



TRUCKEE MEADOWS WATER AUTHORITY
Board of Directors
AGENDA
Wednesday, September 20, 2023 at 10:00 a.m.
Sparks Council Chambers, 745 4th Street, Sparks, NV

Board Members

Chair Kristopher Dahir – City of Sparks	Vice Chair Naomi Duerr – City of Reno
Paul Anderson – City of Sparks	Alexis Hill – Washoe County
Jenny Brekhus – City of Reno	Clara Andriola – Washoe County
Devon Reese – City of Reno	

NOTES:

1. The announcement of this meeting has been posted at the following locations: Truckee Meadows Water Authority (1355 Capital Blvd., Reno), at <http://www.tmwa.com>, and State of Nevada Public Notice Website, <https://notice.nv.gov/>.
2. TMWA meetings are streamed online at <https://www.youtube.com/@tmwboardmeetings6598>.
3. 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 (775) 834-8002 at least 24 hours before the meeting date.
4. Staff reports and supporting material for the meeting are available at TMWA and on the TMWA website at <http://www.tmwa.com/meeting/>. Supporting material is made available to the general public in accordance with NRS 241.020(6).
5. The Board 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.
6. Asterisks (*) denote non-action items.
7. Public comment during the meeting is limited to three minutes and is allowed during the two public comment periods rather than each action item. 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 Chair has the discretion to allow public comment on any individual agenda item, including any item on which action is to be taken.
8. Written public comment may be provided by submitting written comments online on TMWA’s Public Comment Form (tmwa.com/PublicComment) or by email sent to boardclerk@tmwa.com prior to the Board opening the public comment period during the meeting. In addition, public comments may be provided by leaving a voicemail at (775)834-0255 prior to 4:00 p.m. the day before the scheduled meeting. Voicemail messages received will be noted during the meeting and summarized for entry into the record.
9. In the event the Chair and Vice-Chair are absent, the remaining Board members may elect a temporary presiding officer to preside over the meeting until the Chair or Vice-Chair are present (**Standing Item of Possible Action**).
10. Notice of possible quorum of Western Regional Water Commission: Because several members of the Truckee Meadows Water Authority Board of Directors are also Trustees of the Western Regional Water Commission, it is possible that a quorum of the Western Regional Water Commission may be present, however, such members will not deliberate or take action at this meeting in their capacity as Trustees of the Western Regional Water Commission.

1. Roll call*
2. Pledge of allegiance*
3. Public comment — limited to no more than three minutes per speaker*
4. Possible Board comments or acknowledgements*
5. Approval of the agenda (**For Possible Action**)

¹The Board may adjourn from the public meeting at any time during the agenda to receive information and conduct labor-oriented discussions in accordance with NRS 288.220 or receive information from legal counsel regarding potential or existing litigation and to deliberate toward a decision on such matters related to litigation or potential litigation.

6. Approval of the minutes of the August 16, 2023 meeting of the TMWA Board of Directors **(For Possible Action)**
7. Presentation of fiscal year 2023 unaudited financial performance — Matt Bowman*
8. Discussion and action on Resolution No. 318: A resolution authorizing the deposit of legally available moneys into an escrow account in an amount not to exceed \$75,000,000.00 for the defeasance and call for prior redemption of certain of the authority's outstanding bonds; authorizing the execution of an escrow agreement in connection therewith; and providing the effective date hereof — Matt Bowman **(For Possible Action)**
9. Discussion and action on Resolution No. 319: A resolution designated by the short title "2023 bond resolution" authorizing the issuance by the Truckee Meadows Water Authority of its "Truckee Meadows Water Authority, water revenue bonds, series 2023," in the maximum aggregate principal amount of \$76,000,000.00 for the purpose of defraying wholly or in part the cost of acquiring, constructing, improving and equipping water facilities; providing the form, terms and conditions of the bonds, and the security therefor; providing for the collection and disposition of revenues derived from the operation of the authority's water system; pledging such revenues to the payment of the bonds; and providing other covenants, agreements and details relating thereto — Matt Bowman **(For Possible Action)**
10. Discussion and action, and possible direction to staff regarding funding plan and proposed rate adjustments — Matt Bowman **(For Possible Action)**
11. Presentation on results of employee development and engagement efforts — Jessica Atkinson, Cammy Elquist LoRe, and John Zimmerman*
12. Presentation of General Manager goal results for contract year 2022-2023 — John Zimmerman*
13. Discussion and action on request for Board input and acceptance of General Manager performance objectives for contract year 2023-2024 — John Zimmerman **(For Possible Action)**
14. Discussion and possible direction from Board regarding the evaluation process for conducting the General Manager's performance evaluation — Jessica Atkinson and John Zimmerman **(For Possible Action)**
15. Discussion and action on Resolution No. 320: A Resolution to approve funding for the projects recommended by the Truckee River Fund Advisory Committee and an authorization for the Community Foundation to fund such projects from Fund proceeds (Resolution may reflect action taken in one or more votes on recommended projects) — Sonia Folsom and Kara Steeland **(For Possible Action)**
16. General Manager's Report*
17. Public comment — limited to no more than three minutes per speaker*
18. Board comments and requests for future agenda items*
19. Adjournment **(For Possible Action)**

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TRUCKEE MEADOWS WATER AUTHORITY
DRAFT MINUTES OF THE AUGUST 16, 2023
MEETING OF THE BOARD OF DIRECTORS

The Board of Directors met on Wednesday, August 16, 2023 at Sparks Council Chambers. Chair Dahir called the meeting to order at 10:13 a.m.

1. ROLL CALL

Directors Present: Paul Anderson, Clara Andriola, *Kristopher Dahir, Naomi Duerr, Alexis Hill, **Devon Reese, and Alternate Megan Ebert.

Directors Absent: Jenny Brekhus

A quorum was present.

**Chair Dahir left the meeting at 10:29 a.m.*

***Director Reese left the meeting at 11:41 a.m.*

2. PLEDGE OF ALLEGIANCE

The pledge of allegiance was led by Director Hill.

3. PUBLIC COMMENT

There was no public comment.

4. POSSIBLE BOARD COMMENTS OR ACKNOWLEDGEMENTS

There were no board comments or acknowledgements.

5. APPROVAL OF THE AGENDA

Upon motion by Director Anderson, second by Director Hill, which motion duly carried by unanimous consent of the Directors present, the Board approved the agenda.

6. APPROVAL OF THE MINUTES OF THE JUNE 21, 2023 MEETING

Upon motion by Director Hill, second by Director Reese, which motion duly carried by unanimous consent of the Directors present, the Board approved the June 21, 2023 minutes.

7. DISCUSSION AND ACTION, AND POSSIBLE DIRECTION TO STAFF REGARDING FUNDING PLAN AND PROPOSED RATE ADJUSTMENTS

Matt Bowman, TMWA Chief Financial Officer, introduced Thomas Toepfer, PFM Financial Advisors Managing Director, who has worked with TMWA on proposed rate adjustments in the past. Mr. Bowman presented the proposed rate schedule, which included two scenarios, public meeting and workshop schedule and implementation timeline. Mr. Bowman explained the single-digit rate increases over the next five years is targeted to address recent inflationary pressure which is anticipated to continue in the near future, and to ensure the Board's policy to maintain a minimum 1.50x debt-service coverage ratio which directly impacts TMWA's credit rating.

Members of the Board expressed concern about raising rates knowing many customers are experiencing financial hardship, while understanding that it is necessary to keep TMWA in good financial standing, and suggested staff return with two additional scenarios (higher increase structure and establishing a low-income program) as well as to evaluate delaying the rate adjustments pending the rate-structure study which will be completed by the end of the year and presented to the Board in early 2024.

No motion taken.

8. DISCUSSION AND ACTION, AND POSSIBLE DIRECTION TO STAFF REGARDING POTENTIAL DEBT RESTRUCTURE THROUGH A CASH OPTIMIZATION

Mr. Bowman presented the staff report for Board consideration to restructure approximately \$75m of TMWA debt to lower interest bonds and if the Board approved such an endeavor, staff would return with a resolution at the next meeting for Board approval.

Upon motion by Director Anderson, second by Director Hill, which motion duly carried by unanimous consent of the Directors present, the Board approved staff recommendation regarding potential debt restructure through a cash optimization and for staff to return in September with a resolution.

9. UPDATE AND PRESENTATION ON THE TRUCKEE RIVER BASIN WATER MANAGEMENT OPTIONS PILOT (WMOP) STUDY PROJECT

Bill Hauck, TMWA Water Supply Supervisor, provided an update on the WMOP study project which began in August 2020 and funded by a Bureau of Reclamation grant. Mr. Hauck explained the study's focus is to address changing climate conditions as it relates to reservoir operations and optimizing storage while minimizing the dangers of flooding. The current guidelines have been in place, without change, since the mid-1980s, the study's results offer alternative operational approaches and the final report will be presented to the Board later this year.

10. GENERAL MANAGER'S REPORT

Mr. Zimmerman informed the Board that TMWA's Verdi Hydroelectric Power Plant was inducted into the Hydro Hall of Fame for 2023 (only 66 legacy hydropower plants worldwide have been inducted since 1995), the St. James Village appeal date is set for November 7th, 2023, commended the crews and operations staff who worked on a high-pressure main break in Montreux last week Wednesday at 10pm and for their hard work to keep our customers with water, TMWA has entered the Dragon Boat Races for the first time and staff is excited about the event, and introduced TMWA's new Water Rights Manager, Eddy Quaglieri, who joined TMWA in mid-July from Carson City Public Works.

11. PUBLIC COMMENT

There was no public comment.

12. BOARD COMMENTS AND REQUESTS FOR FUTURE AGENDA ITEMS

There were no Board comments.

1. ADJOURNMENT

With no further discussion, Chair Dahir adjourned the meeting at 11:54 a.m.

Approved by the TMWA Board of Directors in session on _____.

Sonia Folsom, Board Clerk.

****Chair Dahir was present for agenda items 1 thru 7 only.***

*****Director Reese was present for agenda items 1 thru 9 only.***



TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Matt Bowman, Chief Financial Officer
DATE: September 12, 2023
SUBJECT: Presentation of fiscal year 2023 unaudited financial performance

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 2023	Budget YTD 2023	Variance \$	Variance %
CHANGE IN NET POSITION	\$ 30,224,075	\$ 74,574,771	\$ (44,350,696)	(59)%

Change in net position was \$44.4m or 59% lower than budget in 2023. This was driven by lower operating revenues, and lower than budgeted contributions related to lower connection fees and less contributions related to the construction of the Advanced Purified Water (APW) facility at American Flat.

Year over Year

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
CHANGE IN NET POSITION	\$ 30,224,075	\$ 46,089,788	\$ (15,865,713)	(34)%

Change in net position was \$15.9m or 34% lower than the prior year. This was due to higher operating and nonoperating revenues offset by higher operating expenses and lower capital contributions.

RevenueBudget to Actual

	Actual YTD 2023	Budget YTD 2023	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	107,098,581	113,142,185	(6,043,604)	(5)%
Hydroelectric Sales	2,928,163	2,407,214	520,949	22 %
Other Operating Sales	3,122,397	3,861,065	(738,668)	(19)%
Total Operating Revenues	113,149,141	119,410,464	(6,261,323)	(5)%

Operating revenue was \$6.3m or 5% lower than budget through Q4 2023. This was mostly driven by lower water sales. Water consumption during the year was significantly lower than budget due both the first quarter (late summer 2022) and fourth quarter (spring 2023). There was significant precipitation and cooler temperatures in Q4 2023 which led to significantly lower water use. Nearly all of the \$6.0m variance resulted from Q4.

Year over Year

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	107,098,581	108,172,970	(1,074,389)	(1)%
Hydroelectric Sales	2,928,163	2,551,333	376,830	15 %
Other Operating Sales	3,122,397	3,846,679	(724,282)	(19)%
Total Operating Revenues	113,149,141	114,570,982	(1,421,841)	(1)%

Total operating revenues were lower than prior year by \$1.4m or 1%. Water sales were lower than prior year due to lower consumption primarily due to high precipitation in spring and summer offset by 2.5% rate increase in June 2023. Hydroelectric sales were higher due to sustained river flows and plants online for more time than in the prior year.

Operating ExpensesBudget to Actual

	Actual YTD 2023	Budget YTD 2023	Variance \$	Variance %
OPERATING EXPENSES				
Salaries and Wages	27,309,513	29,656,188	(2,346,675)	(8)%
Employee Benefits	13,905,722	12,842,853	1,062,869	8 %
Services and Supplies	38,311,560	38,572,516	(260,956)	(1)%
Total Operating Expenses Before Depreciation	79,526,795	81,071,557	(1,544,762)	(2)%
Depreciation	34,848,532	34,628,346	220,186	1 %
Total Operating Expenses	114,375,327	115,699,903	(1,324,576)	(1)%

Total operating expenses were \$1.3m lower or 1% than budget through Q4 2023. Salaries and wages and employee benefits are both lower due primarily to position vacancies. Employee benefits are higher than budget due to actuarial adjustments affecting both PERS and OPEB expenses. Both of those expenses are tied to annual actuarial valuations which consider the market value of the underlying investments. Due to poor investment performance, the valuations resulted in a large expense in FY 2023. Following the budget augmentation after the first half of the fiscal year related to electric power and chemical costs, services and supplies expense ended the year in line with budget.

Year over Year

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
OPERATING EXPENSES				
Salaries and Wages	27,309,513	24,735,686	2,573,827	10 %
Employee Benefits	13,905,722	7,461,199	6,444,523	86 %
Services and Supplies	38,311,560	32,768,771	5,542,789	17 %
Total Operating Expenses Before Depreciation	79,526,795	64,965,656	14,561,139	22 %
Depreciation	34,848,532	33,642,537	1,205,995	4 %
Total Operating Expenses	114,375,327	98,608,193	15,767,134	16 %

Year over year operating expenses were \$15.8m or 16% higher compared to the prior year. Salaries and wages and benefits are higher than prior year to due to Labor Market Index (LMI) increases, step increases, and additions to staff during FY 2023. Employee benefits were significantly higher than prior year for the reason discussed above. Services and supplies expenses are higher due to higher costs resulting from inflation, primarily price increases to electric power and chemical costs.

Non-Operating ExpensesBudget to Actual

	Actual YTD 2023	Budget YTD 2023	Variance \$	Variance %
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,576,888	3,064,024	512,864	17 %
Net Increase (Decrease) in FV of Investments	(1,626,597)	—	(1,626,597)	— %
Gain (Loss) on Disposal of Assets	(1,261,500)	(1,700,000)	438,500	(26)%
Amortization of Bond/note Issuance Costs	—	—	—	— %
Interest Expense	(11,522,905)	(11,499,699)	(23,206)	— %
Total Nonoperating Revenues (Expenses)	(10,834,114)	(10,135,675)	(698,439)	7 %

Nonoperating expenses were \$0.7m or 7% higher than budgeted than in 2023. This is primarily due to a net decrease in fair value of investments. Due to rising interest rates, TMWA recognizes a fair value loss on investments. Five and ten year treasury yields continue to increase. Five year treasury yield was 3.01% on June 30, 2022 and 4.13% on June 30, 2023. Investment earnings are greater than budget, as rates are rising, maturing securities are reinvested at higher rates.

Year over Year

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,576,888	2,028,627	1,548,261	76 %
Net Increase (Decrease) in FV of Investments	(1,626,597)	(10,605,392)	8,978,795	(85)%
Gain (Loss) on Disposal of Assets	(1,261,500)	(938,661)	(322,839)	34 %
Amortization of Bond/note Issuance Costs	—	801	(801)	(100)%
Interest Expense	(11,522,905)	(11,954,097)	431,192	(4)%
Total Nonoperating Revenues (Expenses)	(10,834,114)	(21,468,722)	10,634,608	(50)%

Nonoperating expenses were lower than prior year by \$10.6m or 50%, primarily due to reasons discussed above.

Capital ContributionsBudget to Actual

	Actual YTD 2023	Budget YTD 2023	Variance \$	Variance %
CAPITAL CONTRIBUTIONS				
Grants	88,724	3,585,636	(3,496,912)	(98)%
Water Resource Sustainability Program	798,007	2,840,000	(2,041,993)	(72)%
Developer Infrastructure Contributions	19,884,818	21,903,168	(2,018,350)	(9)%
Developer Will-serve Contributions (Net of Refunds)	3,620,779	7,245,700	(3,624,921)	(50)%
Developer Capital Contributions - Other	9,374,789	11,044,199	(1,669,410)	(15)%
Developer Facility Charges (Net of Refunds)	7,062,713	13,186,258	(6,123,545)	(46)%
Contributions from Others	40,741	94,924	(54,183)	(57)%
Contributions from Other Governments	1,413,804	21,100,000	(19,686,196)	(93)%
Net Capital Contributions	42,284,375	80,999,885	(38,715,510)	(48)%

Capital contributions were \$38.7m or 48% lower than budget. The primary driver is lower contributions from other governments related to the American Flat APW project. This is timing related and is based on the actual spend on the project which is in the design phase. These contributions are expected in FY 2024. Also contributing to the variance are lower connection fees. The total connection fee variance is approximately \$13.5m which reflects a slow down in developer payments on water projects.

Year over Year

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
CAPITAL CONTRIBUTIONS				
Grants	88,724	2,164,651	(2,075,927)	(96)%
Water Resource Sustainability Program	798,007	1,409,024	(611,017)	(43)%
Developer Infrastructure Contributions	19,884,818	18,167,149	1,717,669	9 %
Developer Will-serve Contributions (Net of Refunds)	3,620,779	4,436,788	(816,009)	(18)%
Developer Capital Contributions - Other	9,374,789	11,835,501	(2,460,712)	(21)%
Developer Facility Charges (Net of Refunds)	7,062,713	12,862,786	(5,800,073)	(45)%
Contributions from Others	40,741	—	40,741	— %
Contributions from Other Governments	1,413,804	719,822	693,982	96 %
Net Capital Contributions	42,284,375	51,595,721	(9,311,346)	(18)%

Year over year, capital contributions are \$9.3m or 18% lower than the prior year due to lower connection fees offset by higher developer infrastructure contributions.

Capital Spending

Cash spent on capital outlays and construction projects in FY2023 was approximately \$53.6m. Total budgeted capital spend for FY2023 is \$83.9m, which includes \$20m and \$15m for the American Flat APW facility and Orr Ditch pump station and hydro facility, respectively. Spending on the top three projects is listed below:

Orr Ditch Pump Station BPS	\$5.9m
Tank rehab/improvements	\$4.4m
AMI - meter installations	\$3.7m

Cash Position

At June 30, 2023 total cash and investments was \$207.3m or \$21.3m lower than at the beginning of the fiscal year. Of the total cash and investments, \$153.0m was unrestricted to be used to meet upcoming and future operating and maintenance expenses, principal and interest payments and construction project payments. The remaining \$54.3m 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 four quarters ended June 30, 2023

	Actual YTD 2023	Budget YTD 2023	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	\$ 107,098,581	\$ 113,142,185	\$ (6,043,604)	(5)%
Hydroelectric Sales	2,928,163	2,407,214	520,949	22 %
Other Operating Sales	3,122,397	3,861,065	(738,668)	(19)%
Total Operating Revenues	113,149,141	119,410,464	(6,261,323)	(5)%
OPERATING EXPENSES				
Salaries and Wages	27,309,513	29,656,188	(2,346,675)	(8)%
Employee Benefits	13,905,722	12,842,853	1,062,869	8 %
Services and Supplies	38,311,560	38,572,516	(260,956)	(1)%
Total Operating Expenses Before Depreciation	79,526,795	81,071,557	(1,544,762)	(2)%
Depreciation	34,848,532	34,628,346	220,186	1 %
Total Operating Expenses	114,375,327	115,699,903	(1,324,576)	(1)%
OPERATING INCOME	(1,226,186)	3,710,561	(4,936,747)	(133)%
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,576,888	3,064,024	512,864	17 %
Net Increase (Decrease) in FV of Investments	(1,626,597)	—	(1,626,597)	— %
Gain (Loss) on Disposal of Assets	(1,261,500)	(1,700,000)	438,500	(26)%
Amortization of Bond/note Issuance Costs	—	—	—	— %
Interest Expense	(11,522,905)	(11,499,699)	(23,206)	— %
Total Nonoperating Revenues (Expenses)	(10,834,114)	(10,135,675)	(698,439)	7 %
Gain (Loss) Before Capital Contributions	(12,060,300)	(6,425,114)	(5,635,186)	88 %
CAPITAL CONTRIBUTIONS				
Grants	88,724	3,585,636	(3,496,912)	(98)%
Water Resource Sustainability Program	798,007	2,840,000	(2,041,993)	(72)%
Developer Infrastructure Contributions	19,884,818	21,903,168	(2,018,350)	(9)%
Developer Will-serve Contributions (Net of Refunds)	3,620,779	7,245,700	(3,624,921)	(50)%
Developer Capital Contributions - Other	9,374,789	11,044,199	(1,669,410)	(15)%
Developer Facility Charges (Net of Refunds)	7,062,713	13,186,258	(6,123,545)	(46)%
Contributions from Others	40,741	94,924	(54,183)	(57)%
Contributions from Other Governments	1,413,804	21,100,000	(19,686,196)	(93)%
Net Capital Contributions	42,284,375	80,999,885	(38,715,510)	(48)%
CHANGE IN NET POSITION	\$ 30,224,075	\$ 74,574,771	\$ (44,350,696)	(59)%

Truckee Meadows Water Authority

Comparative Statements of Revenues, Expenses and Changes in Net Position
For the four quarters ended June 30, 2023

	Actual YTD 2023	Actual YTD 2022	Variance \$	Variance %
OPERATING REVENUES				
Charges for Water Sales	\$ 107,098,581	\$ 108,172,970	\$ (1,074,389)	(1)%
Hydroelectric Sales	2,928,163	2,551,333	376,830	15 %
Other Operating Sales	3,122,397	3,846,679	(724,282)	(19)%
Total Operating Revenues	113,149,141	114,570,982	(1,421,841)	(1)%
OPERATING EXPENSES				
Salaries and Wages	27,309,513	24,735,686	2,573,827	10 %
Employee Benefits	13,905,722	7,461,199	6,444,523	86 %
Services and Supplies	38,311,560	32,768,771	5,542,789	17 %
Total Operating Expenses Before Depreciation	79,526,795	64,965,656	14,561,139	22 %
Depreciation	34,848,532	33,642,537	1,205,995	4 %
Total Operating Expenses	114,375,327	98,608,193	15,767,134	16 %
OPERATING INCOME	(1,226,186)	15,962,789	(17,188,975)	(108)%
NONOPERATING REVENUES (EXPENSES)				
Investment Earnings	3,576,888	2,028,627	1,548,261	76 %
Net Increase (Decrease) in FV of Investments	(1,626,597)	(10,605,392)	8,978,795	(85)%
Gain (Loss) on Disposal of Assets	(1,261,500)	(938,661)	(322,839)	34 %
Amortization of Bond/note Issuance Costs	—	801	(801)	(100)%
Interest Expense	(11,522,905)	(11,954,097)	431,192	(4)%
Total Nonoperating Revenues (Expenses)	(10,834,114)	(21,468,722)	10,634,608	(50)%
Gain (Loss) Before Capital Contributions	(12,060,300)	(5,505,933)	(6,554,367)	119 %
CAPITAL CONTRIBUTIONS				
Grants	88,724	2,164,651	(2,075,927)	(96)%
Water Resource Sustainability Program	798,007	1,409,024	(611,017)	(43)%
Developer Infrastructure Contributions	19,884,818	18,167,149	1,717,669	9 %
Developer Will-serve Contributions (Net of Refunds)	3,620,779	4,436,788	(816,009)	(18)%
Developer Capital Contributions - Other	9,374,789	11,835,501	(2,460,712)	(21)%
Developer Facility Charges (Net of Refunds)	7,062,713	12,862,786	(5,800,073)	(45)%
Contributions from Others	40,741	—	40,741	— %
Contributions from Other Governments	1,413,804	719,822	693,982	96 %
Net Capital Contributions	42,284,375	51,595,721	(9,311,346)	(18)%
CHANGE IN NET POSITION	\$ 30,224,075	\$ 46,089,788	\$ (15,865,713)	(34)%



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Matt Bowman, CFO
DATE: September 13, 2023
SUBJECT: **Discussion and action on Resolution No. 318: A resolution authorizing the deposit of legally available moneys into an escrow account in an amount not to exceed \$75,000,000.00 for the defeasance and call for prior redemption of certain of the authority's outstanding bonds; authorizing the execution of an escrow agreement in connection therewith; and providing the effective date hereof**

Recommendation

TMWA staff recommends the Board consider the opportunity to restructure approximately \$75m in existing debt and adopt a resolution for defeasance of existing debt.

