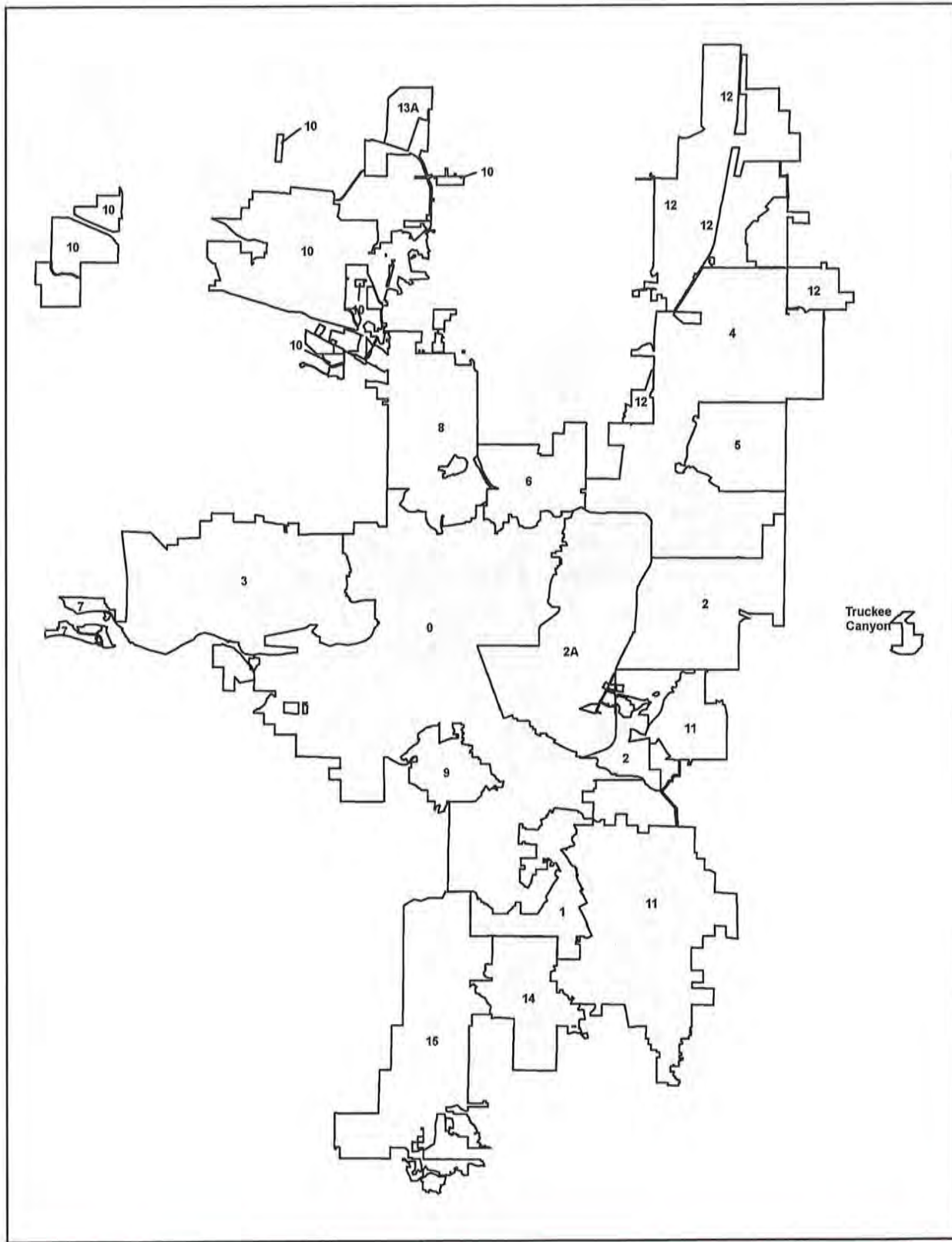


Added: 01/01/15; 05/21/15; 06/16/16, 07/01/19

Truckee Meadows Water Authority

RATE SCHEDULES

WSF – WATER SYSTEM FACILITY CHARGES



Truckee Meadows Water Authority

DEVELOPER FACILITY CHARGE & NEW BUSINESS FEES UPDATE

May 29, 2019



History of TMWA Facility Charges

TMWA Board established a policy that no customer class shall be subsidized by another class and that growth should pay for growth.

- March 2002: Feeder Main Fees implemented.
- June 2003: Supply/Treatment and Storage Facility Charges implemented
- Facility Charges were revised in March 2005, November 2006, March 2008 and July 2013.
- For the November 2006 revisions, BANN hired consultants (engineering & accounting) to review the fee calculations and with minor corrections, approved of TMWA methodology.
- Proposed Effective Date of these revisions 9/1/19.

How Does Growth Pay for Growth at TMWA?

- **Supply/Treatment Facility Charges**
This charge pays for facilities such as wells, raw water supply improvements and treatment plant costs. S-T facilities and costs are included in some Area Fees at locations at the periphery of the system (Mt Rose, North Valleys).
- **Storage Facility Charges**
This charge pays for storage facility improvements needed to provide the emergency and operational storage requirements of growth. In many cases, new development will design, build and dedicate new storage facilities in lieu of paying Storage Facility Charges. Storage facilities and costs are included in some Area Fees at locations at the periphery of the system.
- **Area Fees**
Area fees pay for water main capacity and pumping systems to transmit the additional demand through the existing distribution system. Area Fees vary depending on the location of the new development – different improvements are required for different areas.
- **Facility Charges and Area Fees are applied on a maximum day demand (GPM) basis.**
- **Facility Charges and Area Fees are not paid by existing customers and are not included in water rates.**

WHY ARE REVISIONS NECESSARY?

- Facility cost estimates are not adjusted for inflation, so it is necessary to update the cost estimates on a regular basis.
- Comprehensive planning for former Washoe County systems had not been performed until recently. The original Area Fees for these systems were based on merger due diligence analyses and the calculations used available supply as a proxy for growth.
- Actual expenditures for major supply system projects could be significantly more or less than the estimated costs used to calculate the current Fees and Facility Charges depending on the economy and market prices.
- Significant under-collection of costs in some areas and categories have been carried by TMWA for the last six years and this situation will likely continue for the foreseeable future; thus application of a finance or “carrying” charge is necessary.
- Since the last update, unit water demands have decreased primarily due to the following factors:
 - Conversion to a 3-day per week irrigation schedule in 2010
 - Conversion of all residential flat rate customers to a metered rate in 2015
 - Demand hardening as a result of conservation during the drought of 2014-15

The combined result of these factors is a decrease in the demand of future growth. This is the denominator in the Fee calculations – a smaller denominator yields a larger result.