Discussion

At the August 2023 Board meeting the Board directed staff to pursue this opportunity and work with bond counsel to prepare and present the necessary resolutions at the September 20, 2023 Board meeting. Attachment #1 includes August's staff report which discusses the transaction in more detail.

Recommended Motion

Move to approve Resolution #318: A resolution authorizing the deposit of legally available moneys into an escrow account in an amount not to exceed \$75,000,000.00 for the defeasance and call for prior redemption of certain of the authority's outstanding bonds; authorizing the execution of an escrow agreement in connection therewith; and providing the effective date hereof, provided the estimated savings of the defeasance and issuance of the 2023 Bonds, combined, achieves a Net Present Value savings of at least 5%.



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Matt Bowman, CFO
DATE: August 8, 2023
SUBJECT: Discussion and action, and possible direction to staff regarding potential debt restructure through a cash optimization

Recommendation

TMWA staff recommends the Board consider the opportunity to restructure approximately \$75m in existing debt, using a cash optimization strategy which is estimated to result in a net present value savings of 9.14% at current rates.

Discussion

Along with TMWA's financial advisor, PFM, Staff is presenting an opportunity to restructure approximately \$75m of outstanding debt at lower interest rates. Using a cash optimization strategy, TMWA would pay off higher cost, existing debt, then issue new debt at lower rates. At current rates, this transaction would result in a net present value savings of \$6.4m, or 9.14% of the defeased bonds. Staff does not expect the savings from this transaction to directly impact customer rates. See *Attachment A* for a sensitivity analysis comparing changes in current market rates to net present value return on the transaction. The analysis shows that an increase in market rates of 0.69% would result in a 3% net present value savings.

A cash optimization strategy to restructure debt at tax exempt rates is an accepted method due to a minimum 15-day separation between the defeasance of existing debt and sale date for the issuance of new debt. This is acceptable, generally, because there is market interest rate risk during this 15-day period. The substance of this transaction has been discussed with TMWA's bond counsel, Sherman & Howard.

The cash optimization strategy is not a refunding but may result in present value savings similar to those achieved in a refunding. According to TMWA's Debt Management Policy, TMWA will generally consider refunding outstanding bonds if one or more of the following conditions exist:

- 1. Present value savings are at least three percent of the par amount of the refunding bonds.*
- 2. The bonds to be refunded have restrictive or outdated covenants.*
- 3. Restructuring the debt is deemed to be desirable.*

Should the Board direct Staff to pursue this opportunity, Staff would bring two resolutions to the Board in September, formally authorizing Staff to move forward with the defeasance and issuance of new money bonds. The current timeline specifies the defeasance of the existing debt on September 28, with the new money bonds priced on October 17th. Staff would continue to monitor the estimated return on the transaction up to the point of the defeasance, with the ability to defer or not execute the transaction should the estimated return fall below three percent.

It should be noted that if Staff moves forward with the transaction, but ultimately determines not to execute, there could be issuance costs incurred by TMWA. These costs are estimated to be no more than \$150k.

Possible Motions

- Move to direct staff to pursue the opportunity presented and work with bond counsel to prepare resolutions for defeasance and issuance of new money bonds for approval at the September Board meeting.
- Move to direct staff to discontinue pursuing the opportunity at this time.



Truckee Meadows Water Authority

Cash Optimization Opportunity

August 8, 2023

PFM Financial Advisory LLC

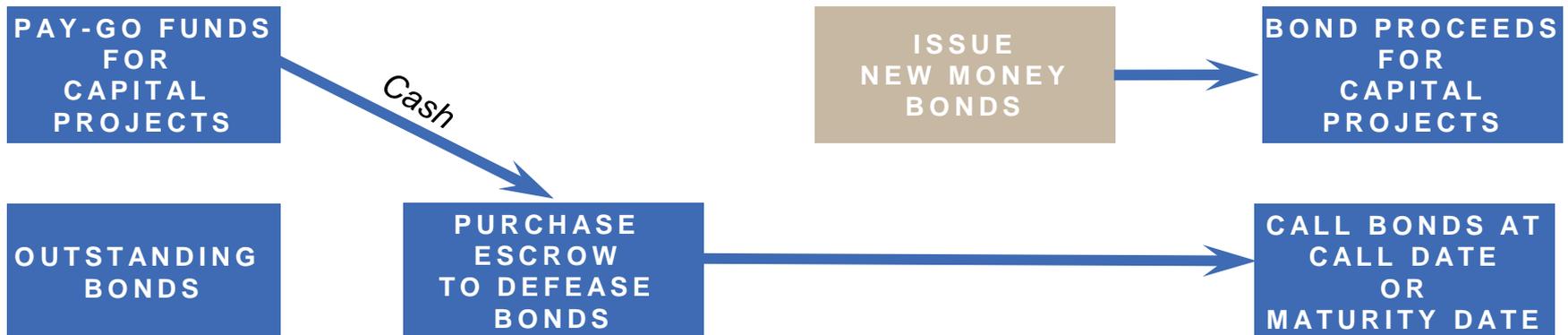
107 Spring Street
Seattle, WA 98104

Thomas Toepfer
206.858.5360
pfm.com



Cash Optimization Strategy

- TMWA has identified up to \$75 million in capital projects to be funded over the next 3 years. PFM estimates that TMWA can borrow for these projects at a rate of approximately 3.25%
- TMWA has identified a similar amount of existing debt paying a rate of 5% that can be defeased
- The difference in the lower cost new debt (~3.25% interest cost) versus the defeased higher cost existing debt (~5%) has an estimated net present value of \$6.4 million in the current market
- Both transactions (a) the defeasance of existing debt and (b) the issuance of new bonds for capital projects have to be completed separately – typically a time difference of at least 15 days
 - There is market interest rate risk during this time
- TMWA would have approximately the same amount of debt outstanding after the cash optimization strategy as before
 - no additional debt





Debt Service Impact and Sensitivity to Interest Rates

- TMWA and PFM will continue to monitor this opportunity and present actions to the Board in September

Period Ending	2015 and 2016 Deceased Bonds Debt Service	Debt Service for New Capital Projects	Difference	Difference if Rates increase 0.22%	Difference if Rates increase 0.46%	Difference if Rates increase 0.69%
6/30/2024	\$1,752,250	\$492,338	\$1,259,913	\$1,251,325	\$1,241,800	\$1,232,575
6/30/2025	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2026	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2027	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2028	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2029	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2030	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2031	3,504,500	3,282,250	222,250	165,000	101,500	40,000
6/30/2032	5,147,375	4,291,375	856,000	637,875	389,125	152,125
6/30/2033	10,484,125	9,626,500	857,625	638,000	393,875	156,125
6/30/2034	30,143,500	29,286,000	857,500	636,875	392,750	154,750
6/30/2035	30,109,750	29,249,250	860,500	634,500	390,875	153,125
6/30/2036	2,214,125	1,357,500	856,625	635,750	393,125	156,125
6/30/2037	2,208,875	1,353,000	855,875	635,500	389,500	153,750
Total	\$106,591,500	\$98,631,713	\$7,959,788	\$6,224,825	\$4,301,550	\$2,438,575
		Net Present Value	\$6,405,241	\$5,000,000	\$3,500,000	\$2,100,000
		Net Present Value as % of deceased bonds	9.14%	7.10%	5.00%	3.00%

Assumes interest rates as of August 3, 2023 – Bloomberg BVAL for AA-rated water/sewer utilities plus 10 bps.
The net present value is based on the arbitrage yield of the new money bonds.

RESOLUTION NO. 318

A RESOLUTION AUTHORIZING THE DEPOSIT OF LEGALLY AVAILABLE MONEYS INTO AN ESCROW ACCOUNT IN AN AMOUNT NOT TO EXCEED \$75,000,000 FOR THE DEFEASANCE AND CALL FOR PRIOR REDEMPTION OF CERTAIN OF THE AUTHORITY'S OUTSTANDING BONDS; AUTHORIZING THE EXECUTION OF AN ESCROW AGREEMENT IN CONNECTION THEREWITH; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the Truckee Meadows Water Authority (the "Authority") was duly organized as a joint powers authority and is operating in accordance with the provisions of the "Truckee Meadows Water Authority Cooperative Agreement among City of Reno, City of Sparks, County of Washoe" dated December 4, 2000, as amended (the "TMWA Cooperative Agreement") entered into pursuant to the provisions of Nevada Revised Statutes ("NRS") 277.080 to 277.180, inclusive, as amended; and

WHEREAS, in accordance with the TMWA Cooperative Agreement and NRS Chapter 350, the Authority has previously issued its: (i) Truckee Meadows Water Authority, Nevada, Water Revenue Refunding Bonds, Series 2015A (the "2015A Bonds"); and (ii) Truckee Meadows Water Authority, Nevada, Water Revenue Refunding Bonds, Series 2016 (the "2016 Bonds"); and

WHEREAS, pursuant to the bond resolutions adopted by the Board authorizing the issuance of the 2015A Bonds and the 2016 Bonds, The Bank of New York Mellon Trust Company, N.A. was appointed paying agent, registrar and trustee (the "Paying Agent") for the 2015A Bonds and the 2016 Bonds; and

WHEREAS, the Board of Directors of the Authority (the "Board") has determined to utilize legally available moneys to defease and redeem certain maturities of the 2015A Bonds and/or certain maturities of the 2016 Bonds (collectively, the "Redeemed Bonds") set forth in an escrow agreement (the "Escrow Agreement") between the Authority and The Bank of New York Mellon Trust Company, N.A., as escrow bank (the "Escrow Bank").

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE TRUCKEE MEADOWS WATER AUTHORITY DO RESOLVE:

Section 1. Short Title. This resolution shall be known as the, and may be cited by the short title, "2023 Cash Defeasance Resolution" (the "Resolution").

Section 2. Escrow Account. The Authority's Chief Financial Officer (the "Chief Financial Officer") shall deposit available moneys in an amount not to exceed \$75,000,000 in an account hereby created and designated as the "Truckee Meadows Water Authority 2023 Escrow Account" (the "Escrow Account") to be held by the Escrow Bank, in an amount fully sufficient to

defeasance, refund, pay and discharge the Redeemed Bonds under the terms and conditions set forth in the Escrow Agreement.

Section 3. Maintenance of Escrow Account.

A. The Escrow Account shall be maintained in an amount at the time of those initial deposits therein and at all times subsequently at least sufficient, together with the known minimum yield to be derived from the initial investment and any temporary reinvestment of the deposits therein or any part thereof in bills, certificates of indebtedness, notes, bonds, or similar securities which are direct obligations of, or the principal and interest of which securities are unconditionally guaranteed by, the United States, to pay the principal and interest due in connection with the Redeemed Bonds, both accrued and not accrued, as the same become due up to and including the redemption dates of the Redeemed Bonds (the "Redemption Dates"), all as specified in the Escrow Agreement; and to redeem, on the Redemption Dates, all of the principal amounts of the Redeemed Bonds then outstanding, accrued interest to the Redemption Dates, and any required premium.

B. Moneys shall be withdrawn by the Escrow Bank from the Escrow Account in sufficient amounts and at such times to permit the payment without default of principal and interest due in connection with the Redeemed Bonds up to and including the Redemption Dates. Any moneys remaining in the Escrow Account after provision shall have been made for the redemption in full of the Redeemed Bonds shall be applied to any lawful purpose of the Authority as the Board may hereafter determine.

C. If for any reason the amount in the Escrow Account shall at any time be insufficient for its purpose, the Authority shall forthwith from the first moneys available therefor deposit in such account such additional moneys as shall be necessary to permit the payment in full of the principal, interest and any redemption premium due in connection with the Redeemed Bonds.

Section 4. Notices of Defeasance and Redemption.

A. The Authority hereby elects to redeem the Redeemed Bonds on the Redemption Dates, at the redemption prices equal to the principal amount thereof, accrued interest to the Redemption Dates and the premium, if any, designated therefor in the respective resolutions authorizing the issuance of the Redeemed Bonds.

B. As directed within the Escrow Agreement, notices of defeasance and redemption shall be given in the name of and on behalf of the Authority by the Paying Agent, as set forth in the respective bond resolutions authorizing the issuance of the Redeemed Bonds.

Section 5. Delegated Powers. The officers and agents of the Authority hereby are authorized and directed to take all action necessary or appropriate to effectuate the provisions of this Resolution, including, without limitation, the execution by the Chief Financial Officer, or in his absence, the Authority's General Manager of the Escrow Agreement between the Authority and the Escrow Bank in substantially the form on file with the Authority, with such amendments as are deemed necessary by the Chief Financial Officer.

Section 6. Repealer. All bylaws, orders, and other instruments, or parts thereof, inconsistent herewith are hereby repealed to the extent only of such inconsistency. This repealer shall not be construed to revive any bylaw, order, or other instrument, or part thereof, heretofore repealed.

Section 7. Severability. If any section, subsection, paragraph, clause, or other provision of this Resolution shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such section, subsection, paragraph, clause, or other provision shall not affect any of the remaining provisions of this Resolution.

Section 8. Execution of Resolution. This Resolution, immediately on its final passage and adoption, shall be recorded in the official records of the Authority kept for that purpose, shall be executed by the signature of the Chairman, shall be attested by the Secretary, and the seal of the Authority shall be affixed thereto.

Section 9. Effective Date. This Resolution shall be in effect upon its adoption.

PASSED, APPROVED AND ADOPTED BY THE BOARD OF DIRECTORS OF THE TRUCKEE MEADOWS WATER AUTHORITY ON THIS SEPTEMBER 20, 2023.

Chairman

(SEAL)

Attest:

Secretary

STATE OF NEVADA)
) ss.
COUNTY OF WASHOE)
)
TRUCKEE MEADOWS)
WATER AUTHORITY)

I am the duly chosen, qualified, and acting Secretary of the Truckee Meadows Water Authority and of its Board of Directors (herein the “Authority” and the “Board,” respectively), the Authority being situate in the County of Washoe and State of Nevada, do hereby certify:

1. The foregoing pages together with the Exhibit appended thereto constitute a true, correct, complete, and compared copy of the “2023 Cash Defeasance Resolution,” introduced, passed, and adopted at a meeting of the Board held on September 20, 2023.

2. The original of the 2023 Cash Defeasance Resolution has been approved and authenticated by the signatures of the Chairman of the Board and myself as Secretary, and sealed with the seal of the Authority, and has been recorded in the minute book of the Board kept for that purpose in the Authority’s office, which record has been duly signed by such officers and properly sealed.

3. The Directors voted on the passage of such instrument as follows:

Those Voting Aye: Paul Anderson
Clara Andriola
Jenny Brekhus
Kristopher Dahir
Naomi Duerr
Alexis Hill
Devon Reese

Those Voting Nay: _____

Those Absent: _____

4. The foregoing proceedings were in fact held as in such minutes specified as originally of record in my possession.

5. All members of the Board were given due and proper notice of the meeting.

6. Public notice of such meeting was given and such meeting was held and conducted in full compliance with the provisions of NRS 241.020. A copy of the notice of meeting is attached as Exhibit A.

7. At least 3 working days before such meeting, such notice given to each member of the Board and to each person, if any, who has requested notice of meetings of the Board in accordance with the provisions of chapter 241 of NRS.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Truckee Meadows Water Authority, on this September 20, 2023.

(SEAL)

Secretary

EXHIBIT A

(Attach Copy of Notice of Meeting)



TRUCKEE MEADOWS WATER AUTHORITY
Board of Directors
AGENDA
Wednesday, September 20, 2023 at 10:00 a.m.
Sparks Council Chambers, 745 4th Street, Sparks, NV

Board Members

Chair Kristopher Dahir – City of Sparks	Vice Chair Naomi Duerr – City of Reno
Paul Anderson – City of Sparks	Alexis Hill – Washoe County
Jenny Brekhus – City of Reno	Clara Andriola – Washoe County
Devon Reese – City of Reno	

NOTES:

1. The announcement of this meeting has been posted at the following locations: Truckee Meadows Water Authority (1355 Capital Blvd., Reno), at <http://www.tmwa.com>, and State of Nevada Public Notice Website, <https://notice.nv.gov/>.
2. TMWA meetings are streamed online at <https://www.youtube.com/@tmwboardmeetings6598>.
3. 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 (775) 834-8002 at least 24 hours before the meeting date.
4. Staff reports and supporting material for the meeting are available at TMWA and on the TMWA website at <http://www.tmwa.com/meeting/>. Supporting material is made available to the general public in accordance with NRS 241.020(6).
5. The Board 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.
6. Asterisks (*) denote non-action items.
7. Public comment during the meeting is limited to three minutes and is allowed during the two public comment periods rather than each action item. 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 Chair has the discretion to allow public comment on any individual agenda item, including any item on which action is to be taken.
8. Written public comment may be provided by submitting written comments online on TMWA's Public Comment Form (tmwa.com/PublicComment) or by email sent to boardclerk@tmwa.com prior to the Board opening the public comment period during the meeting. In addition, public comments may be provided by leaving a voicemail at (775)834-0255 prior to 4:00 p.m. the day before the scheduled meeting. Voicemail messages received will be noted during the meeting and summarized for entry into the record.
9. In the event the Chair and Vice-Chair are absent, the remaining Board members may elect a temporary presiding officer to preside over the meeting until the Chair or Vice-Chair are present (**Standing Item of Possible Action**).
10. Notice of possible quorum of Western Regional Water Commission: Because several members of the Truckee Meadows Water Authority Board of Directors are also Trustees of the Western Regional Water Commission, it is possible that a quorum of the Western Regional Water Commission may be present, however, such members will not deliberate or take action at this meeting in their capacity as Trustees of the Western Regional Water Commission.

1. Roll call*
2. Pledge of allegiance*
3. Public comment — limited to no more than three minutes per speaker*
4. Possible Board comments or acknowledgements*
5. Approval of the agenda (**For Possible Action**)

¹The Board may adjourn from the public meeting at any time during the agenda to receive information and conduct labor-oriented discussions in accordance with NRS 288.220 or receive information from legal counsel regarding potential or existing litigation and to deliberate toward a decision on such matters related to litigation or potential litigation.

6. Approval of the minutes of the August 16, 2023 meeting of the TMWA Board of Directors **(For Possible Action)**
7. Presentation of fiscal year 2023 unaudited financial performance — Matt Bowman*
8. Discussion and action on Resolution No. 318: A resolution authorizing the deposit of legally available moneys into an escrow account in an amount not to exceed \$75,000,000.00 for the defeasance and call for prior redemption of certain of the authority's outstanding bonds; authorizing the execution of an escrow agreement in connection therewith; and providing the effective date hereof — Matt Bowman **(For Possible Action)**
9. Discussion and action on Resolution No. 319: A resolution designated by the short title "2023 bond resolution" authorizing the issuance by the Truckee Meadows Water Authority of its "Truckee Meadows Water Authority, water revenue bonds, series 2023," in the maximum aggregate principal amount of \$76,000,000.00 for the purpose of defraying wholly or in part the cost of acquiring, constructing, improving and equipping water facilities; providing the form, terms and conditions of the bonds, and the security therefor; providing for the collection and disposition of revenues derived from the operation of the authority's water system; pledging such revenues to the payment of the bonds; and providing other covenants, agreements and details relating thereto — Matt Bowman **(For Possible Action)**
10. Discussion and action, and possible direction to staff regarding funding plan and proposed rate adjustments — Matt Bowman **(For Possible Action)**
11. Presentation on results of employee development and engagement efforts — Jessica Atkinson, Cammy Elquist LoRe, and John Zimmerman*
12. Presentation of General Manager goal results for contract year 2022-2023 — John Zimmerman*
13. Discussion and action on request for Board input and acceptance of General Manager performance objectives for contract year 2023-2024 — John Zimmerman **(For Possible Action)**
14. Discussion and possible direction from Board regarding the evaluation process for conducting the General Manager's performance evaluation — Jessica Atkinson and John Zimmerman **(For Possible Action)**
15. Discussion and action on Resolution No. 320: A Resolution to approve funding for the projects recommended by the Truckee River Fund Advisory Committee and an authorization for the Community Foundation to fund such projects from Fund proceeds (Resolution may reflect action taken in one or more votes on recommended projects) — Sonia Folsom and Kara Steeland **(For Possible Action)**
16. General Manager's Report*
17. Public comment — limited to no more than three minutes per speaker*
18. Board comments and requests for future agenda items*
19. Adjournment **(For Possible Action)**

¹The Board may adjourn from the public meeting at any time during the agenda to receive information and conduct labor-oriented discussions in accordance with NRS 288.220 or receive information from legal counsel regarding potential or existing litigation and to deliberate toward a decision on such matters related to litigation or potential litigation.



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Matt Bowman, CFO
DATE: September 13, 2023
SUBJECT: **Discussion and action on Resolution No. 319: A resolution designated by the short title “2023 bond resolution” authorizing the issuance by the Truckee Meadows Water Authority of its “Truckee Meadows Water Authority, water revenue bonds, series 2023,” in the maximum aggregate principal amount of \$76,000,000.00 for the purpose of defraying wholly or in part the cost of acquiring, constructing, improving and equipping water facilities; providing the form, terms and conditions of the bonds, and the security therefor; providing for the collection and disposition of revenues derived from the operation of the authority’s water system; pledging such revenues to the payment of the bonds; and providing other covenants, agreements and details relating thereto**

Recommendation

TMWA staff recommends the Board consider the opportunity to authorize the issuance by TMWA of its water revenue bonds, series 2023 of approximately \$76m and adopt resolution for issuance of new bonds.

Recommended Motion

Move to approve Resolution #319: A resolution authorizing the issuance by the Truckee Meadows Water Authority of its “Truckee Meadows Water Authority, water revenue bonds, series 2023,” in the maximum aggregate principal amount of \$76,000,000.00 for the purpose of defraying wholly or in part the cost of acquiring, constructing, improving and equipping water facilities; providing the form, terms and conditions of the bonds, and the security therefor; providing for the collection and disposition of revenues derived from the operation of the authority’s water system; pledging such revenues to the payment of the bonds; and providing other covenants, agreements and details relating thereto.

RESOLUTION NO. 319

A RESOLUTION DESIGNATED BY THE SHORT TITLE “2023 BOND RESOLUTION” AUTHORIZING THE ISSUANCE BY THE TRUCKEE MEADOWS WATER AUTHORITY OF ITS “TRUCKEE MEADOWS WATER AUTHORITY, WATER REVENUE BONDS, SERIES 2023,” IN THE MAXIMUM AGGREGATE PRINCIPAL AMOUNT OF \$76,000,000 FOR THE PURPOSE OF DEFRAYING WHOLLY OR IN PART THE COST OF ACQUIRING, CONSTRUCTING, IMPROVING AND EQUIPPING WATER FACILITIES; PROVIDING THE FORM, TERMS AND CONDITIONS OF THE BONDS, AND THE SECURITY THEREFOR; PROVIDING FOR THE COLLECTION AND DISPOSITION OF REVENUES DERIVED FROM THE OPERATION OF THE AUTHORITY’S WATER SYSTEM; PLEDGING SUCH REVENUES TO THE PAYMENT OF THE BONDS; AND PROVIDING OTHER COVENANTS, AGREEMENTS AND DETAILS RELATING THERETO.

WHEREAS, the Truckee Meadows Water Authority (the “Authority” or “TMWA”) was duly organized as a joint powers authority, is a political subdivision of the State of Nevada (the “State”) and is operating in accordance with the provisions of the “Truckee Meadows Water Authority Cooperative Agreement among City of Reno, City of Sparks, County of Washoe” dated December 4, 2000, as amended (the “TMWA Cooperative Agreement”) entered into pursuant to the provisions of Nevada Revised Statutes (“NRS”) 277.080 to 277.180, inclusive, as amended (the “Authority Act”); and

WHEREAS, the Board of Directors of the Authority (the “Board”) has determined and hereby declares that the public interest, health and welfare necessitates making certain improvements to the water system by acquiring, constructing, improving and equipping facilities pertaining to the TMWA Water System (hereafter defined and collectively, the “Project”); and

WHEREAS, pursuant to the TMWA Cooperative Agreement, the Board is authorized to issue revenue bonds secured by revenues of the TMWA Water System (hereafter defined) to defray, in whole or in part, the Cost of the Project (hereafter defined); and

WHEREAS, the Authority and its Board are organized and operating under the TMWA Cooperative Agreement, the Authority Act and all laws supplemental thereto; and

WHEREAS, pursuant to the Local Government Securities Law and all laws amendatory thereof (herein the “Bond Act”), cited as NRS 350.500 through 350.720, and all laws supplemental thereto, the Authority has the power to issue its “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023” (herein the “2023 Bonds” or the “Bonds”), which constitute special obligations of the Authority without the necessity of such revenue bonds being authorized at any election or of any other preliminaries being taken; and

WHEREAS, in accordance with NRS 350.175, the Board hereby ratifies and approves the notice of the request for proposals heretofore distributed by the Authority to prospective underwriters to provide underwriting services for the negotiated sale of the 2023 Bonds; and

WHEREAS, the Board hereby elects to have the provisions of Chapter 348 of NRS (the “Supplemental Bond Act”) apply to the Bonds; and

WHEREAS, after negotiating the purchase of the 2023 Bonds, the TMWA Manager, or, in his absence, the Chief Financial Officer of the Authority, is hereby authorized to sell the Bonds to the Underwriter (as defined in the Bond Purchase Agreement); and to accept the bond purchase agreement for the Bonds submitted by the Underwriter (the “Bond Purchase Agreement”); and

WHEREAS, the 2023 Bonds are to bear interest at the rates per annum provided in the Bond Purchase Agreement, which rates must not exceed by more than 3% the “25 Bond Revenue Index” most recently published in The Bond Buyer before the Bond Purchase Agreement is accepted and are to be sold at a price equal to the principal amount thereof (not to exceed the maximum aggregate principal amount of \$76,000,000), plus a premium, or less a discount not exceeding 9% of the principal amount thereof, all as specified by the TMWA Manager or, in his absence, the Chief Financial Officer of the Authority, in the Bond Purchase Agreement; and

WHEREAS, the Board has considered, found, and determined, and does hereby declare that this resolution pertains to the sale, issuance, and payment of the 2023 Bonds and such declaration shall be conclusive in the absence of fraud or gross abuse of discretion in accordance with the provisions of subsection 2 of NRS 350.579.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE TRUCKEE MEADOWS WATER AUTHORITY DO RESOLVE:

ARTICLE I

SHORT TITLE, DEFINITIONS, INTERPRETATION,
RATIFICATION, AUTHENTICATION, AND EFFECTIVE DATE

Section 101. Short Title. This resolution shall be known as the, and may be cited by the short title, “2023 Bond Resolution” (herein, the “Instrument” or the “Resolution”).

Section 102. Meanings and Construction.

A. Definitions. The terms in this Section defined for all purposes of this Instrument and of any instrument amendatory hereof or supplemental hereto, and of any other instrument or any other document pertaining hereto, except where the context by clear implication otherwise requires, shall have the meanings herein specified:

(1) “Acquire” or “acquisition” includes the opening, laying out, establishment, purchase, construction, securing, installation, reconstruction, lease, gift, grant from the Federal Government, the State, any body corporate and politic therein, or any other Person, the endowment, bequest, devise, transfer, assignment, option to purchase, other contract, or other acquirement, or any combination thereof, of any properties pertaining to the TMWA Water System, or an interest therein, or any other properties herein designated.

(2) “Acquisition Account” means the special account designated as the “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023 Acquisition Account” created herein.

(3) “Authority” or “TMWA” means the Truckee Meadows Water Authority, the Authority being situate in the County and the State, and constituting a body corporate and politic, a quasi-municipal corporation, and a political subdivision of the State, and means any successor corporation thereof.

(4) “Authority Act” means NRS 277.080 to 277.180, inclusive, the act creating the Authority, under which act the Authority and its Board are operating, and all laws amendatory thereof.

(5) “Banking Institution” means a state or national bank or trust company which is a member of the Federal Deposit Insurance Corporation, which is located within the United States.

(6) “Board” means the board of directors of the Authority, or the Board’s successor in functions, if any.

(7) “Bond Act” means NRS 350.500 through 350.720, and all laws amendatory thereof, and is designated in NRS 350.500 thereof as the “Local Government Securities Law.”

(8) “Bond Fund” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Bond Fund,” heretofore created and continued herein. The Bond Fund consists of two separate subaccounts, the Interest Account and the Principal Account.

(9) “Bond Requirements” means the principal of, any prior redemption premiums due in connection with, and the interest on the 2023 Bonds and any additional bonds or other additional securities payable from Pledged Revenues and heretofore or hereafter issued, if any, or such part of such securities or such other securities pertaining to the TMWA Water System as may be designated, as such principal, any such premiums, and such interest become due. “Bond Requirements” does not include any capitalized interest on bonds payable from the proceeds of those bonds as designated by the Chief Financial Officer.

For purposes of computing the Bond Requirements of variable interest rate parity securities with respect to which a Qualified Swap is in effect, the interest payable on such variable interest rate securities (a) except as provided in clause (b) of this sentence, shall be deemed to be the interest payable on such variable interest rate securities in accordance with the terms thereof plus any amount required to be paid by the Authority to the Qualified Swap Provider pursuant to the Qualified Swap or minus any amount required to be paid by the Qualified Swap Provider to the Authority pursuant to the Qualified Swap, or (b) for purposes of computing the maximum annual principal and interest requirements and for purposes of any other computation for the issuance of additional parity securities (including refunding securities), shall be deemed to be the amount accruing at the fixed rate as provided in the Qualified Swap. No computation of Bond Requirements under this Instrument shall take into account payments due to the Qualified Swap Provider on the termination of the Qualified Swap unless such payments on termination are then unconditionally due and payable in accordance with the terms of the related Qualified Swap.

For purposes of computing the Bond Requirements of a Qualified Swap with respect to which no parity securities remain Outstanding or of that portion of a Qualified Swap with respect to which the notional amount is greater than the principal amount of Outstanding parity securities to which such Qualified Swap relates, (a) for purposes of Article V hereof, the interest payable thereon shall be deemed to be the net amount positive or negative, if any, required to be paid by the Authority to the Qualified Swap Provider pursuant to the Qualified Swap, and (b) for purposes of any computation of Bond Requirements for a period after the date of computation, the interest payable thereon shall be deemed to be the net amount most recently paid, as of the date of computation, by the Authority to the Qualified Swap Provider thereunder or (expressed as a negative number) by the Qualified Swap Provider to the Authority thereunder.

In addition, if any Parity Credit Facility Loan is incurred, the principal and interest due on the Parity Credit Facility Loan shall be taken into account in calculating the Bond Requirements as provided in this paragraph. “Parity Credit Facility Loan” means a loan made to the Authority pursuant to a letter of credit, line of credit or similar credit support arrangement (a “Credit Facility”) that secures parity bonds (the “Credit Secured Bonds”) for the purposes of acquiring the Credit Secured Bonds or to pay the purchase price of or principal of or interest on the Credit Secured Bonds. The amounts payable as principal and interest on a Parity Credit Facility Loan shall be taken into account in determining whether additional parity bonds or other parity

securities (including the Credit Secured Bonds and the Parity Credit Facility Loan) may be issued (but not for purposes of Article X hereof):

(i) the Parity Credit Facility Loan shall be treated as issued on the date of issue of the Credit Secured Bonds and all calculations shall be made as of that date;

(ii) the principal amount of the Parity Credit Facility Loan taken into account shall be deemed to be the maximum amount of the Parity Credit Facility Loan under the terms of the Credit Facility;

(iii) the Parity Credit Facility Loan shall be deemed to be repayable in 20 level installments of principal and interest commencing in the first Bond Year in which there is no capitalized interest with respect to the Credit Secured Bonds and ending 20 years after that Bond Year;

(iv) interest shall be deemed to accrue on the Parity Credit Facility Loan at a rate equal to the lesser of the maximum rate permitted under the terms of the Parity Credit Facility Loan or a rate equal to the “25 Bond Revenue Index” most recently published in The Bond Buyer prior to the date a firm offer to purchase the Credit Secured Bonds is accepted by the Authority, or, if the “25 Bond Revenue Index” is no longer published, such other index as the Authority reasonably selects; and

(v) the sum of the (i) principal of and interest on the Credit Secured Bonds plus (ii) the principal of and interest on the Parity Credit Facility Loan shall not be taken into account; rather, whichever of such obligations results in the highest combined maximum annual principal and interest requirements shall be taken into account.

The actual amount payable on a Parity Credit Facility Loan in any Bond Year shall be taken into account in calculating the “Bond Requirements” for the purposes of Article X hereof.

(10) “Bond Year” for the purposes of this Instrument means the 12 months commencing on July 2nd of any calendar year and ending on July 1st of the next succeeding calendar year.

(11) “Budget Act” means NRS 354.470 through 354.626, and all laws amendatory thereof, and is designated in NRS 354.470 thereof as the “Local Government Budget Act.”

(12) “Budget Year” means the Fiscal Year for which a budget is being prepared.

(13) “Chairman” means the de jure or de facto chairman of the Board and the Authority and chosen as such officer by the Board, and means the de jure or de facto vice chairman of the Board and the Authority whenever the chairman of the Board and the Authority is unable to act in such capacity, and the defined term means his successor in functions, if any.

(14) “Chief Financial Officer” means the de jure or de facto Chief Financial Officer of the Authority, designated as such by the Authority (but if there is no Chief Financial Officer of the Authority, Chief Financial Officer means the TMWA Manager), and means the de jure or de facto assistant Chief Financial Officer or acting Chief Financial Officer, if any, of the Authority whenever the Chief Financial Officer is unable to act in such capacity, or the successor of the Chief Financial Officer in functions, if any. The Chief Financial Officer is the “chief financial officer” of the Authority for purposes of Chapter 350 of NRS.

(15) “Cities” means the City of Reno and the City of Sparks, in the County and the State, and constituting political subdivisions thereof and bodies politic and corporate, or any successor municipal corporations.

(16) “combined maximum annual principal and interest requirements” means the maximum sum of the principal of and the interest (including any payments to be made (positive or negative) on any Qualified Swap as provided in the definition of “Bond Requirements”) on the 2023 Bonds and any other parity securities, falling due during any one succeeding Bond Year for the period beginning with the Bond Year in which such computation is made and ending with the Bond Year in which any 2023 Bonds last become due and payable but not including any securities which are no longer Outstanding under the defeasance provisions of Section 1201 hereof. If any parity security bears interest at a variable interest rate and is not covered by a Qualified Swap, the rate of interest used in the foregoing test shall be the lesser of the maximum permitted rate of interest on those parity securities or a rate equal to the “25 Bond Revenue Index” as most recently published in The Bond Buyer prior to the date a firm offer to purchase the then proposed parity securities is accepted by the Authority or if such index is no longer published, such long-term bond securities index as the Authority reasonably selects.

Parity Credit Facility Loans shall be taken into account in such calculations as described under the definition of “Bond Requirements” above.

(17) “Comparable Bond Year” means, in connection with any Fiscal Year, the Bond Year which commences in the Fiscal Year. For example, for the Fiscal Year commencing on July 1, 2023, and ending on June 30, 2024, the Comparable Bond Year commences on July 2, 2023, and ends on July 1, 2024.

(18) “Cost of the Project,” or any phrase of similar import, means, in connection with the 2023 Bonds, all or any part designated by the Board of the cost of an improvement, which cost, at the option of the Board (except as limited by law), may include all or any part of the incidental costs pertaining to the Project, including, without limitation:

(a) Preliminary expenses advanced by the Authority and any of its Members from funds available for use therefor or any other source, including any interfund loan of the Authority, or advanced with the approval of the Authority from funds available therefor or from any other source by the State, the Federal Government, or by any other Person, or any combination thereof;

(b) The costs in the making of surveys, audits, preliminary plans, other plans, specifications, estimates of costs, and other preliminaries;

(c) The costs of appraising, printing, estimates, advice, services of engineers, architects, financial consultants, attorneys at law, clerical help, or other agents or employees;

(d) The costs of making, publishing, posting, mailing, and otherwise giving any notice in connection with the Project, the filing or recordation of instruments, the taking of options, the issuance of the Bonds and any other securities pertaining to the Project, the purchase or other acquisition of Federal Securities or other investments in connection therewith, and bank fees and other expenses;

(e) The costs of contingencies;

(f) The costs of the capitalization with the proceeds of the Bonds or other securities of any Operation and Maintenance Expenses appertaining to the Project and of any interest on the Bonds for any period not exceeding the period necessary to effect the Project plus one year, of any discount on the Bonds or other securities, and of any reserves for the payment of the Bond Requirements, of any replacement expenses (except as proscribed by law), and of any other cost of issuance of the Bonds or other securities pertaining to the Project;

(g) The costs of amending any resolution or other instrument authorizing the issuance of or other instrument authorizing the issuance of or otherwise pertaining to the outstanding Bonds or other securities to be refunded or refunding bonds or other refunding securities to be issued;

(h) The costs of funding any medium-term obligations and other temporary loans of not exceeding 10 years pertaining to the Project and of the incidental expenses incurred in connection with such loans;

(i) The costs of any properties, rights, easements or other interests in properties, or any licenses, privileges, agreements and franchises;

(j) The costs of demolishing, removing or relocating any buildings, structures or other facilities on land acquired for the Project, and of acquiring lands to which such buildings, structures or other facilities may be moved or relocated; and

(k) All other expenses necessary or desirable and pertaining to the Project as estimated or otherwise ascertained by the Board, including, without limitation, the costs of issuing the 2023 Bonds and any rebate payments required pursuant to the provisions of Section 509 hereof.

(19) “Costs of Issuance Account” means the special account designated as the “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023, Costs of Issuance Account” created herein.

(20) “County” means the County of Washoe, in the State, and constituting a political subdivision thereof, or any successor municipal corporation; and where the context so indicates, such term means the geographical area comprising the County of Washoe.

(21) “Directors” means members of the Authority’s governing body, i.e., the Board.

(22) “disposal” or “dispose” means the sale, destruction, razing, loan, lease, grant, transfer, assignment, option to sell, other contract, other disposition, or any combination thereof, of the TMWA Water System, other property, or any interest therein.

(23) “Emergency Capital Amount” means the amount designated by the Professional Engineer as a continuing reserve (presently \$10,000,000) to be deposited, accumulated, reaccumulated, and maintained in the Renewal and Replacement Account in accordance with Section 513 hereof.

(24) “equip” or “equipment” means the furnishing of all related or appurtenant machinery, furnishings, apparatus, paraphernalia, or other gear, or any combination thereof, pertaining to the Project, the TMWA Water System, or other property, or any interest therein.

(25) “events of default” means the events stated in Section 1303 hereof.

(26) “Federal Government” means the United States, or any agency, instrumentality, or corporation thereof.

(27) “Federal Securities” means bills, certificates of indebtedness, notes, bonds, or similar securities which are direct obligations of, or the principal and interest of which securities are unconditionally guaranteed by, the United States.

(28) “Fiscal Year” for the purposes of this Instrument means the 12 months commencing on July 1st of any calendar year and ending on June 30th of the next succeeding calendar year.

(29) “General Purpose Account” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System General Purpose Account,” heretofore created and continued herein.

(30) “Gross Revenues” means all income and revenues received or accrued under generally accepted accounting principles derived directly or indirectly by the Authority from the water and other goods and services provided by, or from the operation and use of and otherwise pertaining to, the TMWA Water System, including, without limitation, all rates, fees, and other charges for the use of the TMWA Water System, or for any service rendered by the Authority in the operation thereof, or any part thereof, whether resulting from repairs, enlargements, extensions, betterments or other improvements to the TMWA Water System, or otherwise, and includes all revenues received by the Authority from the TMWA Water System, including, without limitation, all fees, rates, and other charges for the use of the TMWA Water System, or for any service rendered by the Authority in the operation thereof, directly or indirectly, the availability of any such service or the sale or other disposal of any commodity derived therefrom, but excluding any moneys borrowed and used for the acquisition of capital improvements and any moneys received as grants, appropriations or gifts from the United States, the State or other sources, the use of which is limited by the grantor or donor to the construction

of capital improvements for the TMWA Water System, except to the extent any such moneys shall be received as payments for the use of the TMWA Water System, services rendered thereby, the availability of any such service or the disposal of any such commodities. "Gross Revenues" shall also include:

(i) all income or other gain from the investment of such income and revenues and of the proceeds of securities payable from Gross Revenues or Net Revenues; and

(ii) all amounts withdrawn from the Rate Stabilization Account and deposited in the Revenue Fund as described in Section 514 hereof.

(31) "hereby," "herein," "hereinabove," "hereinafter," "hereinbefore," "hereof," "hereto," "hereunder," or any similar term refer to this Instrument and not solely to the particular portion thereof in which such word is used; "heretofore" means before the adoption of this Instrument; and "hereafter" means after the adoption of this Instrument.

(32) "holder," or any similar term, when used in conjunction with any Bonds, or any other designated securities, means the registered owner of any Bond or other security which is registered for payment.

(33) "improve" or "improvement" includes the extension, widening, lengthening, betterment, alteration, reconstruction, or other major improvement, or any combination thereof, of the TMWA Water System, or the acquisition of any properties pertaining to the TMWA Water System, or an interest therein, but does not mean renovation, reconditioning, patching, general maintenance, or other minor repair occurring periodically at annual or shorter intervals.

(34) "Improvements" means the facilities constructed, installed and otherwise acquired with respect to the TMWA Water System financed wholly or in part with proceeds of the 2023 Bonds.

(35) "Independent Accountant" means any certified public accountant, or any firm of certified public accountants, duly licensed to practice and practicing as such under the laws of the State, as from time to time appointed and compensated by the Board on the behalf and in the name of the Authority:

(a) Who is, in fact, independent and not under the domination of the Authority;

(b) Who does not have any substantial interest, direct or indirect, with the Authority; and

(c) Who is not connected with the Authority as an officer or employee thereof, but who may be regularly retained to make annual or similar audits of any books or records of the Authority.

(36) "Insurer" means the insurer of the payment of the Bond Requirements of the 2023 Bonds, if any, and its successors.

(37) “Instrument” means this resolution, cited in Section 101 hereof by the short title “2023 Bond Resolution”; and the term “instrument of the Authority,” “instrument of the Board,” “amendatory instrument,” “supplemental instrument,” or any phrase of similar import, means any resolution adopted by the Board on behalf of the Authority.

(38) “Interest Account” means the special and separate subaccount designated as the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Interest Account,” heretofore created within the Bond Fund and continued herein.

(39) “I.R.C.” or “Tax Code” means the Internal Revenue Code of 1986, as of the date of delivery of the Bonds and the regulations promulgated thereunder.

(40) “Member” means the Cities and the County and any other entity that may hereafter become a member of the Authority.

(41) “Minimum Operation and Maintenance Reserve” means at any time in each Fiscal Year an amount at least equal to one-sixth of the aggregate amount of the Operation and Maintenance Expenses of the TMWA Water System for the Fiscal Year as fixed by the then current budget for that year, which minimum amount is required to be deposited, accumulated or reaccumulated, and maintained in the Operation and Maintenance Reserve Account pursuant to Section 512 hereof.

(42) “Net Revenues” means the Gross Revenues remaining after the deduction of the Operation and Maintenance Expenses.

(43) “NRS” means Nevada Revised Statutes, the State’s code of general laws.

(44) “Operation and Maintenance Expenses,” or any phrase of similar import, means all reasonable and necessary current expenses of the Authority, paid or accrued under generally accepted accounting principles, of operating, maintaining, and repairing the TMWA Water System or any other designated facilities in connection with which such term is used; and the term includes, without limitation:

(a) Engineering, auditing, reporting, legal, planning and other overhead expenses relating to the administration, operation, and maintenance of the TMWA Water System;

(b) Fidelity bond and property and liability insurance premiums pertaining to the TMWA Water System, or a reasonably allocable share of a premium of any blanket bond or policy pertaining to the TMWA Water System;

(c) Payments to pension, retirement, health, and hospitalization funds, and other insurance, and to any self-insurance fund as insurance premiums not in excess of such premiums which would otherwise be required for such insurance;

(d) Any general taxes, assessments, excise taxes, or other charges which may be lawfully imposed on the Authority, the TMWA Water System, revenues

therefrom, or the Authority's income from or operations of any properties under its control and pertaining to the TMWA Water System, or any privilege in connection with the TMWA Water System or its operation;

(e) The reasonable charges of the Trustee, Paying Agent, Registrar and any other depository bank pertaining to the Bonds and any other securities payable from Pledged Revenues or otherwise pertaining to the TMWA Water System;

(f) Contractual services, professional services, salaries, other administrative expenses, and costs of materials, supplies, repairs, and labor, pertaining to the TMWA Water System or to the issuance of the 2023 Bonds or any other securities relating to the TMWA Water System, including, without limitation, the expenses and compensation of the Trustee, any receiver, or other fiduciary under the Bond Act;

(g) The costs incurred by the Board in the collection and any refunds of all or any part of Pledged Revenues;

(h) Any costs of utility services furnished to the TMWA Water System;

(i) Any lawful refunds of any Pledged Revenues;

(j) The cost of calculating and verifying any amount due the United States as rebate payments under Section 148(f), I.R.C.; and

(k) All other administrative, general, and commercial expenses pertaining to the TMWA Water System; but

(i) Excluding any allowance for depreciation, amortization, or noncash allocation of pension liabilities;

(ii) Excluding any costs of extensions, enlargements, betterments, and other improvements, or any combination thereof;

(iii) Excluding any reserves for major capital replacements, other than normal (noncapital) repairs;

(iv) Excluding any reserves for operation, maintenance, or repair of the TMWA Water System;

(v) Excluding any allowance for the redemption of any bond or other security evidencing a loan or other obligation, or the payment of any interest thereon, or any prior redemption premium due in connection therewith;

(vi) Excluding any liabilities incurred in the acquisition or improvement of any properties comprising any project or any existing facilities, or any combination thereof, pertaining to the TMWA Water System, or otherwise; and

(vii) Excluding any liabilities imposed on the Authority for any ground of legal liability not used on contract, including, without limitation, negligence in the operation of the TMWA Water System.

(45) “Operation and Maintenance Account” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System Operation and Maintenance Account,” heretofore created and continued herein, and required to be applied in accordance with Section 506 hereof.

(46) “Operation and Maintenance Reserve Account” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System Operation and Maintenance Reserve Account,” heretofore created and continued herein.

(47) “Outstanding” when used with reference to the Bonds or any other designated securities and as of any particular date means all the Bonds or any such other securities payable from Pledged Revenues or otherwise pertaining to the TMWA Water System, as the case may be, in any manner theretofore and thereupon being executed and delivered:

(a) Except any bond or other security canceled by the Authority, by the Registrar, Paying Agent or otherwise on the Authority’s behalf, at or before such date;

(b) Except any bond or other security for the payment or the redemption of which moneys at least equal to its Bond Requirements to the date of its maturity or any Redemption Date, whichever date is earlier, if any, shall have theretofore been deposited with a trust bank in escrow or in trust for that purpose, as provided in Sections 519 or 1201 hereof; and

(c) Except any bond or other security in lieu of or in substitution for which another bond or other security shall have been executed and delivered pursuant to Sections 306 or 1509 hereof.

(48) “parity bonds” or “parity securities” means bonds or securities pertaining to the TMWA Water System and secured by Pledged Revenues and with a lien on Pledged Revenues on a parity with the Outstanding 2023 Bonds.

(49) “Paying Agent” means The Bank of New York Mellon Trust Company, N.A., a “Banking Institution” and a “trust bank,” as herein defined, and designated by the Authority as the paying agent for the 2023 Bonds, which Banking Institution is also the “Registrar” hereunder and is an agent of the Authority for the payment of the Bond Requirements of the 2023 Bonds and for other administration of moneys pertaining to the Authority; and the term “Paying Agent” includes any successor Banking Institution as such a paying agent.

(50) “Person” means a corporation, firm, other body corporate (including, without limitation, the Federal Government, the State, or any other body corporate and politic other than the Authority), partnership, association, or individual, and also includes an executor, administrator, trustee, receiver, or other representative appointed according to law.

(51) “Pledged Revenues” means all or a portion of the Net Revenues. The designated term indicates a source of revenues and does not necessarily indicate all or any

portion or other part of such revenues in the absence of further qualification. With respect to the Bonds and any other outstanding parity bonds, Pledged Revenues means all of the Net Revenues.

(52) “Principal Account” means the special and separate subaccount designated as the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Principal Account,” heretofore created within the Bond Fund and continued herein.

(53) “Professional Engineer” means any registered or licensed professional engineer, any firm of such engineers, any licensed professional architect, or any firm of such architects, as from time to time determined by the Authority, which Person or Persons shall:

(a) Have a wide and favorable reputation for skill and experience in the field of designing, preparing plans and specifications for, and supervising construction of, water systems and water facilities;

(b) Be entitled to practice and are practicing as such under the laws of the State; and

(c) Be selected, retained, and compensated by the Board, in the name and on behalf of the Authority, and who may be in the regular employ or control of the Authority.