RECENT FACILITY COSTS

- Average water main cost = \$19/in-LF
 - Current estimates generally utilize \$20 per in-LF but can range between \$16-\$22 per in-LF depending on whether it is new construction in the dirt or within existing pavement with extensive traffic control.
- Average pump station cost = \$1.3M (w/generator)
 - Current estimates utilize \$1.2M per station (no generator). Most new pump stations are paid for directly by new development.
- Average well cost = \$2.0M
 - Total cost depends on drilling costs (diameter, depth) but well costs have gone up considerably in the last six years.
- Average tank cost = \$1.01 per gallon
 - Current estimates utilize \$1.00/gallon for steel and \$2.00 for concrete.

UPDATE METHODOLOGY

- TMWA has just completed an update of its Water Facility Plan for the 2015-2035 planning period. Given latest demand projections and considering where growth will occur, staff determines if previous WFP improvements are still applicable and/or if new improvements are required.
- Given the latest construction bid results and considering historical costs, determine if facility cost estimates are still valid, or if modifications are appropriate.
- Update estimated costs with actual costs as necessary.
- Update the facility charges collected in each area.
- Update GPM added/sold in each area.
- Total costs less developer charges paid, divided by GPM remaining to be sold = new/revised Area Fee or Facility Charge.

Calculation of Developer Fees

Project Expenditures Allocated to Growth
+ Applicable Finance Charges
+ Est. Cost of Future Projects for Growth
= Total Cost of Growth

Total Cost of Growth
- Fees Collected
= Remaining Cost of Growth

Expected Growth, GPM
- GPM Sold
= Remaining GPM

Remaining Cost of Growth ÷ Remaining GPM = Unit Cost \$/GPM

The Calculated Unit Costs are shown in Rate Schedule WSF

The Actual Fee \$\$ = Unit Cost \$/GPM x Max Day Demand, GPM

AREA FEE/FACILITY CHARGE UNIT COST SUMMARY:

<u>Area</u>	<u>Description</u>	<u>Existing Fee</u>	<u>Proposed Fee</u>	<u>Increase \$\$</u>	<u>Increase %</u>
1	South Truckee Meadows	\$ 958	\$ 1,677	\$ 719	75%
2	Sparks-East Reno	\$ 1,711	\$ 2,627	\$ 916	54%
2A	Sparks-East Reno - A	\$ 856	\$ 1,313	\$ 457	54%
3	Northwest Reno-Northgate/Mogul	\$ 1,575	\$ 3,679	\$ 2,104	134%
4	Sparks-Pyramid/Spanish Springs	\$ 2,877	\$ 4,483	\$ 1,606	56%
5	Sparks-The Vistas	\$ 4,555	\$ 7,167	\$ 2,612	57%
6	Sun Valley-Sullivan	\$ 1,309	\$ 2,311	\$ 1,002	77%
7	Northwest Reno-Verdi	\$	\$ 7,916	\$ n/a	n/a
8	Sierra-North Virginia	\$ 4,142	\$ 9,260	\$ 5,118	124%
9	Lakeridge-Plumas	\$ 1,838	\$ 3,290	\$ 1,452	79%
10	Stead-Silver Lake	\$ 5,057	\$ 6,279	\$ 1,222	24%
11	Southeast Truckee Meadows	\$ 2,828	\$ 4,232	\$ 1,404	50%
12	Spanish Springs	\$ 5,789	\$ 9,384	\$ 3,595	62%
13A	Heppner Subdivision	\$ 1,011	\$ 2,085	\$ 1,074	106%
14	STMGID West/Thomas Creek	\$ 655	\$ 815	\$ 160	24%
15	Arrowcreek/Mt Rose	\$ 12,568	\$ 12,942	\$ 374	3%
	Supply-Treatment Fee	\$ 4,163	\$ 6,328	\$ 2,165	52%
	Storage Fee	\$ 772	\$ 1,658	\$ 886	115%

Unit Costs have increased primarily because maximum day demands (MDD) have decreased. For residential development, MDD is a function of lot size.

The SFR demand vs. lot size curve is in the form: Regression Constant x (Lot Size, SF)^{0.5}

New Equation: 0.0066 x SQRT(Lot Size, SF)

Old Equation: 0.0090 x SQRT(Lot Size, SF)

Unit Demand Adjustment: New SFR Equation Constant = 0.0066 = 0.73
Old SFR Equation Constant = 0.0090

Acre <u>Lot Size</u>	SF <u>Lot Size</u>	NEW <u>MDD</u>	OLD <u>MDD</u>	<u>RATIO</u>
	6000	0.5	0.7	0.73
	7000	0.6	0.8	0.73
	8000	0.6	0.8	0.73
	9000	0.6	0.9	0.73
	10000	0.7	0.9	0.73
0.25	10890	0.7	0.9	0.73
	12000	0.7	1.0	0.73
	13000	0.8	1.0	0.73
	14000	0.8	1.1	0.73
0.33	14520	0.8	1.1	0.73
0.50	21780	1.0	1.3	0.73

FEE IMPACT TO A TYPICAL SUBDIVISION LOT

The actual fee paid is the MDD x Area Fee Unit Cost. The overall impact of the new facility charges and area fees on the cost of a house on a typical 6000 SF lot:

<u>Location</u>	<u>Total Fees Per SFR Unit</u>	<u>Change in Cost Per SFR Unit</u>	<u>Change in Cost as a % of Exist.</u>
Area 1 – So. Virginia	\$4,832	\$ 707	17%
Area 2 – Sparks-East Reno	\$5,307	\$ 655	14%
Area 3 – NW Reno	\$5,833	\$ 1,276	28%
Area 4 – Kiley Ranch	\$6,235	\$ 766	14%
Area 5 – The Vistas	\$7,577	\$ 934	14%
Area 6 – Sun Valley/Sutro	\$5,149	\$ 778	18%
Area 7 – Verdi	\$7,122	n/a	n/a
Area 8 – North Virginia	\$8,623	\$ 2,269	36%
Area 9 – SW Reno	\$5,638	\$ 897	19%
Area 10 – North Valleys ⁽¹⁾	\$3,140	\$(3,314)	(51%)
Area 11 – Double Diamond	\$5,280	\$ 386	8%
Area 12 – Spanish Springs	\$7,856	\$ 890	13%
Area 14 – STMGID West	\$3,572	\$ 199	6%
Area 15 – Mt Rose	\$6,471	\$(2,327)	(26%)
AVG.		\$ 380	12%

(1) Area 10 must pay for Vidler resource

FEE IMPACT TO AN APARTMENT UNIT

The actual fee paid is the MDD x Area Fee Unit Cost. The overall impact of the new facility charges and area fees on the cost of an apartment unit:

<u>Location</u>	<u>Total Fees Per MFR Unit</u>	<u>Change in Cost Per MFR Unit</u>	<u>Change in Cost as a % of Exist.</u>
Area 1 – So. Virginia	\$1,353	\$ 469	53%
Area 2 – Sparks-East Reno	\$1,486	\$ 489	49%
Area 3 – NW Reno	\$1,633	\$ 657	67%
Area 4 – Kiley Ranch	\$1,746	\$ 574	49%
Area 5 – The Vistas	\$2,121	\$ 698	49%
Area 6 – Sun Valley/Sutro	\$1,442	\$ 505	54%
Area 7 – Verdi	\$1,994	n/a	n/a
Area 8 – North Virginia	\$2,414	\$ 1,053	77%
Area 9 – SW Reno	\$1,579	\$ 563	55%
Area 10 – North Valleys ⁽¹⁾	\$ 879	\$ (504)	(36%)
Area 11 – Double Diamond	\$1,478	\$ 430	41%
Area 12 – Spanish Springs	\$2,200	\$ 707	47%
Area 14 – STMGID West	\$1,000	\$ 277	38%
Area 15 – Mt Rose	\$1,812	\$ (73)	(4%)
	AVG.	\$ 428	46%

(1) Area 10 must pay for Vidler resource

New Business Fees

- New Business Fees such as application fees, design review fees and inspection fees have not been updated since 2012.
- New Business Fees pay for the time of Project Coordinators, Engineers and Inspectors who are directly involved in the new business process.
- TMWA is a not-for-profit organization, so we are only concerned with covering our actual costs to provide necessary new business services.
- A comparison of new business costs vs. new business fees collected for calendar year 2018 show the following:

	Costs	Fees	Estimated
<u>Category</u>	<u>Incurred</u>	<u>Collected</u>	<u>From New Fees</u>
Inspection	\$1,342,403	\$1,135,530	\$1,222,400
Engineering	\$1,023,267	\$ 445,258	\$ 956,380
Water Rights	<u>\$ 158,685</u>	<u>\$ 64,400</u>	\$ not est.
Totals	\$2,524,355	\$1,645,188	

Proposed New Business Fees

06-04-19 SAC Agenda Item 8
Attachment 2

Application Type &/Or New Business Service	Engineering Analysis/Review	Lands or Water Resources	Inspection &/or Crew
A. Residential – Single Service including separation of shared service into single metered services (each additional separate service is a POI)	\$300 +\$30 per POI	\$150	\$200 +\$50 per POI
B. Commercial Service with up to 3 service taps/service lines/ meter facilities (Domestic, Fire & Irrigation) – applies to applications for Industrial, Irrigation, Construction Water	\$700 +\$30 per POI	\$450	\$300 +\$150 per POI
C. Residential – Subdivision or Multi-Family - Design Review – per final map or phase	\$2,400 +\$30 per POI	\$450	\$300 +\$150 per POI
D. Tenant Improvement with New or Deficit Demand with no new water facilities required	\$150	\$300	
E. Main Extensions – Alone or with any service	\$1,800 +\$30 per POI		\$300, +\$2/LF +\$150 per POI
F. Fire Hydrant or Fire Service (alone – tapping existing main)	\$300	\$150	\$200
G. Additional Engineering Review – per hour	\$150		
H. Retirements and Domestic Well Conversions	\$300	\$150	\$200
I. Hot taps up to 2" – by Authority - Hot taps >2" up to 12" – by Authority - Hot taps >12" – Licensed Specialty Contractor hired by Applicant			\$300 \$550 \$200
J. Pressure Regulating Stations	\$1,500	\$150	\$7,200
K. Annexation (includes Discovery) - Discovery – Level 1 - Discovery – Level 2 - Water Service Acknowledgement Letter - Hardship Letter – Parcel <500' from water system - Hardship Letter – Parcel >500' from water system	\$2,400 \$2,400 \$3,600 \$200 \$200 \$150	\$300	
L. Property & Water Rights Research & Documents - Research/verify title of non-permitted water rights, per parcel - Research/verify title of permitted water rights, per parcel - Research and establish easements, rights-of-way or fee property dedications, per parcel - Document Preparation including Will-Serve Letter, No Water Rights Required Letter, Banking Agreements, Deeds, etc.		\$450 \$300 \$300 \$150 per document	
M. Deferred WSF Fees (subdivisions only), Setup & Documentation - Meter Set Request, per request, groups or single	\$300 \$200		
N. ILA Audit Fee, per Res., Comm., or Main Project (applies to Items A, B, C, E and F)	\$100		

END OF PRESENTATION

- QUESTIONS?
- DISCUSSION?
- FOLLOW UP – CONTACT SCOTT ESTES AT 775-834-8033 OR SESTES@TMWA.COM
- NEXT STEPS:
 - Water Facility Plan Workshop – Wed., May 29, 5:30 p.m., 1355 Capital Blvd.
 - TMWA Standing Advisory Committee (SAC) Meeting – Tuesday, June 4, 2019, 3:00 p.m. at TMWA's corporate office building 1355 Capital Blvd.
 - First Hearing of proposed fees – TMWA Board of Directors Meeting, Wednesday, June 19, 2019, 10:00 a.m. at the City of Sparks Council Chambers (Hearing continued from the May 23rd Board Meeting).
 - Any changes will be brought back to the Board at a Second Reading at a date TBD. New rates and fees will go into effect at a date selected by the Board.

Thank you!

TMWA Board Meeting

Corporate Office:

1355 Capital Blvd., Reno, NV 89502
834-8080
www.tmwa.com

Truckee Meadows Water Authority

RATE SCHEDULES

BSF - BUSINESS SERVICES FEES

APPLICABILITY

In order to provide delivery of water to a particular Service Property(ies) due to the addition of new Service or Modified Service to existing water system Facilities, an Applicant is subject to the following business services fees. Business services shall mean services provided by the Authority for the benefit of Applicants for new Service or Modified Service and may include, but are not limited to, modification of an existing Service(s), system planning; design review; permitting; right-of-way or easement acquisition; water rights review; inspection; and document preparation.

SPECIAL DEFINITIONS

"Annexation" is the development of the minimum water system facility plan along with required improvements and required agreements in order to annex single family residence parcels or commercial and multi-family parcels.

~~"Design or Drafting" is the design or drafting by Authority staff of a new or modification to a service for the expansion of a single residential or existing commercial structure, and a construction drawing that will be approved by an Authority engineer exclusive of on-site or off-site water system Facility improvements.~~

"Design Report for NAC Compliance" shall mean the engineering analysis of existing and proposed water system Facilities for new subdivisions, water system planning, and/or expansion. Findings and conclusions from said studies shall be presented in report form to the Washoe County ~~District~~ Health ~~Department~~ District (WCHD) for their approval in compliance with NAC 445A.6666 and 445A.66695. In November 2018, the Authority, NDEP and WCHD entered into an Interlocal Agreement giving Authority the responsibility for design reviews for NAC Compliance. Authority continues to perform hydraulic modeling, supply and storage capacity calculations, etc. but those results are no longer presented to WCHD unless the project is selected for audit.