(54) “Project” means the acquisition, construction, improvement and equipment of water facilities within the TMWA Water System financed wholly or in part with the proceeds of the 2023 Bonds.

(55) “Qualified Swap” means, to the extent from time to time permitted by law, any financial arrangement entered into by the Authority with respect to the 2023 Bonds, parity securities or subordinate securities for the purpose of moderating interest rate fluctuations or any other purpose, (i) which is entered into with an entity that is a Qualified Swap Provider at the time the arrangement is entered into; (ii) which is any of the following, or any combination thereof, or any option with respect thereto: a cap, floor or collar; forward rate; future rate; swap (such swap may be based on an amount equal either to the principal amount of such 2023 Bonds, parity securities or subordinate securities, as the case may be, as may be designated or a notional principal amount relating to all or a portion of the principal amount of such 2023 Bonds, parity securities or subordinate securities, or such other exchange or rate protection transaction agreement; or other similar transaction (however designated); and (iii) which has been designated in writing to the Trustee by the Authority as a Qualified Swap with respect to such bonds.

(56) “Qualified Swap Provider” means, except as otherwise provided in Section 1135 hereof, a counterparty whose senior long term debt obligations, or whose obligations under a Qualified Swap are guaranteed by a financial institution whose senior long term debt obligations, are rated by whichever of Standard and Poor’s Ratings Services, Moody’s Investors Service or Fitch Investors Services as then has a rating in effect for the bonds or all such agencies if all then have a rating in effect for the bonds, at the time the subject Qualified Swap is entered

into of at least “A” in the case of Moody’s, “A” in the case of Standard & Poor’s, or “A” by Fitch Investors Services.

(57) “Rate Stabilization Account” means the “Truckee Meadows Water Authority, TMWA Water System Rate Stabilization Account” heretofore created and continued herein.

(58) “Rebate Account” means the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities Rebate Account” heretofore created and continued herein.

(59) “Redemption Date” means the date fixed for the redemption prior to their respective fixed maturity dates of any bonds or other designated securities payable from Pledged Revenues or other moneys pertaining to the TMWA Water System in any notice of prior redemption, or otherwise fixed and designated by the Authority.

(60) “Redemption Price” means, when used with respect to a bond or other designated security payable from Pledged Revenues or other moneys pertaining to the TMWA Water System, the principal amount thereof plus accrued interest thereon to the Redemption Date plus the applicable premium, if any, payable upon the redemption thereof prior to the stated fixed maturity date of such bond or other security on a Redemption Date in the manner contemplated in accordance with the security’s terms.

(61) “Registrar” means The Bank of New York Mellon Trust Company, N.A., which Banking Institution is required to keep records for the registration, transfer, and exchange of the 2023 Bonds or any successor thereof.

(62) “Renewal and Replacement Account” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System Renewal and Replacement Account,” heretofore established and authorized and continued herein.

(63) “Revenue Fund” means the special and separate account designated as the “Truckee Meadows Water Authority, TMWA Water System Gross Revenues Fund,” heretofore established and authorized and continued herein.

(64) “Secretary” means the de jure or de facto secretary of the Board and the Authority and chosen as such officer by the Board, presently the TMWA Manager, and means the de jure or de facto assistant secretary or acting secretary, if any, of the Board and the Authority whenever the secretary is unable to act in such capacity, the individual designated as secretary may be (but is not necessarily) a member of the Board and may be (but is not necessarily) the same individual as the Treasurer, and the defined term means his successor in functions, if any.

(65) “State” means the State of Nevada, in the United States; and where the context so indicates, means the geographical area comprising the State of Nevada.

(66) “Subordinate bonds” or “subordinate securities” means bonds or securities pertaining to the TMWA Water System and secured by Pledged Revenues with a lien on Pledged Revenues subordinate and junior to the lien thereon of the Outstanding 2023 Bonds.

(67) “Superior bonds” or “superior securities” means bonds or securities pertaining to the TMWA Water System and secured by Pledged Revenues with a lien on Pledged Revenues superior to the lien thereon of the Outstanding 2023 Bonds.

(68) “TMWA Manager” means the de jure or de facto General Manager of the Authority and any deputy director designated by the TMWA Manager for purposes of this Instrument, and means any de jure or de facto deputy director or acting TMWA Manager, if any, of the Authority whenever the TMWA Manager is absent or is unable to act in such capacity, or the TMWA Manager’s successor in functions, if any. The TMWA Manager is the “chief administrative officer” of the Authority for the purposes of Chapter 350 of NRS.

(69) “TMWA Asset Purchase Agreement” means the asset purchase agreement between Sierra Pacific Power Company and the Authority dated as of January 15, 2001.

(70) “TMWA Water System” means the water facilities described in the TMWA Asset Purchase Agreement, and consisting of all properties, real, personal, mixed or otherwise, now owned or hereafter acquired by the Authority through purchase, construction or otherwise, and used in connection with such system of the Authority, and in any way pertaining thereto, whether or not located within or without or both within and without the boundaries of the County, including, without limitation, machinery, apparatus, structures, buildings and related or appurtenant furniture, fixtures and other equipment, as such system is from time to time extended, bettered or otherwise improved, or any combination thereof.

(71) “Treasurer” means the de jure or de facto treasurer of the Board and the Authority and chosen as such officer by the Board, presently the Chief Financial Officer, and means the de jure or de facto assistant treasurer or acting treasurer, if any, of the Board and the Authority whenever the treasurer is unable to act in such capacity, the individual designated as treasurer may be (but is not necessarily) a member of the Board and may be (but is not necessarily) the same individual as the Secretary, and the defined term means his successor in functions, if any.

(72) “Trust bank” means the Trustee and any “Banking Institution,” as defined herein, which is also authorized to exercise and is exercising trust powers, and also means any branch of the Federal Reserve Bank.

(73) “Trustee” means The Bank of New York Mellon Trust Company, N.A., which Banking Institution is the fiduciary appointed by Section 1401 hereof, and the term “Trustee” includes any successor “trust bank,” as herein defined, which may at any time be substituted in its place as such a trustee.

(74) “2023 Bonds or Bonds” means the “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023,” authorized to be issued by this Instrument. If the Bonds authorized herein are issued in calendar year 2024, all references herein to “Series 2023” shall be to “Series 2024.”

(75) “2018 Bonds” means the “Truckee Meadows Water Authority, Water Revenue Refunding Bonds, Series 2018,” authorized to be issued by 2018 Bond Resolution.

(76) “2017 Bonds” means the “Truckee Meadows Water Authority, Water Revenue Refunding Bonds, Series 2017,” authorized to be issued by the 2017 Bond Resolution.

(77) “2016 Bonds” means the “Truckee Meadows Water Authority, Water Revenue Refunding Bonds, Series 2016,” authorized to be issued by the 2016 Bond Resolution.

(78) “2015 Bonds” means the “Truckee Meadows Water Authority, Water Revenue Refunding Bonds, Series 2015A,” authorized by the 2015 Bond Resolution.

(79) “2018 Bond Resolution” means the resolution adopted by the Board, and authorizing the issuance of the “2018 Bonds,” as herein defined.

(80) “2017 Bond Resolution” means the resolution adopted by the Board, and authorizing the issuance of the “2017 Bonds,” as herein defined.

(81) “2016 Bond Resolution” means the resolution adopted by the Board, and authorizing the issuance of the “2016 Bonds,” as herein defined.

(82) “2015 Bond Resolution” means the resolution adopted by the Board, and authorizing the issuance of the “2015 Bonds,” as herein defined.

(83) “United States” means the United States of America; and where the context so indicates, such term means the geographical area comprising the United States of America.

(84) “Vice Chairman” means the de jure or de facto vice chairman or the Board and the Authority and chosen as such officer by the Board, and the defined term means his successor in functions, if any.

(85) “Water Fund” means the separate fund designated as the “Truckee Meadows Water Authority, Water Fund,” heretofore authorized and continued herein, which fund consists of a self-balancing group of accounts pertaining to the TMWA Water System, and to which the various accounts herein created or otherwise designated relate.

B. Construction. This Instrument, except where the context by clear implication herein otherwise requires, shall be construed as follows:

(1) Words in the singular number include the plural, and words in the plural include the singular.

(2) Words in the masculine gender include the feminine and the neuter, and when the sense so indicates words of the neuter gender refer to any gender.

(3) Articles, sections, subsections, paragraphs, and subparagraphs mentioned by number, letter, or otherwise, correspond to the respective articles, sections, sub-

sections, paragraphs, and subparagraphs of this Instrument so numbered or otherwise so designated.

(4) The titles and leadlines applied to articles, sections, and subsections of this Instrument are inserted only as a matter of convenience and ease in reference and in no way define, limit, or describe the scope or intent of any provisions of this Instrument.

(5) Any 2023 Bonds held by the Authority shall not be deemed to be Outstanding for the purpose of redemption or Outstanding for the purpose of consents hereunder or for any other purpose provided herein.

Section 103. Successors. All of the covenants, stipulations, obligations, and agreements by or on behalf of and other provisions for the benefit of the Authority or the Board contained herein shall bind and inure to the benefit of any successors thereof and shall bind and inure to the benefit of any officer, board, district, commission, authority, agent, or instrumentality to whom or to which there shall be transferred by or in accordance with law any right, power, or duty of the Authority or the Board or of their respective successors, if any, the possession of which is necessary or appropriate in order to comply with any such covenants, stipulations, obligations, agreements, or other provisions hereof.

Section 104. Parties Interested Herein. Except as herein otherwise expressly provided, nothing herein expressed or implied is intended or shall be construed to confer upon or to give to any Person, other than the Authority, the Board, the Directors, the Paying Agent, the Trustee, the Insurer, if any, and the holders from time to time of the 2023 Bonds, including, without limitation, the Paying Agent in its capacity as a paying agent and as the Registrar, any right, remedy, or claim under or by reason hereof or any covenant, condition, or stipulation hereof. All the covenants, stipulations, promises, and agreements herein contained by and on behalf of the Authority shall be for the sole and exclusive benefit of the Authority, the Board, the Directors, the Paying Agent, the Trustee, and any holder of any 2023 Bonds, except as herein otherwise provided.

Section 105. Ratification. All action taken (not inconsistent with the provisions of this Instrument) by the Board, the officers of the Authority, and otherwise by the Authority, including without limitation, directed:

- A. Project. Toward the Project.
- B. Bonds. Toward the sale and delivery of the Authority's 2023 Bonds for purpose of paying the Cost of the Project.
- C. Bond Purchase Agreement. Toward the completion and execution of the Bond Purchase Agreement by the officers designated therein, and

and otherwise towards any and all of the purposes and objectives of the Authority be, and the same hereby is, ratified, approved, and confirmed.

Section 106. Authorization of Official Statement. The TMWA Manager or, in his absence, the Chief Financial Officer is each authorized to proceed with the sale of the 2023 Bonds on the terms and conditions provided herein. Distribution and use of the preliminary official

statement relating to the 2023 Bonds (the “Preliminary Official Statement”) in substantially the form on file with the Secretary is hereby authorized, ratified and confirmed. The TMWA Manager, or in his absence, the Chief Financial Officer, is authorized to deem the Preliminary Official Statement to be a “final” official statement as of its date for the purposes of Rule 15c2-12 of the Securities and Exchange Commission, with such changes and additions as the TMWA Manager or the Chief Financial Officer determines necessary or appropriate. Distribution, use of, and the execution of the final official statement for the 2023 Bonds (the “Official Statement”) in substantially the form of the Preliminary Official Statement, with such amendments, additions and deletions as are consistent with the facts and not inconsistent herewith, as may be approved by the TMWA Manager or, in his absence, the Chief Financial Officer by the execution of the Official Statement, and any supplements or amendments thereto, is hereby authorized.

Section 107. Instrument Irrepealable. In consideration of the purchase and acceptance of the 2023 Bonds by those who shall hold the same from time to time, after any of the 2023 Bonds are issued, this Instrument shall constitute an irrevocable contract between the Authority and the holder or holders of the 2023 Bonds; and this Instrument (subject to the provisions of Section 1201 and of Article XV hereof), if any 2023 Bonds are in fact issued, shall be and shall remain irrepealable until the 2023 Bonds, as to all Bond Requirements, shall be fully paid, canceled, and discharged, except as herein otherwise expressly provided.

Section 108. Repealer. All bylaws, orders, and other instruments, or parts thereof, inconsistent herewith are hereby repealed to the extent only of such inconsistency. This repealer shall not be construed to revive any bylaw, order, or other instrument, or part thereof, heretofore repealed.

Section 109. Severability. If any section, subsection, paragraph, clause, or other provision of this Instrument shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such section, subsection, paragraph, clause, or other provision shall not affect any of the remaining provisions of this Instrument.

Section 110. Execution of Instrument. This Instrument, immediately on its final passage and adoption, shall be recorded in the official records of the Authority kept for that purpose, shall be executed by the signature of the Chairman, shall be attested by the Secretary, and the seal of the Authority shall be affixed thereto.

Section 111. Effective Date. This Instrument shall be in effect upon its adoption.

ARTICLE II

BOARD'S DETERMINATIONS, AUTHORITY FOR AND
AUTHORIZATION OF PROJECT, NECESSITY OF
PROJECT AND BONDS, COST OF PROJECT, OBLIGATION
OF AUTHORITY, AND TERMS OF BOND SALE

Section 201. Authority for this Instrument. This Instrument is adopted by virtue of the Authority Act, the Bond Act, the Supplemental Bond Act and pursuant to their provisions; and the Authority has ascertained and hereby determines that each and every matter and thing as to which provision is made herein is necessary in order to carry out and to effectuate the purposes of the Authority in accordance with the Authority Act and the Bond Act.

Section 202. Necessity of Project and Bonds. It is necessary and for the best interests of the Authority and the inhabitants thereof, that the Authority effect the Project and defray the cost thereof wholly or in part by issuing the 2023 Bonds therefor; and the Board hereby so determines and declares.

Section 203. Authorization of Project. It is necessary and in the best interests of the Board, its officers, and the inhabitants of the Authority, that the Authority effect the Project and defray wholly or in part the cost thereof by the issuance of the Bonds therefor; and it is hereby so determined and declared. The Board hereby authorizes the Project.

Section 204. Cost of the Project. The Cost of the Project is estimated not to exceed an amount received from the sale of the 2023 Bonds, excluding any such cost defrayed or to be defrayed by other than with the proceeds of the 2023 Bonds.

Section 205. Bonds Equally Secured. The covenants and agreements herein set forth to be performed on behalf of the Authority shall be for the equal benefit, protection, and security of the holders of any and all of the Outstanding 2023 Bonds and any Outstanding parity securities payable from Pledged Revenues and heretofore or hereafter authorized, all of which, regardless of the time or times of their issue or maturity, shall be of equal rank without preference, priority, or distinction of any of the 2023 Bonds or other such securities over any other thereof, except as otherwise expressly provided in or pursuant to this Instrument.

Section 206. Special Obligations. All of the 2023 Bonds, as to all Bond Requirements, shall be payable and collectible solely out of the Net Revenues pertaining to the TMWA Water System, which Net Revenues are so pledged; the holder or holders thereof may not look to any general or other fund for the payment of the Bond Requirements, except the herein-designated special funds pledged therefor; the 2023 Bonds shall not constitute an indebtedness or a debt within the meaning of any constitutional or statutory provision or limitation; and the 2023 Bonds shall not be considered or held to be general obligations of the Authority but shall constitute its special obligations. The Authority has no taxing power and, therefore, does not pledge its full faith and credit for the payment of the 2023 Bonds.

Section 207. Character of Agreement. None of the covenants, agreements, representations, and warranties contained herein or in the 2023 Bonds issued hereunder, in the absence of any breach thereof, shall ever impose or shall be construed as imposing any liability, obligation, or charge against the Authority (except for the special funds pledged therefor) or its general credit, payable out of its general fund or out of any funds derived from taxation.

Section 208. No Pledge of Property. The payment of the 2023 Bonds is not secured by an encumbrance, mortgage, or other pledge of property of the Authority, except the Net Revenues and any other moneys pledged for the payment of the 2023 Bonds. No property of the Authority, subject to such exception, shall be liable to be forfeited or taken in payment of the 2023 Bonds.

Section 209. No Recourse against Officers and Agents. Pursuant to NRS 350.606, no recourse shall be had for the payment of the Bond Requirements of the 2023 Bonds or for any claim based thereon, or otherwise, upon this Instrument authorizing their issuance or any other instrument pertaining thereto, against any individual member of the Board or the Authority, or any officer or other agent of the Authority, past, present, or future, either directly or indirectly through the Board of the Authority, or otherwise, whether by virtue of any constitution, statute, or rule of law, or by the enforcement of any penalty, or otherwise, all such liability, if any, being by the acceptance of the 2023 Bonds and as a part of the consideration of their issuance specially waived and released.

Section 210. Limitations upon State. Pursuant to NRS 350.610, the faith of the State is hereby pledged that the Authority Act, the Bond Act, any law supplemental or otherwise pertaining thereto, and any other act concerning the 2023 Bonds or other securities, Pledged Revenues, or any combination of such securities and such revenues, shall be neither repealed nor amended nor otherwise directly or indirectly modified in such a manner as to impair adversely any Outstanding securities of the Authority until all such securities have been discharged in full or provision for their payment and redemption has been fully made.

Section 211. No Election or Other Preliminaries. The 2023 Bonds shall be issued without their being authorized at an election by any electors of the Authority or without any other preliminaries being taken other than as herein otherwise provided.

Section 212. Sale of Bonds. The TMWA Manager, or in his absence, the Chief Financial Officer, is authorized to proceed with the sale of the Bonds to the Underwriter on the terms and conditions provided herein, and to execute the Bond Purchase Agreement in substantially the form on file with the Secretary with such changes as are approved by the officer executing the Bond Purchase Agreement whose execution thereof shall be conclusive evidence of consent to any such changes; the 2023 Bonds are to bear interest at the rates per annum provided in the Bond Purchase Agreement, which rates must not exceed by more than 3% the “25 Bond Revenue Index” most recently published in The Bond Buyer before the Bond Purchase Agreement is accepted and are to be sold at a price equal to the principal amount thereof (not to exceed the maximum aggregate principal amount of \$76,000,000), plus a premium, or less a discount not exceeding 9% of the principal amount thereof.

ARTICLE III

AUTHORIZATION, TERMS, EXECUTION AND FORM OF BONDS

Section 301. Authorization of Bonds. For the purpose of protecting the public health, conserving the property, and advancing the general welfare of the citizens of the Authority, the “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023,” in the aggregate principal amount set forth in the Bond Purchase Agreement, payable as to all Bond Requirements solely out of the Net Revenues, are hereby authorized to be issued, pursuant to the Authority Act and the Bond Act; the Authority pledges irrevocably, but not necessarily exclusively, the Net Revenues to the payment of the Bond Requirements of the 2023 Bonds; and the proceeds of the 2023 Bonds are to be used solely to defray wholly or in part the Cost of the Project, except as herein otherwise provided.

Section 302. 2023 Bond Details. The 2023 Bonds shall be issued in fully registered form, i.e., registered as to both principal and interest, in compliance with Section 149 of the Tax Code, and the regulations of the Secretary of the Treasury thereunder. The 2023 Bonds shall be dated as of the date of delivery of the Bonds. Except as otherwise provided in Section 307 hereof, the Bonds shall be issued in denominations of \$5,000 or any integral multiple thereof. The 2023 Bonds shall bear interest calculated based on a 360-day year of twelve 30-day months, from their date until their respective maturity dates (or, if redeemed prior to maturity as provided below, their redemption dates) at the respective dates set forth in the Bond Purchase Agreement, payable semiannually on January 1 and July 1 of each year commencing on the first January 1 or July 1 which is at least 30 days after the date of delivery of the Bonds; provided that those 2023 Bonds which are reissued upon transfer, exchange or other replacement shall bear interest at the rates shown in the Bond Purchase Agreement from the most recent interest payment date to which interest has been paid or duly provided for, or if no interest has been paid, from the date of the 2023 Bond. The 2023 Bonds shall mature on July 1 in each of the designated amounts of principal and designated years and interest rates, as set forth in the Bond Purchase Agreement (not to exceed 13 years from the date of delivery of the Bonds).

The principal of and redemption premium, if any, on any 2023 Bond shall be payable to the registered owner thereof as shown on the registration records kept by the Registrar, upon maturity or prior redemption thereof and upon presentation and surrender at the office of the Paying Agent or such other office as designated by the Paying Agent. If any 2023 Bond shall not be paid upon such presentation and surrender at or after maturity, it shall continue to draw interest at the interest rate borne by said 2023 Bond until the principal thereof is paid in full. Except as otherwise provided in Section 307 hereof, payment of interest on any 2023 Bond shall be made to the registered owner thereof by check or draft mailed by first class mail by the Paying Agent, on each interest payment date (or, if such interest payment date is not a business day, on the next succeeding business day), to the registered owner thereof, at his or her address as shown on the registration records kept by the Registrar as of the close of business on the 15th day of the calendar month next preceding each interest payment date (other than a special interest payment date hereafter fixed for payment of defaulted interest) (the “Regular Record Date”); but any such interest not so timely paid or duly provided for shall cease to be payable to the owner thereof as shown on the registration records of the Registrar as of the close of business on the Regular Record

Date and shall be payable to the owner thereof, at his or her address, as shown on the registration records of the Registrar as of the close of business on a date fixed to determine the names and addresses of owners for the purpose of paying defaulted interest (the “Special Record Date”). Such Special Record Date shall be fixed by the Paying Agent whenever moneys become available for payment of the defaulted interest, and notice of the Special Record Date shall be given to the owners of the 2023 Bonds not less than ten days prior thereto by first-class mail to each such owner as shown on the Registrar’s registration records as of a date selected by the Registrar, stating the date of the Special Record Date and the date fixed for the payment of such defaulted interest. The Paying Agent may make payments of interest on any 2023 Bond by such alternative means as may be mutually agreed to between the owner of such 2023 Bond and the Paying Agent. All such payments shall be made in lawful money of the United States of America without deduction for any service charges of the Paying Agent or Registrar.

Section 303. Prior Redemption and Partial Redemption.

A. Optional Redemption. The 2023 Bonds, or portions thereof (\$5,000 or any integral multiple), shall be subject to optional redemption prior to their respective maturities, at the option of the Authority, on and after the date set forth in the Bond Purchase Agreement, in whole or in part at any time from any maturities selected by the Authority and by lot within a maturity (giving proportionate weight to 2023 Bonds in denominations larger than \$5,000), at a price equal to the principal amount of each 2023 Bond, or portion thereof, so redeemed, accrued interest thereon to the redemption date, and a premium, if any, as set forth in the Bond Purchase Agreement.

B. Mandatory Sinking Fund Redemption. The 2023 Bonds maturing on July 1 of the years set forth in the Bond Purchase Agreement, if any (the “Term Bonds”) are subject to mandatory sinking fund redemption at a redemption price equal to 100% of the principal amount thereof and accrued interest to the redemption date. As and for a sinking fund for the redemption of the Term Bonds, there shall be deposited into the Bond Fund on or before July 1 of the years set forth in the Bond Purchase Agreement, a sum which, together with other moneys available in the Bond Fund, is sufficient to redeem the Term Bonds plus accrued interest to the redemption date, on July 1 of the years and in the principal amounts as set forth in the Bond Purchase Agreement.

Not more than sixty days nor less than thirty days prior to the sinking fund payment dates for the Term Bonds, the Registrar shall proceed to select for redemption (by lot in such manner as the Registrar may determine) from all Outstanding Term Bonds of a series, a principal amount of the Term Bonds equal to the aggregate principal amount of the Term Bonds redeemable with the required sinking fund payments, and shall call such Term Bonds or portions thereof for redemption from the sinking fund on the next July 1, and give notice of such call as provided in Section 304 of this Instrument.

At the option of the Authority to be exercised by delivery of a written certificate to the Registrar not less than sixty days next preceding any sinking fund redemption date, it may (i) deliver to the Registrar for cancellation Term Bonds, or portions thereof (\$5,000 or any integral multiple thereof) in an aggregate principal amount desired by the Authority or, (ii) specify a principal amount of Term Bonds, or portions thereof (\$5,000 or any integral multiple thereof)

which prior to said date have been redeemed (otherwise than through the operation of the sinking fund) and canceled by the Registrar and not theretofore applied as a credit against any sinking fund redemption obligation. Each Term Bond or portions thereof so delivered or previously redeemed shall be credited by the Registrar at 100% of the principal amount thereof against the obligation of the Authority on the sinking fund redemption dates and any excess shall be so credited against future sinking fund redemption obligations in such manner as the Authority determines. In the event the Authority shall avail itself of the provisions of clause (i) of the first sentence of this paragraph, the certificate required by the first sentence of this paragraph shall be accompanied by the respective Term Bonds or portions thereof to be canceled or in the event the Bonds are registered in the name of Cede & Co. as provided in Section 307 of this Instrument, the certificate required by the first sentence of this paragraph shall be accompanied by such direction and evidence of ownership as is satisfactory to The Depository Trust Company.

C. Partial Redemption. In the case of 2023 Bonds in a denomination larger than \$5,000, a portion of such 2023 Bond (\$5,000 or any integral multiple thereof) may be redeemed, in which case the Registrar shall, except as otherwise provided in Section 307 hereof, without charge to the owner of such 2023 Bond, authenticate and issue a replacement 2023 Bond or 2023 Bonds for the unredeemed portion thereof. In the case of a partial redemption of 2023 Bonds of a single maturity pursuant to Subsection A of this Section, the Paying Agent shall select the 2023 Bonds to be redeemed by lot at such time as directed by the Authority (but at least 30 days prior to the redemption date), and if such selection is more than 60 days before a redemption date, except as otherwise provided in Section 307 hereof, shall direct the Registrar to appropriately identify the 2023 Bonds so called for redemption by stamping them at the time any 2023 Bond so selected for redemption is presented to the Registrar for stamping or for transfer or exchange, or by such other method of identification as deemed adequate by the Registrar, and any 2023 Bond or 2023 Bonds issued in exchange for, or to replace, any 2023 Bond or 2023 Bonds so called for prior redemption shall likewise be stamped or otherwise identified.

Section 304. Notice of Redemption. Unless waived by any registered owner of a 2023 Bond to be redeemed, notice of prior redemption shall be given electronically by the Registrar, as long as Cede & Co. is registered owner of the 2023 Bonds, and otherwise by first-class mail, at least 30 days but not more than 60 days prior to the Redemption Date to the Municipal Securities Rulemaking Board via its Electronic Municipal Market Access (“MSRB”), the Insurer, if any, and to the registered owner of any 2023 Bond (initially Cede & Co.) all or a part of which is called for prior redemption at his or her address as it last appears on the registration records kept by the Registrar. Actual receipt of notice by the MSRB, the Insurer, if any, or any registered owner of 2023 Bonds shall not be a condition precedent to redemption of such 2023 Bonds. Failure to give such notice to the MSRB, the Insurer, if any, or the registered owner of any 2023 Bond designated for redemption, or any defect therein, shall not affect the validity of the proceedings for the redemption of any other 2023 Bond. A certificate by the Registrar that notice of call and redemption has been given as provided in this Section shall be conclusive as against all parties; and no owner whose 2023 Bond is called for redemption or any other owner of any 2023 Bond may object thereto or may object to the cessation of interest on the Redemption Date on the ground that he failed actually to receive such notice of redemption.

All official notices of redemption shall be dated and shall state:

- (1) the redemption date,
- (2) the purchase prices,
- (3) the identification by CUSIP number and maturity (and, in the case of partial redemption of a maturity, other appropriate identification) of the 2023 Bonds to be redeemed,
- (4) that on the redemption date the redemption price will become due and payable upon each such 2023 Bond or portion thereof called for redemption, and that interest thereon shall cease to accrue from and after said date, and
- (5) the place where such 2023 Bonds are to be surrendered for payment of the redemption price, which place of payment shall be the principal office of the Paying Agent or such other office as designated by the Paying Agent (accrued interest to the redemption date being payable by mail or as otherwise provided in this Instrument).

Unless waived by the Registrar, written direction to give a notice of optional redemption shall be given by the Authority to the Registrar in writing not less than 60 days prior to the redemption date. No such written direction need be provided for mandatory redemption under Section 303B, and the Registrar shall call Bonds in accordance with Section 303B without further direction.

Each notice may further state that such redemption shall be conditional upon the Paying Agent receiving for deposit in the Bond Fund on or prior to the date fixed for redemption, monies authorized by the Authority to be deposited into the Bond Fund that are sufficient to pay the principal of and interest and prior redemption premium, if any, on the 2023 Bonds to be redeemed and that if such monies have not been so received, the notice shall be of no force and effect and the Authority shall not be required to redeem such 2023 Bonds. Unless waived by the Registrar, the Authority, not less than 60 days prior to the redemption date, shall advise the Registrar, in writing, of its election to conditionally redeem any 2023 Bonds as provided in this paragraph.

Official notice of redemption having been given as aforesaid, the 2023 Bonds or portions of 2023 Bonds so to be redeemed shall, on the redemption date, become due and payable at the redemption price therein specified, and from and after such date (unless the Authority shall not have deposited payment of the redemption price into the Bond Fund) such 2023 Bonds or portions of 2023 Bonds shall cease to bear interest. Upon surrender of such 2023 Bonds for redemption in accordance with said notice, such 2023 Bonds shall be paid by the Paying Agent at the redemption price, if the Authority has deposited with the Paying Agent an amount of money sufficient to pay the redemption price. Installments of interest due on or prior to the redemption date shall be payable as herein provided for payment of interest. Upon partial redemption of any 2023 Bond, the applicable amount being redeemed shall be reflected on the prepayment panel appended to the 2023 Bonds. All 2023 Bonds which have been redeemed shall be canceled and destroyed by the Registrar and shall not be reissued.

Section 305. Negotiability. The 2023 Bonds shall be fully negotiable within the meaning of and for the purpose of the Uniform Commercial Code - Investment Securities and each owner shall possess all rights enjoyed by holders of negotiable instruments under the Uniform Commercial Code - Investment Securities.

Section 306. Registration, Transfer and Exchange of Bonds. Except as otherwise provided in Sections 303 and 307 hereof:

A. Records for the registration and transfer of the 2023 Bonds shall be kept by the Registrar. Upon the surrender of any 2023 Bond at the Registrar, duly endorsed for transfer or accompanied by an assignment in form satisfactory to the Registrar duly executed by the owner or his or her attorney duly authorized in writing, the Registrar shall authenticate and deliver in the name of the transferee or transferees a new 2023 Bond or 2023 Bonds of a like aggregate principal amount and of the same maturity and interest rate, bearing a number or numbers not previously assigned. 2023 Bonds may be exchanged at the Registrar for an equal aggregate principal amount of 2023 Bonds of the same maturity of other authorized denominations, as provided in Section 302 hereof. The Registrar shall authenticate and deliver a 2023 Bond or 2023 Bonds which the owner making the exchange is entitled to receive, bearing a number or numbers not previously assigned. For every exchange or transfer of 2023 Bonds requested by the owner thereof, the Registrar may make a sufficient charge to the bondholder to reimburse it for any tax, fee or other governmental charge required to be paid with respect to such exchange or transfer and may charge a sum sufficient to pay the cost of preparing and authenticating a new 2023 Bond. No such charge shall be levied in the case of an exchange resulting from an optional redemption of a 2023 Bond.

B. The Registrar shall not be required to transfer or exchange (i) any 2023 Bond, or portion thereof, subject to redemption during a period beginning at the opening of business fifteen (15) days before the date of mailing by the Registrar of a notice of prior redemption of 2023 Bonds and ending at the close of business on the date of such mailing; (ii) any 2023 Bond, or any portion thereof, subject to redemption after the mailing of such notice as herein provided; or (iii) any 2023 Bond, or portion thereof, during a period beginning fifteen (15) days before the maturity date of such 2023 Bond presented for transfer.

C. The person in whose name any 2023 Bond shall be registered, on the registration records kept by the Registrar, shall be deemed and regarded as the absolute owner thereof for the purpose of payment and for all other purposes (except to the extent otherwise provided in Section 302 hereof with respect to interest payments); and payment of or on account of either principal or interest on any 2023 Bond shall be made only to or upon the written order of the owner thereof or his or her legal representative. All such payments shall be valid and effectual to discharge the liability upon such 2023 Bond to the extent of the sum or sums so paid.

D. If any 2023 Bond shall be lost, stolen, destroyed or mutilated, the Registrar shall, upon receipt of such evidence, information or indemnity relating thereto as it or the Authority may reasonably require, and upon payment by the holder of all expenses in connection therewith, authenticate and deliver a replacement 2023 Bond or 2023 Bonds of a like aggregate principal amount and of the same maturity and interest rate, bearing a number or numbers not previously assigned. If such lost, stolen, destroyed or mutilated 2023 Bond shall have matured or shall have

been called for redemption, the Registrar may direct that such 2023 Bond be paid by the Paying Agent in lieu of replacement.

E. Whenever any 2023 Bond shall be surrendered to the Paying Agent upon payment thereof, or to the Registrar for transfer, exchange or replacement as provided herein, such 2023 Bond shall be promptly canceled or destroyed by the Paying Agent or Registrar, and counterparts of a certificate of such cancellation or proof of destruction shall be furnished by the Paying Agent or Registrar to the Board upon request.

Section 307. Custodial Deposit.

A. Notwithstanding the foregoing provisions of Sections 302 to 306 hereof, the 2023 Bonds shall initially be registered in the name of “Cede & Co.” as nominee for The Depository Trust Company, the securities depository for the 2023 Bonds. The 2023 Bonds may not thereafter be transferred or exchanged except:

(1) to any successor of The Depository Trust Company or its nominee, which successor must be both a “clearing corporation” as defined in NRS 104.8102, and a qualified and registered “clearing agency” under Section 17A of the Securities Exchange Act of 1934, as amended; or

(2) upon the resignation of The Depository Trust Company or a successor or new depository under clause (1) or this clause (2) of this Subsection A, or a determination by the Authority that The Depository Trust Company or such successor or new depository is no longer able to carry out its functions, and the designation by the Authority of another depository institution acceptable to the depository then holding the 2023 Bonds, which new depository institution must be both a “clearing corporation” as defined in NRS 104.8102 and a qualified and registered “clearing agency” under Section 17A of the Securities Exchange Act of 1934, as amended, to carry out the functions of The Depository Trust Company or such successor or new depository;

(3) upon the resignation of The Depository Trust Company or a successor or new depository under clause (1) or clause (2) of this Subsection A, or a determination by the Authority that The Depository Trust Company or such successor or new depository is no longer able to carry out its functions, and the failure by the Authority, after reasonable investigation, to locate another qualified depository institution under clause (2) to carry out such depository functions; or

(4) upon the determination of the Authority to discontinue the book-entry system for the 2023 Bonds.

B. In the case of a transfer to a successor of The Depository Trust Company or its nominee as referred to in clause (1) of Subsection A hereof or designation of a new depository pursuant to clause (2) of Subsection A hereof, upon receipt of the outstanding 2023 Bonds by the Registrar, together with written instructions for transfer satisfactory to the Registrar, a new 2023 Bond for each maturity then outstanding shall be issued to such successor or new depository, as the case may be, or its nominee, as is specified in such written transfer instructions. In the case of a resignation or determination under clause (3) of Subsection A hereof and the failure after

reasonable investigation to locate another qualified depository institution for the 2023 Bonds as provided in clause (3) of Subsection A hereof, or upon a determination pursuant to clause (4) of Subsection A hereof, and upon receipt of the outstanding 2023 Bonds by the Registrar, together with written instructions for transfer satisfactory to the Registrar, new 2023 Bonds shall be issued in the denominations of \$5,000 or any integral multiple thereof, as provided in and subject to the limitations of Section 302 hereof, registered in the names of such persons, and in such denominations as are requested in such written transfer instructions; however, the Registrar shall not be required to deliver such new 2023 Bonds within a period of less than 60 days from the date of receipt of such written transfer instructions.

C. The Authority, the Registrar and the Paying Agent shall be entitled to treat the registered owner of any 2023 Bond as the absolute owner thereof for all purposes hereof and any applicable laws, notwithstanding any notice to the contrary received by any or all of them and the Authority, the Registrar and the Paying Agent shall have no responsibility for transmitting payments or notices to the beneficial owners of the 2023 Bonds held by The Depository Trust Company or any successor or new depository named pursuant to Subsection A hereof.

D. The Authority, the Registrar and the Paying Agent shall endeavor to cooperate with The Depository Trust Company or any successor or new depository named pursuant to clause (1) or (2) of Subsection A hereof in effectuating payment of the 2023 Bond Requirements of the 2023 Bonds by arranging for payment in such a manner that funds representing such payments are available to the depository on the date they are due.

E. Upon any partial redemption of any maturity of the Bonds, Cede & Co (or its successor) in its discretion may request the Authority to issue and authenticate a new Bond or shall make an appropriate notation on the Bond indicating the date and amount of prepayment, except in the case of final maturity, in which case the Bond must be presented to the Paying Agent prior to payment.

Section 308. Execution of Bonds. The 2023 Bonds shall be executed as follows:

A. Filings with Secretary of State. Pursuant to NRS 350.638 and to the act cited as the Uniform Facsimile Signatures of Public Officials Act, cited as chapter 351 of NRS, and prior to the execution of any 2023 Bonds by facsimile signature, the Chairman, the Treasurer, and the Secretary shall each file with the Secretary of State of the State of Nevada such officer's manual signature certified by such officer under oath.

B. Manner of Execution. Pursuant to NRS 350.636, each Bond shall be signed and executed in the name and on behalf of the Authority with the manual or reproduced facsimile of the signature of the Chairman, and shall be countersigned and executed with a manual or facsimile signature of the Treasurer; each Bond shall be authenticated with the manual or facsimile impression of the official seal of the Authority; and each Bond shall be signed, subscribed, executed, and attested by the manual or facsimile signature of the Secretary.

Section 309. Use of Predecessor's Signature. The 2023 Bonds bearing the signatures of the officers in office at the time of the signing thereof shall be the valid and binding obligations of the Authority, notwithstanding that before the delivery thereof and the payment

thereof any or all of the individuals whose signatures appear thereon shall have ceased to fill their respective offices. At the time of the execution of the 2023 Bonds and of a signature certificate pertaining thereto the Chairman, the Treasurer, and the Secretary, respectively, may adopt as and for his own signature the signature of his predecessor in office if such signature appears upon any of the 2023 Bonds pertaining thereto.

Section 310. Authentication of the Bonds. No 2023 Bond shall be valid or obligatory for any purpose unless the certificate of authentication thereon, substantially in the form hereinafter provided, has been duly manually executed by the Registrar. By authenticating any of the 2023 Bonds initially delivered pursuant to this Instrument, the Registrar shall be deemed to have assented to all of the provisions of this Instrument.

Section 311. Incontestable Recital in Bonds. Pursuant to NRS 350.628, each 2023 Bond shall recite that it is issued pursuant to the Authority Act, the Supplemental Bond Act and to the Bond Act, which recital shall be conclusive evidence of the validity of the 2023 Bonds and the regularity of their issuance.

Section 312. State Tax Exemption. The 2023 Bonds and the income therefrom are exempt from all State, County, and municipal taxation, except for the tax on estates imposed pursuant to the provisions of chapter 375A of NRS and the tax on generation-skipping transfers imposed pursuant to chapter 375B of NRS.

Section 313. Bond Execution. The Chairman, the Treasurer, and the Secretary are hereby authorized and directed to prepare and to execute the 2023 Bonds as herein provided.

Section 314. Bond Delivery. After registration, execution and authentication, the TMWA Manager or the Chief Financial Officer shall cause the 2023 Bonds to be delivered to the Underwriter, upon payment being made therefor on the terms of the sale of the 2023 Bonds.

Section 315. Bond Form. Subject to the provisions of this Instrument, each 2023 Bond shall be, respectively, in substantially the following form, with such omissions, insertions, endorsements, and variations as to any recitals of fact or other provisions as may be required by the circumstances, be required or permitted by this Instrument, including, without limitation, if applicable, a statement of insurance to guarantee the payment of the principal of and the interest on each 2023 Bond of a designated portion or all of the issue by any insurer or insurers thereof, or be consistent with this Instrument and necessary or appropriate to conform to the rules and requirements of any governmental authority or any usage or requirement of law with respect thereto:

(Form of Bond)

**TRUCKEE MEADOWS WATER AUTHORITY
WATER REVENUE BOND
SERIES 2023**

No. _____ \$ _____

Interest Rate Maturity Date Dated As of CUSIP
_____ % per annum July 1, ____ _____, 2023

REGISTERED OWNER: Cede & Co.

PRINCIPAL AMOUNT: _____ DOLLARS

The Truckee Meadows Water Authority, in Washoe County, in the State of Nevada (the "Authority", "County", and the "State", respectively) for value received, hereby acknowledges itself to be indebted and for value received promises to pay to the registered owner specified above, or registered assigns, the principal amount specified above, on the maturity date specified above (unless called for earlier redemption), and to pay interest thereon on January 1 and July 1 of each year, commencing on _____, 202_, at the interest rate per annum specified above, until the principal sum is paid or payment has been provided for or, if such payment date is not a business day, on or before the next succeeding business day. This bond shall bear interest from the most recent interest payment date to which interest has been paid or, if no interest has been paid, from the date of the initial delivery of the series of bonds of which this bond is one (the "Bond"). The principal of and redemption premium, if any, on this Bond are payable upon presentation and surrender hereof at the principal office or such other office of the Authority's paying agent for the Bonds or any successor (the "Paying Agent") as designated by the Paying Agent, presently The Bank of New York Mellon Trust Company, N.A., who is also now acting as the Authority's Registrar for the Bonds (the "Registrar"). Interest on this Bond will be paid on each interest payment date (or, if such date is not a business day, on the next succeeding business day) by check or draft mailed, by first class mail, to the person in whose name this Bond or any predecessor bond is registered (the "registered owner") in the registration records of the Authority maintained by the Registrar, at the address appearing thereon, as of the close of business on the 15th day of the calendar month next preceding such interest payment date (the "Regular Record Date"). Any such interest not so timely paid or duly provided for shall cease to be payable to the person who is the registered owner as of the close of business on the Regular Record Date and shall be payable to the person who is the registered owner as of the close of business on a special record date for the payment of any defaulted interest (the "Special Record Date"). Such Special Record Date shall be fixed by the Registrar whenever moneys become available for payment of the defaulted interest, and notice of the Special Record Date shall be given to the registered owner not less than ten (10) days prior thereto. Alternative means of payment of interest may be used if mutually agreed to by the registered owner and the Paying Agent, as provided in the Resolution of the Board of Directors

of the Authority (the “Board”) authorizing the issuance of the Bonds and designated in Section 101 thereof as the “2023 Bond Resolution” (the “Resolution”), duly adopted by the Board on September 20, 2023. All such payments shall be made in lawful money of the United States of America without deduction for any service charges of the Paying Agent or Registrar. If this Bond is not paid upon presentation at its maturity, interest at the rate specified above shall continue to be borne hereby until the principal hereof is discharged as provided in the Resolution.

This Bond is one of a series of Bonds issued by the Authority upon its behalf and upon the credit thereof, for the purpose of defraying wholly or in part of the cost of acquiring, constructing, improving and equipping facilities pertaining to the TMWA Water System (as defined below) under the authority of and in full compliance with the Constitution and laws of the State, and pursuant to the Resolution.

The Bonds are issued pursuant to Nevada Revised Statutes (“NRS”) 277.080 to 277.180, inclusive (the “Authority Act”); pursuant to NRS 350.500 through 350.720, and all laws amendatory thereof designated in NRS 350.500 thereof as the Local Government Securities Law (the “Bond Act”); pursuant to NRS chapter 348 (the “Supplemental Bond Act”); and pursuant to NRS 350.628, Bond Act, this recital is conclusive evidence of the validity of the Bonds and the regularity of their issuance; and the Bonds and the income therefrom are exempt from all State, County, and municipal taxation, except for the tax on estates imposed pursuant to chapter 375A of NRS and the tax on generation skipping transfers imposed pursuant to chapter 375B of NRS.

The Bonds, or portions thereof, are subject to redemption prior to their respective maturities, at the option of the Authority as provided in the Resolution.

[Certain of the Bonds are also subject to mandatory sinking fund redemption as provided in the Resolution and the Bond Purchase Agreement.]

Redemption shall be made upon not less than 30 days prior notice in the manner and upon the conditions provided in the Resolution. If this Bond is called for redemption and payment is duly provided for as specified in the Resolution, interest shall cease to accrue hereon from and after the date fixed for redemption.

The Bonds do not constitute a debt or an indebtedness of the Authority within the meaning of any constitutional or statutory provision or limitation, and shall not be considered or held to be general obligations of the Authority. The Authority has not pledged its full faith and credit for the payment of the Bonds. The Bonds are special obligations and are payable and collectible solely out of and are secured by an irrevocable pledge of the gross revenues (the “Gross Revenues”) derived from the operation and use of, and otherwise pertaining to, certain water facilities of the Authority (herein the “TMWA Water System”), after provision is made for the payment of all necessary and reasonable Operation and Maintenance Expenses of the TMWA Water System (the “Net Revenues”), which Net Revenues are so pledged, as more specifically provided in the Resolution; and the holder hereof may not look to any general or other fund for the payment of the principal of, interest on, and any prior redemption premiums due on this Bond (the “Bond Requirements”) of this obligation except the special funds pledged therefor.

Payment of the Bond Requirements due in connection with the Bonds shall be made solely from and as security for such payment there are irrevocably (but not exclusively) pledged, pursuant to the Resolution two special and separate subaccounts identified as the “Truckee Meadows Water Authority, TMWA Water System Parity Revenues Securities, Interest Account” and the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Principal Account,” which two subaccounts are within the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Bond Fund” (the “Bond Fund”), into which two subaccounts within the Bond Fund the Authority covenants to pay from the Net Revenues sums sufficient to pay when due the Bond Requirements of the Bonds and any additional parity securities heretofore or hereafter issued and payable from such Net Revenues.

The Bonds are equally and ratably secured by a lien on the Net Revenues, and the Bonds constitute an irrevocable lien (but not necessarily an exclusive lien) upon the Net Revenues, on a parity with the lien thereon of the outstanding 2015 Bonds, 2016 Bonds, 2017 Bonds, 2018 Bonds and any outstanding parity securities hereafter issued. Bonds and other securities, subject to expressed conditions, may be issued and made payable from the Net Revenues of the TMWA Water System having a lien thereon subordinate and junior to the lien or, subject to additional expressed conditions, having a lien thereon on a parity with the lien of the Bonds, in accordance with the provisions of the Resolution. No bonds or other securities, may be issued with a lien on the Net Revenues that is superior to the lien thereon of the Bonds.

Reference is made to the Resolution and to the Bond Act, for an additional description of the nature and extent of the security for the Bonds, the accounts, funds, or revenues pledged, the nature and extent and manner of enforcement of the pledge, the rights and remedies of the registered owners of the Bonds with respect thereto, the terms and conditions upon which the Bonds are issued, and a statement of rights, duties, immunities, and obligations of the Authority, and other rights and remedies of the owners of the Bonds.

To the extent and in the respects permitted by the Resolution, the provisions of the Resolution may be amended or otherwise modified by action of the Authority taken in the manner and subject to the conditions and exceptions prescribed in the Resolution. The pledge of Net Revenues under the Resolution may be discharged at or prior to the respective maturities or prior redemption of the Bonds upon the making of provision for the payment thereof on the terms and conditions set forth in the Resolution.

This Bond shall not be entitled to any benefit under the Resolution, or be valid or obligatory for any purpose until the Registrar shall have manually signed the certificate of authentication hereon.

The Bonds are issuable solely in fully registered form in denominations of \$5,000 each or (subject to certain conditions) any integral multiple thereof, and are exchangeable for fully registered Bonds of the same maturity in equivalent aggregate principal amounts and in authorized denominations at the aforesaid office of the Registrar but only in the manner, subject to the limitations, and on payment of charges provided in the Resolution.

*This Bond is fully transferable by the registered owner in person or by his or her duly authorized attorney on the registration records kept by the Registrar upon surrender of this

Bond together with a duly executed written instrument of transfer satisfactory to the Registrar. Upon such transfer a new fully registered Bond of authorized denomination or denominations of the same aggregate principal amount and maturity will be issued to the transferee in exchange for this Bond, on payment of the charges and subject to the terms and conditions as set forth in the Resolution.*

The Authority and the Registrar and Paying Agent may deem and treat the person in whose name this Bond is registered as the absolute owner hereof for the purpose of payment and for all other purposes, except to the extent otherwise provided hereinabove and in the Resolution with respect to Regular and Special Record Dates for the payment of interest.

The Registrar will not be required to transfer or exchange (i) any Bond, or portion thereof, subject to redemption during the period beginning at the opening of business fifteen (15) days before the day of mailing by the Registrar of a notice of prior redemption of Bonds and ending at the close of business on the day of such mailing; (ii) any Bond, or portion thereof, subject to redemption after the mailing of such notice; or (iii) any Bond, or portion thereof, during a period beginning fifteen (15) days before the maturity date of such Bond presented for transfer.