"Discovery Level 1" is the development of preliminary, major off-site water system Facility requirements along with key assumptions and costs where engineering staff time will be limited to less than twelve (12) hours. Discovery 1 scope of work will be limited to projects and site locations in the Authority's retail service area, and where extensive engineering planning and design is not required. The Applicant will receive a written description of preliminary off-site requirements and costs. In the event a project application exceeds the minimal planning/design scope of work requirements for Discovery 1, or the site is outside the Authority's retail service area, the Authority may reclassify and treat the project as a Discovery 2.

Truckee Meadows Water Authority

RATE SCHEDULES

BSF - BUSINESS SERVICES FEES

"Discovery Level 2" is the same as Discovery 1, but planning and design may require over twelve (12) hours of Authority's engineering staff time.

"Hardship Letters" shall be provided upon request by an Applicant for submittal to the State Engineer responding to the Authority's ability to serve the Service Property. The letter only provides an estimate of the costs for the Authority to serve the Service Property. For Service Properties less than 500-feet from the Authority's water system Facilities, the approximate main size, length and cost will be provided. For Service Properties greater than 500-feet from Authority's water system Facilities, the letter will state that the Service Property is over 500-feet from the Authority's water system without an estimate of the costs for the Authority to serve the Service Property.

"Point of Inspection" is water system Facilities and associated fittings that attach to a feeder or project main for main connections, Service Taps, Service Pipes, Meter Facilities, valves, trench and backfill requirements.

Applicant shall pay the Authority the applicable Business Service Fees for processing the Application and the installation of water system Facilities necessary to serve the Applicant, shown in the following table.

SPECIAL CONDITIONS

1. Applicant's designs of water system Facilities shall be prepared by or under the direction of and wet-stamped by a Professional Engineer registered in the State of Nevada. After two submittals by Applicant to correct the designs of water system Facilities to Authority's satisfaction, Authority can charge additional, applicable Engineering and Planning Review Fees contained in this Rate Schedule.

Truckee Meadows Water Authority

RATE SCHEDULES

BSF - BUSINESS SERVICES FEES

	Engineering and Resources	Design or Drafting of "W-1" Plan	Inspection or Distribution Crew
A. Design report or letter for NAC compliance			
1. Final map per phase	\$1,500.00	na	na
2. Tentative Map			
a. Discovery Fee	See Item E	na	na
b. Water Service Acknowledgement Letter	\$100.00	na	na
3. Other new or Modified water system Facilities:			
a. Commercial	\$1,100.00	na	na
b. Multi-tenant	\$1,100.00	na	na
c. Feeder or project main	\$1,100.00	na	na
B. Engineering and planning review, approval, and inspection of water system Facilities			
1. New Service or, Modified Service for:			
a. Residential: single service tap with service pipe and meter facility (non-subdivision)	\$150.00	\$500.00	\$150.00
b. Residential: subdivisions, multi-tenant, and commercial/industrial with main	\$720.00	na	\$150.00
i. Add for each point of inspection	\$15.00	na	\$150.00
c. Commercial, industrial, tenant improvements, irrigation, fire protection or non-potable (includes up to three service taps with service pipes and/or meter facilities)	\$300.00	\$750.00	\$150.00
i. Add for each additional service tap	\$150.00	\$250.00	\$150.00
2. Fire hydrant	\$150.00	\$500.00	\$150.00
3. Feeder or project main only	\$720.00	na	\$150.00
a. Add per lineal foot	na	na	\$1.00
b. Add for each point of inspection along main	\$15.00	na	\$150.00
4. Retirements and domestic well disconnections	na	na	\$150.00
C. Installation of a Service Tap by Authority personnel on a pressurized pipe, commonly referred to as a "hot tap"			
1. Tapping up to 2 inch hot tap ("Light" or 2-man crew)	na	na	\$400.00
2. Tapping greater than 2 to 12 inch hot tap ("Heavy" or 4-man crew)	na	na	\$500.00
3. Tapping greater than 12 inches are subject to Authority rules, construction standards, and costs are the responsibility of Applicant	na	na	\$500.00

Added: 06/18/03 Amended: 10/01/03; 07/19/06; 01/19/12

Truckee Meadows Water Authority

RATE SCHEDULES

BSF - BUSINESS SERVICES FEES

D.	Pressure regulating station design review and inspection (includes set-up of station)	\$430.00	na	\$2380.00
E.	Due diligence fees for water projects:			
1.	Annexation	\$1,500.00	na	na
2.	Discovery – Level 1	\$720.00	na	na
3.	Discovery – Level 2	\$1440.00	na	na
4.	Hardship Letters:			
a.	For parcel or lot less than 500 ft from the Authority's water system facilities	\$150.00	na	na
b.	For parcel or lot greater than 500 ft from the Authority's water system facilities	\$50.00	na	na
F.	Due diligence for property and water resources			
1.	Due diligence fees to research and verify title of non-permitted water rights, per parcel	\$250.00	na	na
2.	Due diligence fees to research and verify title of permitted water rights, per parcel	\$100.00	na	na
3.	Due diligence fees for tenant improvement or water resource credit(s) per parcel	\$150.00	na	na
4.	Due diligence fees for easement, right-of-way or fee property dedications per parcel	\$150.00	na	na
5.	Preparation of documents including but not limited to Will-Serve Commitment Letter, No Water Rights Required Letter, deeds, banking agreements, state required applications, or Report of Conveyance, per document (fee does not include State, county or other regulatory agency fees)	\$100.00	na	na