The Bonds shall not be transferable or exchangeable except as set forth in the Resolution.

Upon any partial prior redemption of the Bond, Cede & Co., in its discretion may request the Registrar to authenticate a new Bond or shall make an appropriate notation on this Bond indicating the date and amount of prepayment, except in the case of final maturity, in which case this Bond must be presented to the Paying Agent prior to prepayment.

Unless this certificate is presented by an authorized representative of The Depository Trust Company, a New York corporation (“DTC”), to Authority or its agent for registration of transfer, exchange, or payment, and any certificate issued is registered in the name of Cede & Co., or in such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entity as is requested by an authorized representative of DTC), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL inasmuch as the registered owner hereof, Cede & Co., has an interest herein.

It is further certified, recited, and warranted that all the requirements of law have been fully complied with by the proper officers of the Authority in the issuance of this bond; that it is issued pursuant to and in strict conformity with the Constitution and laws of the State, and particularly under the terms and provisions of the Authority Act, the Bond Act, and all laws supplemental thereto, and with the Resolution; and that this Bond does not contravene any constitutional or statutory limitation.

No transfer of this Bond shall be valid unless made on the registration records maintained at the principal office of the Registrar by the registered owner or his or her attorney duly authorized in writing.

No recourse shall be had for the payment of the Bond Requirements of this Bond or for any claim based thereon or otherwise in respect to the Resolution or other instrument

pertaining thereto against any individual member of the Board, or any officer or other agent of the Authority, past, present, or future, either directly or indirectly through the Board or otherwise, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any penalty or otherwise, all such liability, if any, being by the acceptance of this Bond and as a part of the consideration of its issuance specially waived and released.

IN WITNESS WHEREOF, the Board of Directors of the Truckee Meadows Water Authority, in the County of Washoe and State of Nevada has caused this Bond to be executed in the name and on behalf of the Authority with the manual or facsimile signature of the Chairman, to be attested, signed and executed with a manual or facsimile signature of the Authority Secretary, has caused a manual or facsimile impression of the seal of the Authority to be affixed hereon, and has caused this Bond to be countersigned with the manual or facsimile signature of the Authority Treasurer, all as of _____, 2023.

TRUCKEE MEADOWS WATER AUTHORITY

By: (Manual or Facsimile Signature) Chairman
Countersigned

(Manual or Facsimile Signature)
Treasurer

(MANUAL OR FACSIMILE SEAL)

Attest:

(Manual or Facsimile Signature)
Secretary

* Insert only if Bonds are delivered pursuant to Section 307(A)(3) or (4) of this Instrument.
** Insert only if the Bonds are initially delivered to the Depository Trust Company pursuant to Section 307(A) of this Instrument.

(End of Form of Bond)

(Form of Registrar’s Certificate of Authentication for Bonds)

Date of authentication
and registration _____

This is one of the Bonds described in the within-mentioned Resolution, and this Bond has been duly registered on the registration records kept by the undersigned as Registrar for such Bonds.

THE BANK OF NEW YORK MELLON TRUST
COMPANY, N.A., as Registrar

By: Manual Signature
Authorized Officer

(End of Form of Registrar’s Certificate of Authentication for Bonds)

(Form of Prepayment Panel)

The following installments of principal (or portions thereof) of this Bond have been prepaid by the Truckee Meadows Water Authority, in accordance with the terms of the Resolution authorizing the issuance of this Bond:

<u>Date of Prepayment</u>	<u>Principal Amount Prepaid</u>	<u>Signature of Authorized Representative of DTC</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

(End of Form of Prepayment Panel)

(Form of Assignment for Bonds)

For value received, the undersigned hereby sells, assigns and transfers unto _____ the within Bond and hereby irrevocably constitutes and appoints _____ attorney, to transfer the same on the records kept for registration of the within Bond, with full power of substitution in the premises.

Dated: _____

Signature Guaranteed:

Name of Transferee:

Address of Transferee:

Social Security or other tax
identification number of
Transferee:

NOTE: The signature to this Assignment must correspond with the name as written on the face of the within Bond in every particular, without alteration or enlargement or any change whatsoever.

NOTICE: TRANSFER FEES MUST BE PAID TO THE REGISTRAR IN ORDER TO TRANSFER OR EXCHANGE THIS BOND AS PROVIDED IN THE WITHIN-MENTIONED RESOLUTION.

(End of Form of Assignment for Bonds)

ARTICLE IV

USE OF BOND PROCEEDS AND OTHER REVENUES

Section 401. Disposition of Bond Proceeds. The proceeds of the 2023 Bonds, upon the receipt thereof at any time, or from time to time, shall be applied in the following manner:

(1) Costs of Issuance Account. First, an amount sufficient to pay the costs of issuing the 2023 Bonds shall be deposited into the Costs of Issuance Account, a special account to be held under the control of the Authority hereby created, and shall be applied to the costs of issuing the 2023 Bonds. After payment of the costs of issuance, if there is a balance remaining in the Costs of Issuance Account, the remaining balance shall be deposited into the Acquisition Account.

(2) Acquisition Account. Second, the balance of the proceeds of the 2023 Bonds shall be deposited into a special account to be held under the control of the Authority designated and hereby established as the “Truckee Meadows Water Authority, Water Revenue Bonds, Series 2023 Acquisition Account” and shall be applied to the Cost of the Project.

Section 402. Underwriter Not Responsible. The validity of the 2023 Bonds shall neither be dependent upon nor be affected by the validity or regularity of any proceedings relating to the Project. The Underwriter of the 2023 Bonds, any associate thereof, and any subsequent holder of the 2023 Bonds shall in no manner be responsible for the application or disposal by the Authority or by any of the officers, agents, and employees of the Authority of the moneys derived from the sale of the 2023 Bonds or of any other moneys herein designated.

Section 403. Lien on Bond Proceeds. The proceeds of the 2023 Bonds credited to the Costs of Issuance Account and the Acquisition Account pursuant to Section 401 hereof shall be subject to a lien and pledge for the 2023 Bonds until such proceeds are expended to defray Bond Requirements of the 2023 Bonds or the Cost of the Project.

Section 404. Moneys for Project. Except as herein otherwise expressly provided, all monies received and held by the Authority for the Project from all sources, including, without limitation, 2023 Bond proceeds that are deposited into the Acquisition Account shall be used and paid out solely for the purpose of defraying the Cost of the Project.

Section 405. Prevention of Bond Default. The Treasurer shall use any 2023 Bond Proceeds credited to the Acquisition Account, without further order or warrant, to pay the Bond Requirements of the 2023 Bonds as the same become due whenever and to the extent monies in the Bond Fund or otherwise available therefor and insufficient for that purpose, unless the 2023 Bond proceeds shall be needed to defray obligations accrued and to accrue under any contracts existing and relating to the Project. The Treasurer shall notify the Chairman and Secretary of any such use. Any monies so used shall be restored to the Acquisition Account from the first Pledged Revenues thereafter received and not needed to meet the requirements provided in Sections 507 through 511 hereof.

Section 406. Completion of Project. When the Project shall have been completed and all amounts due therefor, including all incidental expenses, shall have been paid or full provision made therefor, the Treasurer, upon receipt of direction by the Board so ordering, shall cause to be transferred to the Bond Fund any surplus monies remaining in the Acquisition Account, except for any monies designated in such resolution to be retained to pay unpaid costs or contingent obligations and the sums so transferred shall be applied to the payment of the next principal due on the 2023 Bonds. Nothing herein:

A. Periodic Transfers. Prevents the Treasurer from transferring to the Bond Fund from the Acquisition Account any monies that the Board determines will not be necessary for completion of the Project; nor

B. Limitations Upon Transfer. Requires the transfer to the Bond Fund from the Acquisition Account of any monies in the Acquisition Account derived from a source other than 2023 Bond proceeds.

ARTICLE V

ADMINISTRATION OF AND ACCOUNTING FOR PLEDGED REVENUES

Section 501. Pledge Securing Bonds. The Net Revenues and all moneys and securities paid or to be paid to or held or to be held in any account or subaccount under this article or under Section 401 hereof, are hereby pledged to secure the payment of the Bond Requirements of the 2023 Bonds. This pledge shall be valid and binding from and after the date of the first delivery of any 2023 Bonds; and the moneys, as received by the Authority and hereby pledged, shall immediately be subject to the lien of this pledge without any physical delivery thereof, any filing, or further act. The lien of this pledge and the obligation to perform the contractual provisions hereby made shall have priority over any or all other obligations and liabilities of the Authority, except for the 2015 Bonds, the 2016 Bonds, the 2017 Bonds, the 2018 Bonds and any Outstanding securities hereafter authorized, the lien of which on the Net Revenues is on a parity with the lien thereon of the 2023 Bonds; and the lien of this pledge shall be valid and binding as against all parties having claims of any kind in tort, contract, or otherwise against the Authority (except as herein otherwise provided) irrespective of whether such parties have notice thereof.

Section 502. Establishment of Trustee Accounts and Subaccounts. The Authority hereby authorizes the following special and separate subaccounts within the Bond Fund, hereby continued, previously created and designated the “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Bond Fund,” which shall be held by the Trustee, within which are designated:

A. Interest Account. The “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Interest Account” (herein the “Interest Account”);

B. Principal Account. The “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities, Principal Account” (herein the “Principal Account”); and

Section 503. Continuation of Authority Accounts. The Authority hereby continues the previously established and authorized following special and separate accounts, which shall be under the control of the Authority and not be held by the Trustee (except in a capacity other than as Trustee, e.g., as custodian), and which are designated:

A. Revenue Fund. The “Truckee Meadows Water Authority, TMWA Water System Gross Revenues Fund.”

B. Rebate Account. The “Truckee Meadows Water Authority, TMWA Water System Parity Revenue Securities Rebate Account.”

C. Operation and Maintenance Account. The “Truckee Meadows Water Authority, TMWA Water System Operation and Maintenance Account.”

D. Operation and Maintenance Reserve Account. The “Truckee Meadows Water Authority, TMWA Water System Operation and Maintenance Reserve Account.”

E. Renewal and Replacement Account. The “Truckee Meadows Water Authority, TMWA Water System Renewal and Replacement Account.”

F. Rate Stabilization Account. The “Truckee Meadows Water Authority, TMWA Water System Rate Stabilization Account.”

G. General Purpose Account. The “Truckee Meadows Water Authority, TMWA Water System General Purpose Account.”

Section 504. Revenue Fund Deposits. So long as any of the 2023 Bonds shall be Outstanding, all Gross Revenues, upon their receipt from time to time by the Authority, shall be deposited at least weekly, as far as practicable, and shall be set aside and credited immediately to the Revenue Fund.

Section 505. Administration of Revenue Fund. So long as any of the 2023 Bonds hereby authorized shall be Outstanding, in each Fiscal Year the Revenue Fund shall continue to be administered, and the moneys on deposit therein shall continue to be applied in the order of priority, all as provided in Sections 506 through 515 hereof.

Section 506. Operation and Maintenance Expenses. First, as a first charge on the Revenue Fund, from time to time there shall be set aside in and credited to the Operation and Maintenance Account, moneys sufficient to pay Operation and Maintenance Expenses by the last day of the month that is at least one month before such expenses are to be paid, and thereupon they shall be promptly paid. Any surplus remaining at the end of the Fiscal Year and not needed for Operation and Maintenance Expenses shall be transferred for credit to the Revenue Fund and shall be used for the purposes thereof, as herein provided.

Section 507. Bond Fund Payments. Second, and subject to the aforesaid provisions, from any moneys remaining in the Revenue Fund, and concurrently with the transfers into the Interest Account and Principal Account required by the 2015 Bond Resolution, the 2016 Bond Resolution, the 2017 Bond Resolution, the 2018 Bond Resolution, and any parity securities hereafter issued, there shall be transferred to the Trustee and credited to the Bond Fund, the following:

A. Interest Payments. Monthly, into the Interest Account, within the Bond Fund, commencing on the first day of the month that is one full month after the delivery date of the Bonds, and on the first day of the month succeeding the delivery of any other parity securities hereafter issued and payable from the Bond Fund, an amount in substantially equal monthly installments necessary, together with any other moneys from time to time available therefor or from whatever source, to pay the next accruing installment of interest on the 2023 Bonds and any additional parity securities then Outstanding (including payments due on any Qualified Swap) and monthly thereafter, commencing on each interest payment date, the amount necessary to accumulate the next accruing installment of interest on the 2023 Bonds and any additional parity securities then Outstanding (including payments due on any Qualified Swap) in equal monthly installments prior to the due date thereof, except to the extent any other moneys are available therefor on the due date of such installment.

B. Principal Payments. Monthly, into the Principal Account, within the Bond Fund, commencing on the first day of the month of the year immediately preceding the first principal payment date of the 2023 Bonds or any parity securities hereafter issued and payable from the Bond Fund (i.e., 12 months prior to the first date on which the principal of such bonds is due), an amount in substantially equal monthly installments necessary, together with any other moneys from time to time available therefor from whatever source, to pay the next maturing installment of principal (including any mandatory sinking fund or prior redemption payments then due) of the 2023 Bonds and any additional parity securities then Outstanding, and monthly thereafter, commencing on each principal payment date, the amount necessary to accumulate the next maturing installment of principal (including any mandatory sinking fund or prior redemption payments then due) of the 2023 Bonds, and any such additional parity securities then Outstanding, in equal monthly installments prior to the due date thereof, except to the extent any other moneys are available therefor on the due date of such installment.

The moneys credited to the Interest Account and the Principal Account within the Bond Fund shall be used to pay the Bond Requirements of the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, the 2015 Bonds, and any additional parity securities hereafter issued as such Bond Requirements become due.

Section 508. Reserve Payments. Third, but subsequent to the payments into the Interest Account and the Principal Account within the Bond Fund, except as provided in Sections 510, 511 and 1135 hereof, from any moneys remaining in the Revenue Fund there shall be transferred to the Trustee and credited monthly to any reserve account established in connection with any parity securities, such amount as may be required by the resolution or other instrument authorizing such parity securities. No reserve account is being established in connection with the issuance of the 2023 Bonds.

Section 509. Rebate Account. Fourth, and subject to the provisions hereinabove in this article, but before the transfer of any Net Revenues to the payment of subordinate securities, such amounts as are required to be deposited in the Rebate Account to meet the Authority's obligations under the covenant contained in Section 1134 hereof, in accordance with Section 148(f) of the Tax Code with respect to the 2023 Bonds. Amounts in the Rebate Account shall be used for the purpose of making the payments to the United States required by such covenant and Section 148(f) of the Tax Code. Any amounts in the Rebate Account in excess of those required to be on deposit therein by Section 1134 hereof and Section 148(f) of the Tax Code may be withdrawn therefrom and used for any lawful purpose as provided herein.

Section 510. Termination of Deposits. No payment need be made into the Interest Account or the Principal Account, or all or any other combination thereof, within the Bond Fund, if the amount in the Bond Fund totals a sum at least equal to all Bond Requirements of the Outstanding 2023 Bonds and any Outstanding parity securities, to their respective maturities or to any Redemption Date or Redemption Dates on which the Authority shall have exercised or shall have obligated itself to exercise its option to redeem prior to their respective maturities the 2023 Bonds and any parity securities (or any part thereof) then Outstanding and thereafter maturing, whichever date is the earlier, if any, and both accrued and not accrued, in which case moneys in those 3 subaccounts in an amount at least equal to such Bond Requirements, except for any interest or other gain to accrue from any investment of moneys in Federal securities or otherwise pursuant

to Article VI hereof from the time of any such investment to the time or respective times the proceeds of any such investment or deposit shall be needed for such payment, shall be used, together with any such gain from such investments, solely to pay such Bond Requirements as the same become due; and any moneys in excess thereof in those 3 subaccounts and any other moneys derived from the Pledged Revenues may be used in any lawful manner determined by the Board or the TMWA Manager, if the TMWA Manager certifies that the Rebate Account is sufficiently funded to meet the requirements of 148(f) of the Tax Code.

Section 511. Payment of Subordinate Securities. Fifth, and subject to the provisions hereinabove in this article, but subsequent to the payments required by Sections 507, 508 and 509 and subject to the provisions of Section 518 hereof, as provided in Article VII hereof any moneys remaining in the Revenue Fund may be used by the Authority for the payment of Bond Requirements of subordinate bonds or other subordinate securities payable from Pledged Revenues and hereafter authorized to be issued in accordance with Article VII and any other provisions herein supplemental thereto, including reasonable reserves for such securities and rebate requirements for such securities, as the same accrue; but the lien of such subordinate bonds or other subordinate securities on the Net Revenues and the pledge thereof for the payment of such securities shall be subordinate to the lien and pledge of the 2023 Bonds herein authorized, as herein provided. (Any other parity securities hereafter authorized to be issued shall be payable from the Bond Fund pursuant to Sections 507 through 510 hereof.)

Section 512. Operation and Maintenance Reserve Account. Sixth, and subject to the provisions hereinabove in this article, from any moneys remaining in the Revenue Fund there shall be credited to the Operation and Maintenance Reserve Account monthly, an amount sufficient to accumulate the Minimum Operation and Maintenance Reserve in 60 substantially equal monthly installments. For this purpose, in each Fiscal Year during such 60 month period the Authority will calculate the substantially equal monthly amount that would be sufficient to accumulate over the then remaining months in such 60 month period, an amount equal to the Minimum Operation and Maintenance Reserve. In any Fiscal Year, the amount of the Minimum Operation and Maintenance Reserve shall be determined based on that Fiscal Year's budget.

After the balance in the Operation and Maintenance Reserve Account initially has reached an amount equal to the Minimum Operation and Maintenance Reserve, if, at the beginning of any Fiscal Year, the amount accounted for in the Operation and Maintenance Reserve Account is less than the Minimum Operation and Maintenance Reserve for the Fiscal Year as stated in the budget therefor, there shall be credited, if necessary, to the Operation and Maintenance Reserve Account, in 12 substantially equal monthly installments commencing on the first day of the Fiscal Year, an amount at least equal to the remainder of the Minimum Operation and Maintenance Reserve for the Fiscal Year less the amount accounted for in that account at the beginning of the Fiscal Year. No payment need be made into the Operation and Maintenance Reserve Account so long as the moneys therein shall then equal not less than the Minimum Operation and Maintenance Reserve. The moneys in the Operation and Maintenance Reserve Account shall be accumulated or reaccumulated and maintained as a continuing reserve to be used only to prevent deficiencies in the payment of the TMWA Water System's Operation and Maintenance Expenses resulting from the failure to deposit into the Operation and Maintenance Account pursuant to Section 506 hereof sufficient funds to pay such expenses as the same accrue and become due. If at any time the moneys credited to the Operation and Maintenance Account are not sufficient to pay Operation and

Maintenance Expenses, the Authority acting by and through the TMWA Manager or the Chief Financial Officer may requisition the additional moneys needed therefor, and thereupon such money shall be withdrawn from the Operation and Maintenance Reserve Account and transferred to the Operation and Maintenance Account. Any moneys accounted for in the Operation and Maintenance Reserve Account and exceeding the Minimum Operation and Maintenance Reserve for the then current Fiscal Year may be transferred to and deposited in the Revenue Fund.

Section 513. Renewal and Replacement Account. Seventh, and subject to the provisions hereinabove in this article, from any moneys remaining in the Revenue Fund there shall be credited to the Renewal and Replacement Account monthly, the sum of \$166,000 per month, unless the amount of \$10,000,000.00 (the “Emergency Capital Amount”) is on deposit therein. If the Professional Engineer determines that the aforesaid monthly payments and the Emergency Capital Amount are insufficient or excessive for the purposes for which the Renewal and Replacement Account is established, the monthly payments into that account shall be adjusted in the amount directed by the Professional Engineer until the aggregate amount so determined by the Professional Engineer is on deposit therein, but in no event at a rate less than \$33,333.00 per month or in an aggregate amount less than \$2,000,000.00 (except for any period during which the Emergency Capital Amount is being accumulated or reaccumulated). The Authority shall expend moneys in the Renewal and Replacement Account only to make up deficiencies in the Bond Fund and to pay the cost of, and to create a reserve for the payment of the cost of, emergency capital improvements, extraordinary maintenance, repairs, renewals, and replacements to the TMWA Water System as shall not be annually recurring in nature, as determined by the Professional Engineer, unless otherwise provided by the Board.

Section 514. Rate Stabilization Account. Eighth, and subject to the provisions hereinabove in this article, from any moneys remaining in the Revenue Fund there shall be withdrawn from the Revenue Fund, and credited monthly, to the Rate Stabilization Account, an amount sufficient to accumulate in 12 substantially equal monthly installments the “Rate Stabilization Amount” (which shall not be less than \$500,000) as is designated by the Authority for that Fiscal Year and pertaining to the TMWA Water System. No deposit need be made into the Rate Stabilization Account if the amount therein equal or exceeds the Rate Stabilization Amount for the Fiscal Year. Such amounts shall be used for expenditure from time to time for any lawful purpose or purposes of the Authority pertaining to the Authority’s TMWA Water System, and any other water facilities of the Authority, and to be held as a reserve therefor. Expenditures from the Rate Stabilization Account shall be in accordance with an annual budget for the account established by the Authority. At the beginning of each Fiscal Year any moneys accounted for in the Rate Stabilization Account, whether or not encumbered to pay obligations accrued and to accrue under any existing contract made by the Authority prior to such Fiscal Year, shall remain in the Rate Stabilization Account for the purposes of the account designated above in this section, until expended for any such purposes. Amounts in the Rate Stabilization Account at the beginning of a Fiscal Year which are deposited into the Revenue Fund in that Fiscal Year are Gross Revenues for Fiscal Year in which they are deposited into the Revenue Fund.

Section 515. General Purpose Account. Ninth, and subject to the provisions hereinabove in this article, from any moneys remaining in the Revenue Fund, at least annually by the end of each Fiscal Year, there shall be set aside and credited to the General Purpose Account, on or before the last day of each Fiscal Year the remaining revenues in the Revenue Fund. Moneys

accounted for in such account, as may be determined and directed from time to time by the TMWA Manager within budget limitations fixed by the Board, but subject to any limitations herein or in any other contract pertaining to such account, may be withdrawn in any priority for any one, all, or any other combination of the following, as the TMWA Manager may from time to time determine:

A. Capital Costs. To pay the costs of constructing or otherwise acquiring any betterments of, enlargement of, extensions of, or any other improvements to the TMWA Water System, or any part thereof, and any equipment therefor, authorized by law;

B. Major Maintenance Costs. To pay the costs of extraordinary and major repairs, renewals, replacements, or maintenance items pertaining to any properties of the TMWA Water System of a type not recurring annually or at shorter intervals and not defrayed by the monies in the Extraordinary Maintenance Account or otherwise as Operation and Maintenance Expenses;

C. Lawful Refunds. To make any lawful refund of any Pledged Revenues due any Person;

D. Bond Requirements. To pay any bonds or other securities pertaining to the TMWA Water System and payable from the Net Revenues (regardless of whether such securities are secured by a lien thereon), including, without limitation, the 2023 Bonds, as to Bond Requirements and any other appurtenant charge, at the fixed maturity dates pertaining to such Bond Requirements, or any Redemption Date or Redemption Dates, or by purchase in the open market, or otherwise; and

E. Law Suits Obligations. To pay any obligations pertaining to the TMWA Water System and arising from a judgment against the Authority or any officer, employee, or other agent of the Authority acting within the scope of his official duties, rights, or privileges, or the scope of his employment, as the case may be, in any suit, action, or special proceedings in equity or at law, in any court of competent jurisdiction, or a settlement by the Authority of any claim to avoid or to settle such a suit, action, or special proceedings, except to the extent revenues are otherwise available to defray such an obligation, including, without limitation, insurance proceeds.

F. Lawful Purpose. For any other lawful purpose as the Authority may determine, provided that no such amount shall be used for a purpose that is not a capital or working capital expense of the Authority unless the balance in the General Purpose Account, after payment of such non-capital or non-working capital expense, is at least equal to six months of Operation and Maintenance Expenses based on the then current budget of the Authority.

Section 516. Application of General Purpose Account. Moneys shall be withdrawn from the General Purpose Account for any one, all, or other combination of such purposes designated in Section 515 hereof pursuant to any such directive of the TMWA Manager upon approval by the Board, drawn by the TMWA Manager or the Chief Financial Officer, and countersigned by the Chairman or the Treasurer, in the same manner that other claims against the Authority are presented and paid.

Section 517. Water Fund and Water Fund Accounts. There is hereby authorized to be created a separate fund designated as the “Truckee Meadows Water Authority, Water Fund” (herein the “Water Fund”), which fund consists of a self-balancing group of accounts, including, without limitation, the respective special and separate accounts and subaccounts herein designated, and constitutes an independent fiscal and accounting entity. Separate accounts and subaccounts (other than those herein designated) pertaining to the Water Fund may from time to time be created, terminated, and otherwise modified, but in no manner inconsistent with the provisions of this Instrument.

Section 518. Repayment of Interaccount Loans. If the Authority makes an interaccount loan and transfer to any account or subaccount within the Water Fund for the benefit of the TMWA Water System to the extent hereby permitted, the Authority’s obligation to repay the loan and any interest accruing thereon to the account from which the loan is made may be deemed by the Authority to be outstanding revenue subordinate securities thereof payable from the Net Revenues as to the Bond Requirements of such obligation in accordance with Section 511 hereof at such time or times and in such amount or amounts as the Authority may determine in accordance with an annual budget for such account or subaccount or as may otherwise be provided for the payment of such securities in this Instrument or any other instrument of the Authority.

Section 519. Funds Held for Securities. The amounts held or applied for the payment of the Bond Requirements due on any date with respect to particular 2023 Bonds, any parity securities, including, without limitation, any subordinate securities and any securities payable from the General Purpose Account, pending such payment, shall be set aside and held in trust for the holders of the respective securities entitled thereto by any paying agent holding moneys for such payment; and for the purposes of this Instrument, such Bond Requirements, after the due date thereof, shall no longer be considered to be unpaid or Outstanding.

ARTICLE VI

GENERAL ADMINISTRATION

Section 601. Administration of Accounts. The separate accounts and subaccounts designated in Articles IV and V hereof shall be administered as provided in this article (but not any account under Section 1201 hereof).

Section 602. Places and Times of Deposits. Each of the separate accounts and subaccounts hereinabove designated in Articles IV and V hereof shall be maintained as an account and kept separate from all other accounts solely for the purposes herein designated therefor, except as otherwise expressly stated herein. The moneys accounted for in such separate accounts and subaccounts shall be deposited in one bank account or more, except as herein otherwise provided. Nothing herein prevents the commingling of moneys accounted for in any two or more accounts or subaccounts, or both accounts and subaccounts, pertaining to the TMWA Water System, the Pledged Revenues, proceeds of securities, other moneys, or to the fund pertaining to the TMWA Water System and any other funds of the Authority (each of which funds consists of a self-balancing group of accounts and constitutes an independent fiscal and accounting entity) in any bank account or any investment in Federal Securities hereunder (but not any account under Section 1201 hereof). Each such bank account shall be continuously secured to the fullest extent required or permitted by the laws of the State for the securing of public funds, subject to the provisions of Section 1403 hereof, and shall be irrevocable and not withdrawable by anyone for any purpose other than the purpose or purposes designated therefor. Each periodic payment shall be credited to the proper account or subaccount not later than the date therefor herein designated, except that when any such date shall be a Saturday, Sunday, or a legal holiday, then such payment shall be made on or before the next preceding secular day. Notwithstanding any other provision herein to the contrary, collected moneys shall be deposited with the Paying Agent, and any other Banking Institution designated as a paying agent for any securities heretofore or hereafter authorized to be issued and payable from Pledged Revenues (or any combination thereof), at least by the day of each interest payment date or any other due date herein designated sufficient to pay the Bond Requirements then becoming due on the Outstanding 2023 Bonds and any other Outstanding securities pertaining to the TMWA Water System.

Section 603. Investment of Moneys. Any moneys in any account designated in Articles IV and V hereof (but not any account under Section 1201 hereof), and not needed for immediate use, may be invested or reinvested in any investments permitted under State law which are consistent with any guidelines for permitted investments required by the Insurer, if any, as a condition of insuring the Bonds, or are approved in writing by the Insurer (the “permitted securities”) in accordance with written or verbal instructions, which are promptly followed in writing, of the TMWA Manager or the Chief Financial Officer, except as otherwise expressly stated herein. Such investments shall mature not later than the date or dates on which the TMWA Manager or the Chief Financial Officer estimates the proceeds thereof will be needed. Any securities that mature later than 5 years after the investment therein will be revalued to their market value at least semiannually. For the purposes of any such investment or reinvestment, securities shall be deemed to mature at the earliest date on which the obligor is, on demand, obligated to pay a fixed sum in discharge of the whole of such obligations. In making each such investment or

reinvestment, the Trustee may rely upon such written or verbal instructions, which are promptly followed in writing, and shall be under no duty as to the propriety of the investment or reinvestment made in accordance with such instructions. The Trustee may sell or present for redemption, any securities so purchased whenever it shall be necessary to provide moneys to meet any required payment, transfer, withdrawal or disbursement from the fund or account to which such securities are credited, and the Trustee shall not be liable or responsible for any loss resulting from such investment.

Section 604. Permitted Investments. The TMWA Manager and the Chief Financial Officer shall have no obligation to cause the making of any investment or reinvestment hereunder, unless any moneys on hand and accounted for in any one account exceeds \$5,000.00 and at least \$5,000.00 therein will not be needed for a period of not less than 60 days. In such event, the TMWA Manager or Chief Financial Officer shall cause the investment or reinvestment in permitted securities to the extent practicable not less than substantially all the amount which will not be needed during such 60-day period, except for any moneys on deposit in an interest-bearing account of a Banking Institution, regardless of whether such moneys on deposit are evidenced by a certificate of deposit, or otherwise; but the TMWA Manager and the Chief Financial Officer are not required to invest, or so to invest in such a manner, any moneys accounted for hereunder if any such investment would contravene the provisions of the Tax Code or any other investment limitation imposed by law upon the Authority. The TMWA Manager or the Chief Financial Officer may cause the investment or reinvestment in any lawful manner any moneys on hand at any time even though he is not obligated to do so. The Authority acknowledges that regulations of the Comptroller of the Currency grant the Authority the right to receive brokerage confirmations of the investments or reinvestments as they occur. To the extent permitted by law, the Authority specifically waives compliance with 12 C.F.R. 12 and hereby notifies the Trustee that no brokerage confirmations need be sent relating to the security transactions as they occur.

Section 605. Accounting for Investments. The securities so purchased as an investment or reinvestment of moneys in any such account or subaccount, as the case may be, shall be deemed at all times to be a part of the account or subaccount and held in trust therefor. Except as herein otherwise provided, any interest accruing thereon and any other gain realized therefrom, as well as any interest and other gain from the deposit of moneys in a Banking Institution, shall be credited to the Revenue Fund as such gain is received; and any loss in any account or subaccount resulting from any such investments and reinvestment in securities and from any such deposits in any Banking Institution shall be charged or debited to the Revenue Fund (except as hereinafter provided); but, so long as the 2023 Bonds or any parity securities, or both, are Outstanding, and except for amounts representing rebatable arbitrage for the purpose of Section 148(f), I.R.C., no such gain shall be transferred to the Revenue Fund at any time from the Acquisition Account if moneys accounted for therein are not needed for the payment of the Bond Requirements as provided herein.

Except as provided in Section 603, no loss or profit in any account or subaccount on any investments or reinvestments in securities or any certificates of deposit shall be deemed to take place as a result of fluctuations in the market quotations of the investments, reinvestments, or certificates prior to the sale or maturity thereof. In the computation of the amount in any account or subaccount for any purpose hereunder, except as herein otherwise expressly provided, securities and certificates of deposit shall be valued at the cost thereof (including any amount paid as accrued

interest at the time of purchase of the obligation) and other bank deposits shall be valued at the amounts deposited, exclusive of any accrued interest or any other gain to the Authority until such gain is realized. The expenses of purchase, safekeeping, sale, and all other expenses incident to any investment or reinvestment of moneys pursuant to this article shall be accounted for as Operation and Maintenance Expenses of the TMWA Water System and charged to the Operation and Maintenance Account as permitted by Section 506 hereof.

Section 606. Accelerated Payments. Nothing contained in Article V hereof prevents the accumulation in any account or subaccount herein designated of any monetary requirements at a faster rate than the rate or minimum rate, as the case may be, provided in Article V; but, no payment shall be so accelerated if such acceleration shall cause the Board to default in the payment of any obligation of the Authority pertaining to Pledged Revenues or the TMWA Water System. Nothing herein contained requires in connection with Pledged Revenues received in any Fiscal Year the accumulation in any account or subaccount for the payment in the Comparable Bond Year of Bond Requirements due in connection with any series of bonds or other securities payable from Pledged Revenues and herein or hereafter authorized, in excess of such Bond Requirements due in such Comparable Bond Year, and of any reserves required to be accumulated and maintained therefor, and of any existing deficiencies, and payable from such account, as the case may be, except as may be otherwise provided herein.

Section 607. Payment of Bond Requirements. The moneys credited to any account or subaccount designated in Article V hereof for the payment of the Bond Requirements due in connection with any issue of bonds or other securities payable from Pledged Revenues and herein, heretofore, or hereafter authorized shall be used without requisition, voucher, warrant, further order, or authority (other than is contained herein), or any other preliminaries, to pay promptly the Bond Requirements payable from such account or subaccount as such securities become due, upon the respective Redemption Dates, if any, on which the Authority is obligated to pay such securities, or upon the respective principal and interest fixed maturity dates of such securities, as provided therefor herein, or otherwise, except to the extent any other moneys are available therefor, including, without limitation, moneys accounted for in the Bond Fund.

Section 608. Payment of Redemption Premiums. Notwithstanding any other provision herein, this Instrument requires the accumulation in any account or subaccount designated in Article V hereof for the payment of any issue of bonds or other securities payable from Pledged Revenues of amounts sufficient to pay not only the principal thereof and interest thereon but also the prior redemption premiums due in connection therewith, as the same become due, whenever the Authority shall have exercised or shall have obligated itself to exercise a prior redemption option pertaining thereto or otherwise to call any security for prior redemption, except to the extent provision is otherwise made therefor, if any prior redemption premiums are due in connection therewith. In such event moneys shall be deposited in such account or subaccount when due for the payment of all such Bond Requirements without default as the same become due.

ARTICLE VII

SECURITIES LIENS AND ADDITIONAL SECURITIES

Section 701. Lien of the Bonds. The 2023 Bonds authorized herein, constitute an irrevocable lien (but not necessarily an exclusive lien) upon the Pledged Revenues on a parity with the liens of the 2015 Bonds, the 2016 Bonds, the 2017 Bonds, the 2018 Bonds and any parity securities hereafter issued.

Section 702. Equality of Bonds. The 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, the 2015 Bonds, and any parity securities hereafter authorized to be issued and from time to time Outstanding are equally and ratably secured by a lien on the Net Revenues and shall not be entitled to any priority one over the other in the application of the Net Revenues regardless of the time or times of the issuance of the bonds and any other such securities, it being the intention of the Board that there shall be no priority among the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, the 2015 Bonds, and any such parity securities regardless of the fact that they may be actually issued and delivered at different times.

Section 703. Issuance of Parity Securities. Nothing herein, subject to the limitations stated in Section 712 hereof, prevents the issuance by the Authority of additional bonds or other additional securities payable from Pledged Revenues and constituting a lien thereon on a parity with, but not prior or superior to, the lien thereon of the 2023 Bonds, or prevents the issuance of bonds or other securities refunding all or a part of the 2023 Bonds, except as provided in Sections 708 through 712 hereof; but before any additional parity bonds or other additional parity securities are authorized or actually issued:

A. Absence of Default. At the time of the adoption of the supplemental instrument authorizing the issuance of the additional bonds or other securities as provided in Section 712 hereof, the Authority shall not be in default in making any payments for parity securities required by Article V hereof.

B. Earnings Tests. Either:

(1) Projected Earnings Test. The estimated Gross Revenues to be derived for each of the immediately succeeding five Fiscal Years after the estimated date of the completion of the project effected in whole or in part with the proceeds of the parity securities to be issued for each such Fiscal Year shall be at least in an amount equal to the sum of the following for each of such five Fiscal Years:

(a) An amount equal to the Operation and Maintenance Expenses of the TMWA Water System for such Fiscal Year, and

(b) An amount equal to the sum of 1.25 times the combined maximum annual principal and interest requirements for the Outstanding 2023 Bonds, any other Outstanding parity securities and the parity securities proposed to be issued; or

(2) Historical Earnings Test. The Net Revenues for (i) the immediately preceding Fiscal Year or (ii) any 12 consecutive months of the immediately preceding 18 months are equal to or greater than 1.25 times the combined maximum annual principal and interest requirements of the Outstanding 2023 Bonds and any other Outstanding parity securities and the parity securities proposed to be issued.

C. Reduction of Annual Requirements. The respective annual Bond Requirements (including as such a requirement not only the principal of and interest on the securities but also the amount of any prior redemption premiums due on any Redemption Date as of which the Authority shall have exercised or shall have obligated itself to exercise its prior redemption option by a call of securities for payment then) shall be reduced to the extent such Bond Requirements are scheduled to be paid each of the respective Bond Years with moneys held in trust or in escrow for that purpose by any trust bank within or without the State, including the known minimum yield from any investment in Federal Securities.

D. Treatment of Variable Interest Rate Securities. For the purposes of Subsection B of this section, if any parity security bears interest at a variable interest rate and is not covered by a Qualified Swap, the rate of interest used in the foregoing test shall be the lesser of the maximum permitted rate of interest on those parity securities or a rate equal to the “25 Bond Revenue Index” as most recently published in The Bond Buyer prior to the date a firm offer to purchase the then proposed parity securities is accepted by the Authority or if such index is no longer published such other similar long-term bond index as the Authority reasonably selects.

E. Swap Termination Payments. If payments due under a Qualified Swap Agreement on the termination thereof prior to the full term permitted under the Qualified Swap Agreement are to be made on a parity with the payments of the Bond Requirements of any 2023 Bonds, then the consent of the Insurer, if any, shall be obtained prior to the execution of such Qualified Swap Agreement.

F. Adjustment of Revenues. In any computation of such earnings test as to whether or not additional parity securities may be issued as provided in Section 703 B(1) or (2), the amount of Gross Revenues or Net Revenues shall be decreased and may be increased by the amount of any loss or gain conservatively estimated by the Independent Accountant, Professional Engineer or Chief Financial Officer making the computations, which loss or gain results from any change in any schedule of rates, fees and charges or any annexations or extensions to the TMWA Water System which took effect during the next preceding Fiscal Year or thereafter prior to the issuance of such parity securities, based on the number of ratepayers during such next preceding Fiscal Year as if such modified schedule of rates, fees and charges and number of ratepayers shall have been effect during the entire next preceding Fiscal Year, if the change shall have been made by the Authority before the computation of the designated earnings test but made in the same Fiscal Year as the computation is made or in the next preceding Fiscal Year.

Section 704. Certification of Revenues. A written certification or written opinion by the Chief Financial Officer, a Professional Engineer or an Independent Accountant that such annual revenues are sufficient to pay the amounts provided in Section 703 B(2) hereof, when adjusted thereby as hereinabove provided in Section 703 D, E or F or a written certification or written opinion by the Chief Financial Officer, a Professional Engineer or an Independent

Accountant that such annual revenues are sufficient to pay the amounts provided in Section 703 B(1) hereof, based upon estimates of the Chief Financial Officer, a Professional Engineer or an Independent Account as provided in Section 703 B(1) hereof shall be conclusively presumed to be accurate in determining the right of the Authority to authorize, issue, sell, and deliver additional bonds on a parity with the 2023 Bonds.

Section 705. Subordinate Securities Permitted. Nothing herein, subject to the limitations otherwise stated in this article and Section 1207, prevents the Authority from issuing subordinate securities.

Section 706. Superior Securities Prohibited. Nothing herein permits the Authority to issue superior securities.

Section 707. Use of Proceeds. The proceeds of any additional bonds or other additional securities (other than funding or refunding securities) payable from Pledged Revenues shall be used only to pay the cost of a project, including, without limitation, incidental expenses, for the betterment, enlargement, extension, other improvement, and equipment of the TMWA Water System, or any combination thereof.

Section 708. Issuance of Refunding Securities. At any time after the 2023 Bonds, or any part thereof, are issued and remain Outstanding, if the Board shall find it desirable to refund any Outstanding bonds or other Outstanding securities payable from and constituting a lien upon Pledged Revenues, such bonds or other securities, or any part thereof, may be refunded only if the bonds or other securities at the time or times of their required surrender for their payment shall then mature or shall be then callable for prior redemption for the purpose of refunding them at the Authority's option upon proper call, unless the holder or holders of all such Outstanding securities consent to such surrender and payment, regardless of whether the priority of the lien for the payment of any refunding securities on Pledged Revenues is changed (except as provided in Sections 706 and 709 through 712 hereof).

Section 709. Partial Refundings. The parity refunding securities so issued shall enjoy complete equality of lien with the portion of any parity securities of the same issue which is not refunded; and the holder or holders of such parity refunding securities shall have the same rights and privileges enjoyed by the holder or holders of the unrefunded parity securities of the same issue partially refunded by the parity refunding securities.

Section 710. Limitations Upon Refundings. Any bonds or other refunding securities payable from Pledged Revenues shall be issued with such details as the Board may by instrument provide, subject to the provisions of Section 712 hereof, and subject to the inclusion of any such rights and privileges designated in Section 709 hereof, but without any impairment of any contractual obligation imposed upon the Authority by any proceedings authorizing the issuance of any one or more issues, including, without limitation, the 2023 Bonds.

Section 711. Protection of Securities Not Refunded. If only a part of the Outstanding bonds and other Outstanding securities of any issue or issues payable from Pledged Revenues is refunded, then such securities may not be refunded without the consent of the holder or holders of the unrefunded portion of such securities:

A. Requirements Not Increased. Unless the bonds or other refunding securities do not increase for any Bond Year the aggregate principal and interest requirements evidenced by such refunding securities and by the Outstanding securities not refunded on and prior to the last maturity date or last Redemption Date, if any, whichever time is earlier, if any, of such unrefunded securities, and unless the lien of the refunding securities on Pledged Revenues is not raised to a higher priority than the lien thereon of the bonds or other securities thereby refunded; or

B. Subordinate Lien. Unless the lien on any Pledged Revenues for the payment of the refunding securities is subordinate to each such lien for the payment of any securities not refunded; or

C. Default and Earnings Test. Unless the refunding securities are issued in compliance with Section 703 hereof and Section 704 hereof, but excluding from any computation thereunder the bonds to be refunded and redeemed.

Section 712. Supplemental Instrument. Additional bonds or other additional securities payable from Pledged Revenues shall be issued only after authorization thereof by a supplemental instrument of the Board stating the purpose or purposes of the issuance of such additional securities, directing the application of the proceeds thereof to such purpose or purposes, directing the execution and authentication thereof, and fixing and determining the date, principal amount, maturity or maturities, designation, and numbers thereof, the maximum rate or the rate or rates of interest to be borne thereby, any prior redemption privileges of the Authority with respect thereto, and other provisions thereof. Upon such authorization such additional bonds or other additional securities may at one time or from time to time be executed by and on behalf of the Authority and authenticated and delivered by the Authority or upon its order. All additional securities shall bear such date, shall bear such numbers and series designation, letters, or symbols prefixed to their numbers distinguishing them from each other security, shall be payable at such place or places, may be subject to redemption prior to maturity on such terms and conditions, and shall bear interest at such rate or at such different or varying rates per annum, as may be fixed by instrument or other document of the Board.

ARTICLE VIII

BUDGETARY PROCEDURES

Section 801. Procedures Applicable. For the purposes of this Instrument the budgetary procedures of the Authority shall be substantially as provided in this article. The Board and the officials of the Authority shall annually and at such other times, if any, as may be provided by law prepare and adopt a budget pertaining to the TMWA Water System pursuant to the Budget Act, all laws supplemental thereto, and the provisions hereof.

Section 802. Budget Estimates. The TMWA Manager or Chief Financial Officer shall annually submit for each Budget Year to the Board in accordance with the budget calendar estimates of Gross Revenues and expenditure requirements for the TMWA Water System for such Budget Year, i.e., the next ensuing Fiscal Year, including, without limitation, as a part of such expenditure requirements the Operation and Maintenance Expenses for the Budget Year and the Bond Requirements for the Comparable Bond Year (but none other). The estimates of expenditures in connection with the operation of the TMWA Water System shall be classified so as to set forth the data by accounts, including those designated in Article V hereof, character, and object of expenditures, work programs, and other details requested by the Board. The estimates of the Gross Revenues shall be classified as to accounts and sources of income in such detail as requested by the Board. Such estimates, in addition, shall be so prepared as to permit an analysis of the Gross Revenues of the TMWA Water System and of the Operation and Maintenance Expenses of the TMWA Water System under the definitions set forth in Section 102 hereof.

Section 803. Amount of Net Revenues. The amount of the remainder of Net Revenues for each Fiscal Year shall at least equal the sum required for the Fiscal Year by the rate maintenance covenant in Section 1001 hereof and all other provisions herein supplemental thereto.

Section 804. Content and Submission of Budget. The TMWA Manager shall include such estimates in his proposed budget annually submitted to the Board. The annual budget as adopted by the Board shall show the amounts apportioned for the Operation and Maintenance Expenses of the TMWA Water System and shall be in such detail as to permit the analysis above contemplated.

Section 805. Limitation Upon Expenditures. The total expenditures for operating and maintaining the TMWA Water System in any Fiscal Year (other than expenses for the purchase of commodities for resale) shall not exceed the total expenditures so set forth in the budget except upon the approval of a majority of the members of the Board as expressed by vote of the Board.

ARTICLE IX

RESERVED

Section 901. Reserved.

ARTICLE X

RATES, FEES AND OTHER CHARGES

Section 1001. Rate Maintenance Covenant. The Authority shall adopt, from time to time revise, and continue in effect, a schedule of rates, fees, and other charges for water and other goods and services provided by, and for the use of, the TMWA Water System as may be necessary or proper in order that the amount of the Gross Revenues in each Fiscal Year, shall at least equal the sum of:

A. The amount of Gross Revenues required to pay Operation and Maintenance Expenses for such Fiscal Year; plus

B. The greater of:

(i) 1.25 times the Bond Requirements for the Comparable Bond Year of the Outstanding 2023 Bonds and all other Outstanding parity securities; or

(ii) All other amounts payable from the Gross Revenues and pertaining to the TMWA Water System, including, without limitation, debt service on any parity or subordinate securities, Operation and Maintenance reserves, capital reserves, any necessary capital expenditures not otherwise provided for, and prior deficiencies pertaining to any account relating to Gross Revenues.

The foregoing rate maintenance covenant is subject to compliance by the Authority with any legislation of the United States, the State, or other governmental body, or any regulation or other action taken by the Federal Government, any State agency, or any political subdivision of the State pursuant to such legislation, in the exercise of the police power thereof for the public welfare, which legislation, regulation, or action limits or otherwise inhibits the amounts of any rates, fees, and other charges due to the Authority for the use of or otherwise pertaining to any and all services rendered by or at the TMWA Water System, including, without limitation, increases in the amounts of such rates, fees, or other charges (or any combination thereof).

Section 1002. Increasing Revenues. From time to time, and as often as it shall appear necessary, and whenever the audit report made pursuant to Article XI hereof states that the Gross Revenues were not sufficient to comply with the rate maintenance covenant stated in Section 1001 hereof (adjusted as provided therein), the Authority, upon recommendation of the TMWA Manager or Chief Financial Officer, shall revise the schedule of rates, fees, and other charges for the use of the TMWA Water System as may be necessary to produce Gross Revenues as aforesaid.

Section 1003. Collection of Charges. The Authority shall cause all rates, fees, and other charges pertaining to the TMWA Water System to be collected as soon as reasonable, shall prescribe and enforce rules and regulations or impose contractual obligations for the payment thereof, including, without limitation, the imposition of penalties for any defaults, to the end that the Gross Revenues of the TMWA Water System shall be adequate to meet the requirements of this Instrument and any other instruments supplemental thereto. The rates, fees, and other charges due shall be collected in any lawful manner.

ARTICLE XI

MISCELLANEOUS PROTECTIVE COVENANTS

Section 1101. General. The Authority hereby particularly covenants and agrees with the holders of the 2023 Bonds and makes provisions which shall be a part of its contract with such holders to the effect and with the purpose set forth in the following provisions and sections of this article.

Section 1102. Performance of Duties. The Authority, acting by and through the TMWA Manager, the Board, or otherwise, shall faithfully and punctually perform or cause to be performed all duties with respect to Pledged Revenues, the TMWA Water System required by the Constitution and laws of the State and the various resolutions and other instruments of the Authority, including, without limitation, the proper segregation of the proceeds of the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, the 2015 Bonds, and any securities hereafter authorized and pertaining to the TMWA Water System and Pledged Revenues and their application from time to time to the respective accounts provided therefor.