Truckee Meadows Water Authority
RATE SCHEDULES
BSF – NEW BUSINESS SERVICES FEES

<u>Application Type &/Or New Business Service</u>	<u>Engineering Analysis/Review</u>	<u>Lands or Water Resources</u>	<u>Inspection &/or Crew</u>
A. Residential – Single Service including separation of shared service into single metered services (each additional separate service is a POI)	\$300 +\$30 per POI	\$150	\$200 +\$50 per POI
B. Commercial Service with up to 3 service taps/service lines/ meter facilities (Domestic, Fire & Irrigation) – applies to applications for Industrial, Irrigation, Construction Water	\$700 +\$30 per POI	\$450	\$300 +\$150 per POI
C. Residential – Subdivision or Multi-Family - Design Review – per final map or phase	\$2,400 +\$30 per POI	\$450	\$300 +\$150 per POI
D. Tenant Improvement with New or Deficit Demand with no new water facilities required	\$150	\$300	
E. Main Extensions – Alone or with any service	\$1,800 +\$30 per POI		\$300, +\$2/LF +\$150 per POI
F. Fire Hydrant or Fire Service (alone – tapping existing main)	\$300	\$150	\$200
G. Additional Engineering Review – per hour	\$150		
H. Retirements and Domestic Well Conversions	\$300	\$150	\$200
I. Hot taps up to 2" – by Authority - Hot taps >2" up to 12" – by Authority - Hot taps >12" – Licensed Specialty Contractor hired by Applicant			\$300 \$550 \$200
J. Pressure Regulating Stations	\$1,500	\$150	\$7,200
K. Annexation (includes Discovery) - Discovery – Level 1 - Discovery – Level 2 - Water Service Acknowledgement Letter - Hardship Letter – Parcel <500' from water system - Hardship Letter – Parcel >500' from water system	\$2,400 \$2,400 \$3,600 \$200 \$200 \$150	\$300	
L. Property & Water Rights Research & Documents - Research/verify title of non-permitted water rights, per parcel - Research/verify title of permitted water rights, per parcel - Research and establish easements, rights-of-way or fee property dedications, per parcel - Document Preparation including Will-Serve Letter, No Water Rights Required Letter, Banking Agreements, Deeds, etc.		\$450 \$300 \$300 \$150 per document	
M. Deferred WSF Fees (subdivisions only), Setup & Documentation - Meter Set Request, per request, groups or single	\$300 \$200		
N. ILA Audit Fee, per Residential, Commercial or Main Project (applies to Items A, B, C, E and F)	\$100		



STAFF REPORT

TO: Board of Directors
FROM: Andy Gebhardt, Director Operations and Water Quality
Marlene Olsen and Cammy Elquist LoRé, GoodStanding
DATE: April 5, 2019
SUBJECT: Presentation on proposed 2019 Conservation, Communication, and Outreach Plan; discussion and possible direction to staff

Report Highlights:

- *This plan combines outreach activities of TMWA into one comprehensive communication plan (summer campaign, water leadership, and general/internal communications) and identifies TMWA stakeholders. It anticipates numerous forms of communication: multimedia advertising, news coverage, direct customer messages in bills, social media, digital media, and website content.*
- *With water storage at capacity this year, a standard summer conservation plan will be in effect. The focus will be to reinforce smart water use in general, as well as encourage a more in-depth understanding of water utility operations and planning; see Smart About Water summer campaign brief on page 9.*
- *The long-term goal of this communications plan is to establish high levels of regional water system and water resource management knowledge among all stakeholders.*

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Overview

Through an effective combination of regional governance, community ownership and operational expertise, TMWA plays a primary leadership role for the management of water resources in the Truckee Meadows. This strategic communications plan seeks to further establish levels of public confidence in the utility through four core outreach focus areas: Customers-as-Consumers, Conservation, Water Resource Leadership, and Employee Core. With this approach, TMWA will foster a communication strategy that advances positive customer experiences, elevates responsible water use, and promotes knowledge and understanding of the water supply and TMWA's prudent management of water resources.

The Smart About Water Framework

Established just three years ago, the **Smart About Water** (SAW) communication framework has provided a solid theme for messaging to our customers, our partners, and the community at large. The framework supports events such as Smart About Water Day as well as off-season outreach through traveling exhibits on educational topics. Building from these successful initiatives, a key focus this year will be the phased advancement of smartaboutwater.com into a timely, informational resource not only for TMWA customers but for water-service-affiliated partners in the City of Sparks, City of Reno, and Washoe County. In fact, the use of Smart About Water is now trademarked with the United States Patent and Trademark Office.

This year, message positioning within the SAW framework continues to focus on perceived issues that have been consistently identified in multiple community surveys; these issues include community growth, safeguards to our water supply, and long-term water resource management. By building messages through the four outreach focus areas below, the long-term goal of this activity is to establish high levels of regional water-management knowledge among civic, political, and public stakeholders.

Campaign Outreach Focus

Smart About Water Messaging Objectives

Leadership Network

To further inform engaged citizens and civic groups about TMWA's water resource management, water quality, and infrastructure stewardship from a community-level perspective

Conservation/Resource Economy

To encourage smart water use that aligns with the region's demand-side projections from a user-level perspective





Employee Core

To ensure workforce members are informed about water issues and recognized for their roles, their dedication, and the ownership applied as TMWA team members

Customers-as-Consumers

To ensure customers know about the factors that may affect their bill statements, water rates, water service, or water quality

Annual Overview of Communication Tactics by Season

Engagement Tactics and Outreach Focus Areas		Core	Customer	Conserve	Leaders
	Civic presentations: Topics include water supply outlook, infrastructure projects		√	√	√
	Advertising campaign: Smart About Water paid messaging	√	√	√	√
	Electronic distributions:				
	<i>From the Source</i> eNews for Employees (monthly)	√			
	<i>Employee Spotlight</i> Email blast on a TWMA employee and their job (monthly)	√			
	<i>Project Shout-out</i> Highlight of projects TMWA has completed or been involved	√	√		
	<i>Quality.Delivered.</i> Customer eNews (quarterly)		√	√	√
	Social Media Posts Facebook (weekly)				
	Bill inserts/envelope backers: Timely news and tips (monthly)	√	√	√	
	Workshops and tours: Sprinkler maintenance, landscape/garden tours		√	√	
	Civic presentations: Topics include water supply outlook, infrastructure projects		√	√	√
	Electronic distributions: Continuation of eNews, email blasts, social media posts	√	√	√	√
	Info guide: Update new employee onboarding and continued training with customer FAQs and resource management information	√			
	Bill inserts/envelope backers: Timely news and tips (monthly)	√	√	√	
	Workshops and tours: Winterization, Chalk Bluff Plant, hydroelectric plants		√	√	√
	Civic presentations: Topics include water supply outlook, infrastructure projects		√	√	√
	Exhibit: Smart About Water year-in-review exhibits placed in high-traffic areas		√		√
	Electronic distributions: Newsletters and social media	√	√	√	√
	Bill inserts/envelope backers: Timely news and tips (monthly)	√	√	√	
	Civic presentations: Topics include water supply outlook, infrastructure projects		√	√	√
	Electronic distributions: Newsletters and social media	√	√	√	√
	Workshops and tours: Irrigation start-up, landscape, drip systems, Glendale tour		√	√	√
	Community event participation: Community spring cleanup			√	
	Community-owned events: Smart About Water Day	√	√	√	√
	Media education: Reporter-focused engagement at Smart About Water Day	√	√	√	√
	Bill inserts/envelope backers: Timely news and tips (monthly)	√	√	√	

While this plan focuses on paid campaigns and community outreach, this framework also supports TMWA in a cross-functional capacity in the following ways:

Natural Resources:	Water Resource Plan- <i>Communication planning and execution</i> Potable Re-use Projects- <i>Media relations</i>
Human Resources:	Employee Engagement- <i>New topic education and outreach</i>
Distribution & Maintenance:	Water Breaks/System Updates- <i>Media relations</i>
Operations:	Water Quality- <i>Media relations and paid media</i> Emergency Response- <i>Communication guidelines</i>

Tactics and Messaging: Leadership Network

Partners ■ Government Agencies ■ Elected Officials ■ Civic and Professional Organizations ■ Schools

Objective: To further inform regional leaders, civic organizations, and engaged citizen groups about TMWA's water resource management and infrastructure stewardship from a community-level perspective.

Tactics and Deployment Examples

- **Paid advertising:** Implement 2019 Summer Campaign with Smart About Water messaging from a community resource-management perspective.
- **Group presentations:** Demonstrate more complex topics or important seasonal updates to civic and professional groups.
- **Direct outreach:** Send information directly to community leaders as needed.
- **Owned events:** Leverage events such as Smart About Water Day in the spring to educate the community.
- **Educational exhibits:** Provide portable messaging at locations where civic business is conducted or where highly-engaged citizens tend to gather. Displays will feature multiple topics, rotating for four to five months in between summer paid advertising campaigns.
- **Partnership coordination:** Engage with key community partners to distribute messaging and materials on partner-owned channels.
- **Elected official tours:** Provide tours of water treatment facilities and hydroelectric generation plants.

Message Points to Reinforce

1. **Three plans, one solid future:** Through three coordinated plans (water resource, facilities, and funding plans), TMWA incorporates a long-term horizon into its management strategies to directly contribute to the quality of life for years to come by delivering high quality, affordable water.
2. **Supply continuity:** By leveraging a solid conjunctive-use strategy, TMWA provides consistency in water service to customers through management of river water, reservoirs, reserves, and aquifers.
3. **Growth:** As the service area expands, surface water is delivered to places previously reliant on groundwater. Access to surface water has resulted in aquifers recharging, which is stored until we need to use it.

Media Frequency

Monthly Features	Quarterly or Seasonal Features	One-Time Features
Newsletter	Paid summer campaign Group presentations Educational exhibits Events	Media publicity As-needed direct communication

Tactics and Messaging: Conservation

Residential Customers ■ Commercial Customers

Objective: Encourage smart water use (from a user-level perspective) that aligns with the region's water resource projections.

Tactics and Deployment Examples

- **Paid advertising:** Implement the 2019 Summer Campaign with Smart About Water messaging from an individual-user perspective.
- **Owned channels:** Use to raise awareness about events, videos, tours, workshops, and programs.
- **Owned events:** Produce informative events such as Smart About Water Day in the spring as well as workshops and tours.
- **Community events:** Create interactive opportunities at appropriate large community events.
- **Educational program:** Pursue school district partnerships to educate students and their families about conservation programs.
- **Publicity leverage:** Invite members of the media or high-profile personalities to fix something in their homes by using one of TMWA's videos.

Message Points to Reinforce

1. **Smart water use is commonplace.** Regardless of record snow years, smart water use is not a seasonal phenomenon; it's our norm.
2. **Smart water use is our expression of stewardship.** Celebrate how the community continually has stepped up over the years.
3. **TMWA conservation programs help customers stay resourceful.** There's always something to learn about or fix within the home to make it water efficient.

Media Frequency

Monthly Features	Quarterly or Seasonal Features	One-Time Features
Social media Bill inserts/envelope backers Partner program (TBD)	Paid summer campaign Workshops and tours Owned events Community events YouTube channel	Media publicity (as workshop season starts)

Tactics and Messaging: Customers-As-Consumers

Residential Customers ■ Commercial Customers

Objective: To ensure customers know about factors that may affect their bill statements, water service, or water quality.

Tactics and Deployment Examples

- **Owned events:** Ensure that billing and water quality information are available at public events. Inform customers about infrastructure status and needed forthcoming investments.
- **Owned channels—bill inserts:** Use to communicate details of planned infrastructure projects and educate on programs and tactics that can help customers conserve and save. Provide link access to water quality reports.
- **Owned channels—e-newsletters:** Use to communicate details on infrastructure projects, supply updates, and events. Educate on programs and tactics that can help customers conserve and save. Inform customers regarding infrastructure status and needed forthcoming investments. Provide link access to water quality reports.
- **Owned channels—social media:** Use to inform customers about workshops, tours, infrastructure projects, and employee highlights. Leverage digital format to provide helpful links to water quality update map and reports.
- **Direct email or phone calls:** Use to update customers on unplanned water service interruptions and/or upgrades.

Message Points to Reinforce

1. **System upkeep is a normal part of any utility operation.** As in any system with moving parts, regular maintenance and infrastructure investment normally keep everything running smoothly. Sometimes, temperatures or unexpected forces can cause breakdowns.
2. **TMWA crews are ready 24/7, 365 days per year.** Our teams get there as soon as possible after we are notified of problems and will work until all customers have water service restored.
3. **TMWA ensures water quality through diligence.** Reinforce TMWA's diligence in delivering high-quality water (i.e., 1,000 tests per month).
4. **Infrastructure rehabilitation is ongoing.** TMWA continually assesses the system infrastructure and proactively plans for replacement to keep water service consistent and reliable.

Media Frequency

Monthly Features	Quarterly or Seasonal Features	As-Needed Features
Bill inserts Envelope backers Bill copy messages	E-newsletters Events	Social media posts Direct email or phone calls New customer packets

Tactics and Messaging: Employee Core**Staff ■ Management ■ Bargaining Leaders**

Objective: To ensure the workforce is informed about water issues and is recognized for their roles, their dedication, and the ownership applied as a TMWA team member.

Tactics and Deployment Examples

- **Owned channels:** Give monthly, casual introductions of employees and their jobs. Distribute internally to foster more social connections and cross-functional awareness.
- **Internal operational materials:** Ensure that onboarding and training materials include common community concerns for Customers-As-Consumers, Resource Conservation, and Water Resource Management.
- **Owned channels:** Feature important or meaningful TMWA projects or initiatives. Distribute internally to raise awareness of TMWA's workforce expertise and/or community involvement.

Message Points to Reinforce

1. **TMWA's employees directly contribute to our community's quality of life.** TMWA's employee base provides the 24/7 dedication and grit that dependably delivers high-quality water to homes and businesses around the Truckee Meadows.
2. **TMWA's workforce has a solid legacy of doing the right thing.** TMWA's employees (current and past) know that the region is a special place to live and that work done over the years has helped ensure it stays this way through innovative solutions, foresight, and prudent infrastructure investments.
3. **TMWA's workforce skill set is robust.** From engineers to scientists to maintenance and machinery technicians, TMWA's workforce has the right skills to get the job done.

Media Frequency

Monthly Features	Quarterly or Seasonal Features	One-Time Features
Internal newsletters Customer bill inserts Employee spotlight	Paid summer campaign Project shout out (awareness)	Video interviews Media publicity

The 2019 Summer Campaign

Customers-As-Consumers ■ Employee Core ■ Conversation ■ Water Leadership

Smart About Water (SAW) Key Themes and Facts

The SAW campaign weaves together messages from each outreach focus area with recurring themes:

- **From surface to ground, this year's snowpack has delivered.** We are maximizing storage in upstream reservoirs, recharging wells in the Truckee Meadows, and resting the wells that we can—all thanks to this year's plentiful Truckee River supply.
- **Conservation is timeless.** With successful assigned-day watering since the mid-1980s, community stewardship helps our system respond to extreme weather realities. Our established conservation programs further empower customers to keep home and business systems efficient and water bills low.
- **Three paths, one solid future.** TMWA charts its service for the foreseeable future through three management plans: water resource, facilities, and funding. These plans collectively guide the utility to best manage water, invest in infrastructure, and keep customer costs low.
- **Reinforce Smart About Water facts.** Reinforce knowledge of watering days and times, water-quality testing, drought planning, reserves stored, hydroelectric benefits, growth/water rights, and key infrastructure projects.

Deliverable Formats and Channels: *Print, radio, TV, social, Web, distributed collateral*

The campaign will rotate a series of ads to reach our target audience. Web formats will be most varied, followed by print, radio, and TV. Distributed collateral will be unique to each format (e.g., monthly bill insert copy and e-newsletter). The media buy will integrate paid space and sponsorships with added-value requirements for each buy (additional space, website content, on-air contests, etc.).

Target Audiences: *Customers 25 years and older, community leader network*

In addition to traditional advertising, we will continually refine demographic targeting for our online ad buy. Channels may include news websites, high-impact local news videos, geo-tagged search engine advertising, and online activity categories via social media.

Tone: *Neighborly, responsive, unassuming, collaborative, capable, prudent*

We have established high levels of trust with our customers not only through consistent service levels over the years but through a proactive, responsive approach to managing customer relationships. The direct connection of water to residents' quality of life is important and an underlying tenet of stakeholder expectations and interaction.

Timing of Campaign Deliverables

Conservation exhibits: February 1–May 1

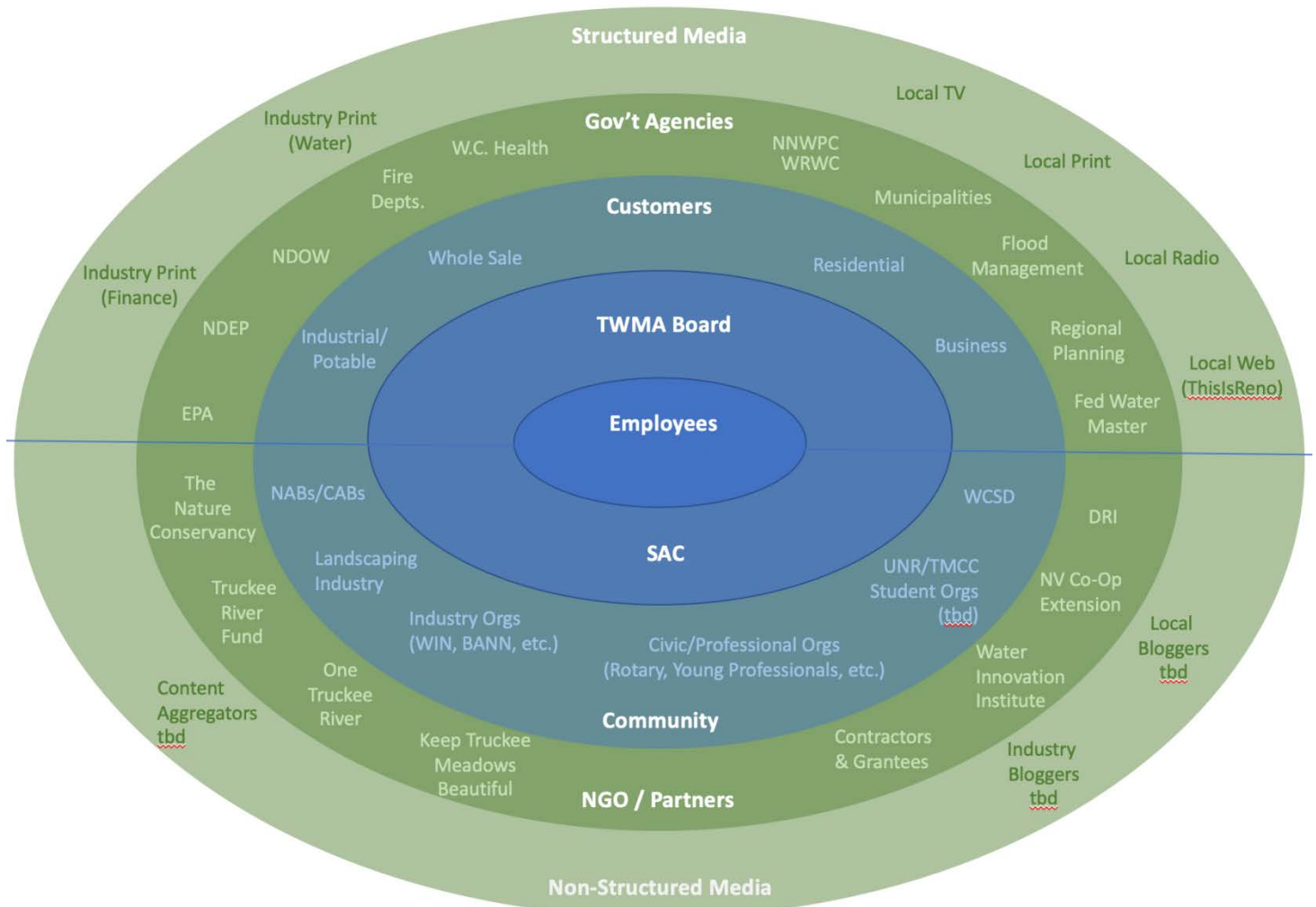
Paid space: May 22–September 20

Bill inserts/envelope backers: May, June, July, August, September

e-Newsletter: July

TMWA Internal and External Stakeholders Map and Matrix

The stakeholder map below is a categorized list of TMWA’s stakeholder community. This graphic, subject to change over time, is intended to reasonably and comprehensibly represent the internal and external stakeholders we interact with, serve, and affect. The blue dividing line is meant to bring additional context to critical affiliation stakeholder groups (above the line) and relative affiliation stakeholder groups (below the line).

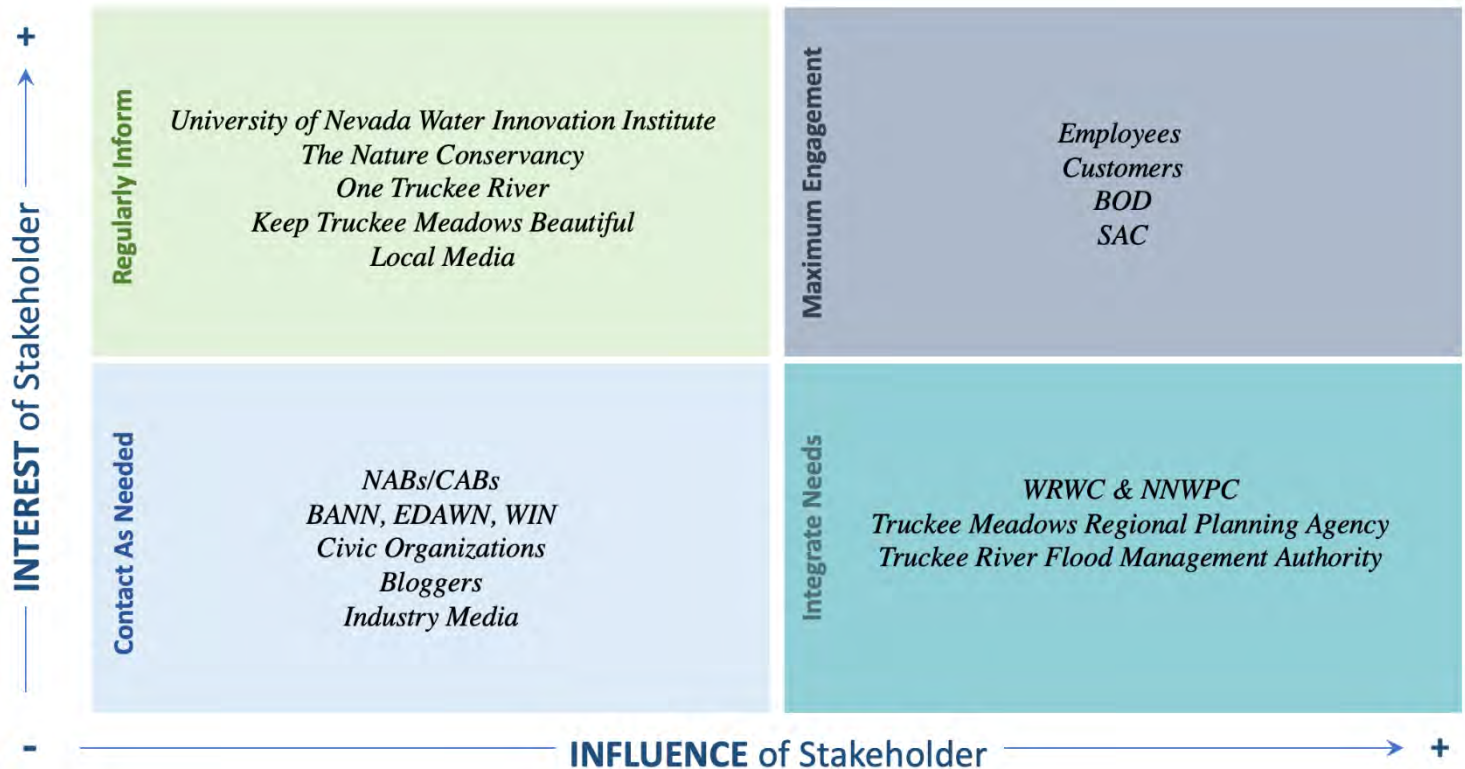


This map is a visual guide to comprehensively assess and ensure audience communication is as relevant as possible. A communications plan to address *all* critical and relative affiliation stakeholder groups on this graphic would certainly exceed the time, funds, and energy available, and it would be unnecessary to attempt to do so. TMWA’s water system and resource management may shift each year, which will help determine stakeholder priority for communication outreach. Each year, review of a prioritization matrix (page 11) based on this map will help guide engagement strategies.

Prioritization Matrix of Key Stakeholder Audiences for 2019

In the context of the 2019 communication plan, the following matrix identifies key stakeholder groups that will help TMWA assign outreach prioritization for outreach. These are stakeholders who are important to stay closely connected to in order to establish or maintain high levels of regional water-management knowledge.

The stakeholder groups below may be partners in community events, presentations, or paid campaign audiences, or they may be focus groups for other public relations efforts.



For example, beyond paid campaigns and direct mail outreach, we will continue to employ the following tactics to stay engaged with high-priority stakeholder groups:

- We will invite Truckee River Flood Management, Truckee Meadows Regional Planning and similar partners to display and present during the May Smart About Water Day.
- We will continue to present spring water-year updates to our SAC and local NABs/CABs.
- We will continue to prioritize direct correspondence with SAC and BOD members regarding TMWA's community outreach events.
- We have, and will continue to have, an ongoing relationship with local media.

In 2019, we will employ similar and expanded levels of inclusion to explore ways to include and/or integrate our priority stakeholders into TMWA's activities.

Overview of TMWA's Communication Channels

The following are TMWA's current inventory of controlled communication channels in order of distribution frequency. Content structure will adjust to accommodate tactical shifts in communication objectives or in the way the public utilizes the channel.

TMWA Facebook Page

Audience: Community
 Frequency: Weekdays
 Distribution: Facebook
 Content: + Links to educational or informational content
 + Links to workshop information and signup pages
 + Promotion of TMWA and community partner events
 + Employee highlights

From the Source Newsletter

Audience: Employee
 Frequency: Monthly
 Distribution: Email
 Content: + Updates from board of directors meeting
 + Spotlight from a mid-level-manager perspective on interesting projects or service calls
 + Employee milestones section to announce upcoming retirements, promotions, or other types of warranted recognition

Quality.Delivered Newsletter

Audience: Customers
 Frequency: Monthly
 Distribution: In billing statements and online
 Content: + Updates from board of directors meeting
 + Features *Employee in Service* snapshots
 + Updates on snowpack and water storage
 + Notices about upcoming workshops
 + Updates on water quality reports
 + Updates on large-scale projects and improvements
 + Tips on conservation and lowering bills
 + In-depth topic education and/or analysis when needed
 + Pertinent community news or partner announcements
 + All billing and rate information
 + Contact information, hours, and planned holiday closures

Bill Envelope Backers

Audience: Customers
Frequency: Monthly
Distribution: With bill statements
Content: + Quick spotlight on key topics
+ Reinforcing call to action when needed (e.g., start of 3x-per-week watering)

YouTube Channel

Audience: Community
Frequency: Topic dependent
Distribution: Social media, newsletters, TMWA websites
Video Content: + Do-it-yourself home water system projects
+ Spotlight on major infrastructure accomplishments
+ In-depth analysis of key topics or relevant historical perspectives

Smart About Water Website

Audience: Community
Frequency: Updated with summer campaign
Distribution: n/a
Content: + A quick-consumption complement to information featured on TMWA.com
+ A go-to source for all things water in the region
+ Home of Smart Facts for summer campaign
-> Water quality
-> Water system
-> River operations (anchored to Truckee River Operating Agreement)
-> Water use
-> Assorted fun facts