Section 1103. Contractual Obligations. The Authority shall perform all contractual obligations undertaken by it under leases or other agreements with the Federal Government, under and any other agreements with all other Persons relating to the 2023 Bonds and any other TMWA Water System securities, Pledged Revenues, the Project, or the TMWA Water System, or any combination thereof.

Section 1104. Further Assurances. At any and all times the Authority, acting by and through the Board except when otherwise required by law, shall, so far as it may be authorized by law, pass, make, do, execute, acknowledge, deliver, and file or record all and every such further instruments, acts, deeds, conveyances, assignments, transfers, other documents, and assurances as may be necessary or desirable for the better assuring, conveying, granting, assigning, and confirming all and singular the rights, the Gross Revenues, and other moneys and accounts hereby pledged or assigned, or intended so to be, or which the Authority may hereafter become bound to pledge or to assign, or as may be reasonable and required to carry out the purposes of this Instrument and any instrument supplemental thereto, and to comply with the Authority Act and the Bond Act. The Authority, acting by and through the TMWA Manager, the Board, or otherwise, shall at all times, to the extent permitted by law, defend, preserve, and protect the pledge of the Gross Revenues and other moneys and accounts pledged hereunder and all the rights of every holder of any bonds or other securities payable from Pledged Revenues against all claims and demands of all Persons whomsoever.

Section 1105. Conditions Precedent. Upon the date of issuance of any 2023 Bonds, all conditions, acts, and things required by the Constitution or statutes of the United States, the Constitution or statutes of the State, including, without limitation, the Authority Act and the Bond Act, or this Instrument to exist, to have happened, and to have been performed precedent to or in the issuance of the bonds shall exist, have happened, and have been performed; and the bonds, together with all other obligations of the Authority, shall not contravene any debt or other limitation prescribed by the Constitution or statutes of the United States, or the Constitution or statutes of the State.

Section 1106. Rules, Regulations, and Other Details. The Authority, acting by and through the TMWA Manager, the Board, or otherwise, shall establish and enforce reasonable rules and regulations governing the operation, care, repair, maintenance, management, control, occupancy, use, and services of the TMWA Water System. The Authority shall observe and perform all of the terms and conditions contained in this Instrument and shall comply with all valid acts, rules, regulations, orders, and directives of any legislative, executive, administrative, or judicial body applicable to the TMWA Water System or the Authority.

Section 1107. Competent Personnel and Operation. The Authority shall at all times endeavor to employ in connection with the operation of the TMWA Water System in executive and managerial capacities only individuals competent therefor by reason of training and experience. The Authority shall administer the TMWA Water System in accordance with sound business principles. All salaries, fees, wages, and other compensation paid by the Authority in connection with the maintenance, repair, and operation of the TMWA Water System shall be reasonable, proper, and not excessive.

Section 1108. Maintenance of TMWA Water System. The Authority shall, insofar as it may legally do so, without any violation of other provisions of this Instrument, maintain, preserve, keep, and operate the TMWA Water System or cause the TMWA Water System to be maintained, preserved, kept, and operated in good repair, working order, and condition.

Section 1109. Operation of TMWA Water System. The Authority shall at all times operate the TMWA Water System properly and in a sound and economical manner and shall maintain, preserve, and keep the TMWA Water System properly, or cause the same, by lease or otherwise, so to be maintained, preserved, and kept, with the appurtenances and every part and parcel thereof, in good repair, working order, and condition. The Authority also shall from time to time make or cause to be made all necessary and proper repairs, replacements, and renewals so that at all times the operation of the TMWA Water System may be properly and advantageously conducted in conformity with standards customarily followed by municipalities operating water facilities of like size and character.

Section 1110. Competing Water Facilities. The Authority shall not construct other facilities or structures to be operated by the Authority separate from the TMWA Water System and competing with the TMWA Water System for revenues otherwise available for the payment of the 2023 Bonds or any other securities payable from Pledged Revenues.

Section 1111. Corporate Existence. The Authority shall maintain its corporate identity and existence so long as any of the 2023 Bonds and any other securities payable from Pledged Revenues remain Outstanding, unless another body corporate and politic by operation of law succeeds to the duties, privileges, powers, liabilities, disabilities, immunities, and rights of the Authority and is obligated by law to operate and maintain the TMWA Water System and to fix and collect Pledged Revenues as herein provided without adversely and materially affecting at any time the privileges and rights of any holder of any Outstanding bond or any such other Outstanding security.

Section 1112. Disposal of TMWA Water System Prohibited. Except for the use of the TMWA Water System or services pertaining thereto in the normal course of business, neither

all nor a substantial part of the TMWA Water System shall be sold, leased, mortgaged, pledged, encumbered, alienated, or otherwise disposed of, until all the 2023 Bonds have been paid in full, as to all Bond Requirements, or unless provision has been made therefor, or until the bonds have been otherwise redeemed, including, without limitation, the termination of the pledge as herein authorized; and the Authority shall not dispose of its title to the TMWA Water System or to any useful part thereof, including, without limitation, any property necessary to the operation and use of the TMWA Water System and the lands comprising the site of the TMWA Water System (other than the execution of leases, licenses, easements, or other agreements in connection with the operation of the TMWA Water System by the Authority), except for any pledges of and liens on revenues derived from the operation and use of the TMWA Water System, or any part thereof, for the payment of any other revenue bonds or other securities pertaining to the TMWA Water System as permitted herein, and except as otherwise provided herein.

Section 1113. Revenues and Agreements. The Authority shall not create or permit to be created any charge or lien on the Gross Revenues, except as herein permitted. Nothing herein contained prevents the Authority from executing leases, licenses, easements, or other agreements for any part of the TMWA Water System with the Federal Government or any other Persons, if such instrument shall not substantially diminish the Net Revenues otherwise available for the payment of the Outstanding 2023 Bonds and any other Outstanding bonds or other Outstanding securities payable from Pledged Revenues. TMWA shall not enter into any agreement that limits its ability to increase rates and charges for water and other goods and services provided by, and for the use of the TMWA Water System as may be necessary to comply with Section 1001 hereof. No more than 10 percent of the Gross Revenues, excluding revenues derived from the sale of electric power, may be subject to a contract that fixes the amount paid to the Authority for goods or services or otherwise for a term greater than three years.

Section 1114. Disposal of Unnecessary Property. The Authority may sell, exchange, lease, or otherwise dispose of at any time and from time to time any property constituting a part of the TMWA Water System and not useful in the construction, reconstruction, or operation thereof, or which shall cease to be necessary for the efficient operation of the TMWA Water System, or which shall have been replaced by other property of at least equal value, except to the extent the Authority is prevented from so doing by any contractual limitation pertaining thereto. The TMWA Manager shall certify that such property is not useful, has ceased to be necessary for the efficient operation of the TMWA Water Systems, or has been replaced by other property of at least equal value prior to disposal of such property. The net proceeds of the sale of any TMWA Water System property shall be used for the purpose of replacing properties at the TMWA Water System, real, personal, mixed, or otherwise, or shall be paid into the General Purpose Account for the purposes thereof.

Section 1115. Loss from Condemnation. If any part of the TMWA Water System shall be taken by the exercise of a power of eminent domain, the amount of any award received by the Authority as a result of such taking shall be paid into the General Purpose Account for the purposes of reconstructing the TMWA Water System and, to the extent not needed for reconstruction, to the Revenue Fund, as the Board may determine.

Section 1116. Payment of Governmental Charges and Liens. The Authority shall pay or cause to be paid all taxes, assessments, and other municipal or governmental charges, if

any, lawfully levied or assessed upon or in respect of the TMWA Water System, or upon any part thereof, or upon any portion of the Gross Revenues, or revenues otherwise pertaining to the TMWA Water System, when the same shall become due. The Authority shall duly observe and comply with all valid requirements of any municipal or governmental authority relative to the TMWA Water System, or any part thereof, except for any period during which the validity of the same is being contested in good faith by proper legal proceedings. The Authority shall not create or suffer to be created any lien or charge upon the TMWA Water System, or any part thereof, or upon the Gross Revenues, except the pledge and lien created by this Instrument for the payment of the Bond Requirements of the 2023 Bonds and any Outstanding parity securities or subordinate securities, and except as herein otherwise permitted. The Authority shall pay or cause to be discharged or shall make adequate provision to satisfy and to discharge, within 60 days after the same shall become payable, all lawful claims and demands for labor, materials, supplies, or other objects which, if unpaid, might by law become a lien upon the TMWA Water System, any part thereof, the Gross Revenues, or any other revenues pertaining to the TMWA Water System. Nothing herein contained requires the Authority to pay or cause to be discharged or to make provision for any such tax, assessment, lien, charge, or demand before the time when payment thereon shall be due, or so long as the validity thereof shall be contested in good faith.

Section 1117. Protection of Security. The Authority, the officers, agents, and employees of the Authority and the Board shall not take any action in such manner or to such extent as might prejudice the security for the payment of the Bond Requirements of the 2023 Bonds and any other securities payable from Pledged Revenues according to the terms of such securities. The Authority shall maintain, preserve, and renew all the rights, powers, privileges, and franchises now owned or hereafter acquired with respect to the TMWA Water System. No contract shall be entered into and no other action shall be taken by which the rights of any holder of any bond or other security payable from Pledged Revenues might be prejudicially and materially impaired or diminished.

Section 1118. Prompt Payment of Securities. The Authority shall promptly pay the Bond Requirements of every bond and every other security payable from Pledged Revenues at a place, on the dates, and in the manner specified in the bond or other security according to their true intent and meaning and as provided in any instrument pertaining thereto, including without limitation, this Instrument.

Section 1119. Use of Gross Revenues. None of the Gross Revenues shall be used for any purpose other than as provided herein. The Authority shall apply the Net Revenues to the payment of the bonds, any other securities payable from Pledged Revenues, and the interest thereon (but not necessarily exclusively thereto), and the Authority is not obligated to make such payments from any other source or moneys, but it is not prohibited from making such payments from any moneys which may be lawfully used for that purpose.

Section 1120. Use of Bond Fund. The Bond Fund shall be used solely and only and the moneys credited to such account are hereby pledged for the purpose of paying the Bond Requirements of the 2023 Bonds and any parity securities heretofore or hereafter authorized and then Outstanding, except for those moneys in the Interest Account and the Principal within the Bond Fund as are in excess of such Bond Requirements, both accrued and not accrued, to their

respective maturities or any Redemption Date or Redemption Dates, whichever due date is earlier, if any (subject to the provisions of Sections 509, 510, 606, and 1201 hereof).

Section 1121. Additional Securities. The Authority shall not hereafter issue any bonds or other securities payable from Pledged Revenues and having a lien on Pledged Revenues on a parity with the lien thereon of the 2023 Bonds so long as any 2023 Bonds are Outstanding, unless such additional securities (other than securities issued pursuant to Sections 708 through 712 hereof and refunding securities on a parity with the 2023 Bonds) with a lien on Pledged Revenues on a parity with the 2023 Bonds are issued in such manner as provided in Sections 703, 704, 707, and 712 hereof. Any other securities hereafter authorized to be issued and secured by Pledged Revenues shall not hereafter be issued, unless such additional securities are also issued in conformance with the provisions of Articles V and VII hereof.

Section 1122. Other Liens. Other than as provided herein, there are no liens or encumbrances of any nature whatsoever on or against the TMWA Water System, or any part thereof, or on or against the Gross Revenues derived or to be derived, on a parity with or superior to the lien of the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, and the 2015 Bonds. The Authority shall not issue any bonds, other than the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, and the 2015 Bonds, or any other additional securities secured by a pledge of or lien on the Gross Revenues, or both such a pledge and such a lien (including, without limitation, amounts which the Authority may thereafter be entitled to withdraw from the Revenue Fund and transfer to the Operation and Maintenance Account for the payment of Operation and Maintenance Expenses) and shall neither create nor cause to be created any lien or charge on the Gross Revenues or on any amount held by the Trustee or the Authority under this Instrument, except as provided in Articles V and VII hereof; but neither this Section nor any other provision of this Instrument shall prevent the Authority from issuing additional bonds or other additional securities for the purposes of the Authority secured by a pledge of and lien on Pledged Revenues subordinate to the lien of the 2023 Bonds, the 2018 Bonds, the 2017 Bonds, the 2016 Bonds, or the 2015 Bonds, or to be derived on and after such date as the pledge of and lien on the Pledged Revenues provided in this Instrument are discharged and satisfied as provided in Section 1201 hereof, or otherwise.

Section 1123. Revenues Claims. The Authority shall defend against every suit, action, or proceeding at any time brought against any holder of any bonds or other securities payable from Pledged Revenues upon any claim arising out of the receipt, application, or disbursement of any of the Gross Revenues, or involving such holder's rights under this Instrument or other proceedings pertaining to the issuance of such securities; the Authority shall also indemnify and save harmless any such holders against any and all liability, claim, or assertion by any Person whomsoever, arising out of such receipt, application, or disbursement; but such holder at his election may appear in and defend any such suit, action, or proceedings; and notwithstanding any contrary provision hereof, this covenant shall continue and remain in full force and effect, even though all indebtedness, liabilities, obligations, and other sums secured hereby may have been fully paid and satisfied, and the obligations under this Instrument may have been released and the lien hereof discharged.

Section 1124. Accumulation of Interest Claims. In order to prevent any accumulation of claims for interest after maturity, the Authority shall not directly or indirectly

extend or assent to the extension of the time for the payment of any claim for interest on any of the 2023 Bonds or any other securities payable from Pledged Revenues; and the Authority shall not directly or indirectly be a party to or approve any arrangements for any such extension or for the purpose of keeping alive any of such claims for interest. If the time for the payment of such installment of interest shall be extended in contravention of the foregoing provisions, such installment or installments of interest after such extension or arrangement shall not be entitled in case of default hereunder to the benefit or security of this Instrument, except upon the prior payment in full of the principal of all 2023 Bonds and any such other securities then Outstanding and of all matured interest on all such securities the payment of which has not been extended.

Section 1125. Records and Accounts. So long as any of the 2023 Bonds and any other securities payable from Pledged Revenues remain outstanding, proper records and accounts shall be kept by the Authority, separate and apart from all other records and accounts, showing complete and correct entries of all transactions relating to the TMWA Water System and to all moneys pertaining thereto, including, without limitation, the Gross Revenues. Such records shall include (but not necessarily be limited to) monthly records, all in reasonable detail as may be determined by the TMWA Manager or her delegate and in accordance with standard accounting practices, showing:

A. Receipts. The Gross Revenues and other moneys received and pertaining to the TMWA Water System;

B. Purposes and Accounts. The respective purposes for which such moneys were paid and the respective accounts in which such moneys were accounted; and

C. Complete Accounting. Complete and correct entries of all transactions relating to the receipt, disbursement, allocation, and application of all moneys.

All requisitions, requests, certificates, opinions, and other documents received by any Person on behalf of the Authority in connection with the TMWA Water System under the provisions of this Instrument shall be retained in the Authority's official records in accordance with State law.

Section 1126. Rights Concerning Records. The Trustee shall have the right at all reasonable times to inspect all financial statements, other records, accounts, and data relating thereto, concerning the TMWA Water System, or the Gross Revenues, or any other moneys pertaining to the TMWA Water System, or any combination thereof, and to make copies of such financial statements, other records, accounts, and data.

Section 1127. Audits Required. The Authority shall cause an audit to be made for each Fiscal Year within 180 days following the close of the Fiscal Year of such records, accounts, and subaccounts by an Independent Accountant, and shall order an audit report showing the receipts and disbursements for each account and subaccount pertaining to the TMWA Water System, including, without limitation, the Gross Revenues.

Section 1128. Accounting Principles. Records and accounts, and audits thereof, with respect to the TMWA Water System and the Gross Revenues, shall be currently kept and made, as nearly as practicable, in accordance with generally accepted accounting principles, methods and terminology followed and construed for water systems comparable to the TMWA

Water System, except as may be otherwise provided herein or required by applicable law or regulation or by contractual obligation existing on the effective date of this Instrument.

Section 1129. Insurance and Reconstruction. The Authority, shall at all times maintain fire and extended coverage insurance, workmen's compensation insurance, public liability insurance, and all such other insurance as is customarily maintained with respect to facilities of like character against loss of or damage to the TMWA Water System, against loss of Pledged Revenues and against public and other liability to the extent reasonably necessary to protect the interests of the Authority and of each owner of a Bond or any other security payable from the Pledged Revenues, except as herein otherwise provided. The amounts of such insurance coverage shall be approved by the Authority's risk manager or the risk managers of the Members. If at any time the Authority is unable to obtain insurance to the extent provided herein, the Authority shall maintain such insurance to the extent it is reasonably obtainable. If such insurance is not reasonably obtainable, the Authority shall self-insure to the extent it is financially able to do so. If any useful part of the TMWA Water System shall be damaged or destroyed, the Authority shall, as expeditiously as possible, commence and diligently prosecute the repair or replacement of the damaged or destroyed property so as to restore the same to use. The proceeds of any such property insurance relating to the TMWA Water System shall be payable to the Authority and applied as provided in Section 1130 below. The Authority may insure all or a portion of the above risks through a program of self-insurance, providing that the level of self-insurance reserves and the funding thereof are approved by an independent expert in self-insurance.

Section 1130. Use of Insurance Proceeds. Immediately after any loss or damage to the TMWA Water System which is covered by insurance, the Authority shall cause plans and specifications for repairing, reconstruction, or otherwise replacing the damaged or destroyed property to be prepared and an estimate of the cost thereof, and to file copies of such plans and specifications and of such estimate with the TMWA Manager. The proceeds of all insurance referred to in Section 1129 hereof shall be available for and to the extent necessary be applied to the repair, reconstruction, and other replacement of the damaged or destroyed property. If such proceeds are more than sufficient for such purpose, the balance remaining shall be paid into the General Purpose Account designated in Section 516 hereof.

If such proceeds shall be insufficient to repair, reconstruct or otherwise replace the damaged or destroyed property pertaining to the TMWA Water System, the deficiency may be supplied by the TMWA Manager from moneys in the Renewal and Replacement Account, the General Purpose Account, or any other accounts or subaccounts legally available for such purposes. If the cost of repairing, reconstruction, or otherwise replacing the damaged or destroyed property as estimated by the TMWA Manager shall not exceed the proceeds of insurance and other moneys legally available for such purpose, the Authority shall forthwith commence and diligently prosecute the repair, reconstruction, or other replacement of the damaged or destroyed property. The cost of maintaining such insurance for the TMWA Water System shall be deemed a part of the Operation and Maintenance Expenses of the TMWA Water System.

Section 1131. Transfer to General Purpose Account. The proceeds of any insurance designated in Sections 1129 and 1130 hereof and not applied within 18 months after receipt by the Authority to the repairing, reconstructing, or otherwise replacing of the damaged or

destroyed property, unless the Authority is prevented from so doing because of conditions beyond its control, shall be transferred to the General Purpose Account.

Section 1132. Maintenance of Policies. All such insurance policies designated in Sections 1129 hereof shall be filed with the TMWA Manager and shall be subject to the inspection at all reasonable times of any holder of any Outstanding bond or any other Outstanding security payable from Pledged Revenues or any authorized representative of any such holder.

Section 1133. Completion of Project. The Authority, with the proceeds derived from the sale of the 2023 Bonds and any other available moneys, shall proceed to cause the Project to be completed without delay to the best of the Authority's ability and with due diligence, as herein provided.

Section 1134. Federal Tax Covenant. The Authority covenants for the benefit of the registered owners of the 2023 Bonds that it will not take any action or omit to take any action with respect to the 2023 Bonds, the proceeds thereof, any other funds of the Authority or any facilities financed with the proceeds of the 2023 Bonds if such action or omission (i) would cause the interest on the Bonds to lose its exclusion from gross income for federal income tax purposes under Section 103 of the Tax Code, or (ii) would cause interest on the 2023 Bonds to lose its exclusion from alternative minimum taxable income as defined in Section 55(b) of the Tax Code. The foregoing covenant shall remain in full force and effect notwithstanding the payment in full or defeasance of the 2023 Bonds until the date on which all obligations of the Authority in fulfilling the above covenant under the Tax Code have been met. The Authority makes no covenant with respect to taxation of interest on the 2023 Bonds as a result of the inclusion of that interest in the "adjusted financial statement income" of "applicable corporations" (as defined in Sections 56A and 59(k), respectively, of the Tax Code).

Section 1135. Additional Covenants. While the 2023 Bonds are Outstanding, the Authority agrees to the following:

A. At least 15 days in advance of entering into a Qualified Swap, the Authority will give written notice to Standard and Poor's Ratings Group, Moody's Investors Service, and/or Fitch whichever then has a rating in effect for the bonds, of such Qualified Swap and provide those rating agencies the proposed documentation evidencing such Qualified Swap.

B. If a termination payment under a Qualified Swap is unconditionally due and payable in accordance with the terms of the Qualified Swap, and the Authority determines that payment of such termination payment on its due date would be unduly burdensome, the Authority will use its best efforts to issue bonds or other obligations and use the proceeds thereof for the purpose of paying such termination payment.

C. Any Qualified Swap entered into by the Authority will contain a provision requiring the Qualified Swap Provider to (i) maintain at least an "A" rating from Standard and Poor's Corporation on its senior long-term debt obligations, or on the senior long-term debt obligations of the financial institution that guarantees the Authority's obligations under the Qualified Swap, or (ii) to collateralize its obligations under the Qualified Swap in a manner reasonably acceptable to Standard and Poor's Corporation.

Section 1136. Continuing Disclosure Undertaking. The Authority covenants for the benefit of the holders and beneficial owners of the Bonds to comply with the applicable provisions of the final Continuing Disclosure Certificate substantially in the form now on file with the Secretary, to be executed by the TMWA Manager or the Chief Financial Officer and delivered in connection with the delivery of the Bonds; provided, however, any failure to comply with such Continuing Disclosure Certificate shall not be deemed to be an Event of Default hereunder and remedies for any failure to comply shall be limited exclusively to the remedies set forth in such Continuing Disclosure Certificate.

Section 1137. No Purveyor Members. As provided in Section 6.13(e) of the TMWA Asset Purchase Agreement, the Authority shall not permit any of its Members to engage in the retail delivery of potable water within its respective jurisdiction and within the retail service area of the Authority.

ARTICLE XII

MISCELLANEOUS

Section 1201. Defeasance. Except as otherwise set forth herein, when all Bond Requirements of any 2023 Bond or any other security of any other issue payable from Pledged Revenues have been duly paid, the pledge and lien and all obligations hereunder shall thereby be discharged as to that Bond or security and it shall no longer be deemed to be Outstanding within the meaning of this Instrument. There shall be deemed to be such due payment if the Authority has placed in escrow or in trust with a trust bank exercising trust powers, an amount sufficient (including the known minimum yield available for such purpose from Federal Securities in which such amount wholly or in part may be initially invested) to meet all Bond Requirements of the Bond or security, as such requirements become due to the fixed maturity date of the Bond or security or to any Redemption Date or Redemption Dates as of which the Authority shall have exercised or shall have obligated itself to exercise its prior redemption option by a call of the Bond or security thereafter maturing for payment then. The Federal Securities shall become due prior to the respective times on which the proceeds thereof shall be needed, in accordance with a schedule established and agreed upon between the Authority and such bank at the time of the creation of the escrow or trust, or the Federal Securities shall be subject to redemption at the option of the holders thereof to assure such availability as so needed to meet such schedule. If at any time the Authority has so placed in escrow or trust an amount so sufficient to pay designated Bond Requirements of securities constituting less than all of the Bond Requirements of the securities becoming due on and before their respective due dates, be they the fixed maturity dates of the securities or any such Redemption Date pertaining to the securities, such designated Bond Requirements shall be deemed paid and discharged under this Instrument. For the purposes of this Section, "Federal Securities" shall not include any Federal Securities which are callable by any party other than the owner thereof; and if any defeasance escrow investments involve a contract for supplying Federal Securities for the escrow after the date of creation of the escrow, the consent of the Insurer, if any, must be obtained. The Authority shall provide the Trustee with either (i) a report of an independent firm of nationally recognized certified public accountants verifying the sufficiency of the escrow established to pay the defeased 2023 Bonds in full or (ii) an opinion of bond counsel to the effect that such 2023 Bonds are no longer Outstanding under this Instrument, that the defeasance was in accordance with the requirements of this Instrument and will not adversely affect the tax exempt status of such 2023 Bonds.

Section 1202. Delegated Powers. The Chairman, Secretary, Treasurer, TMWA Manager, Chief Financial Officer and other officers of the Authority be, and they hereby are, authorized and directed to take all action necessary or appropriate to effectuate the provisions of this Instrument, including, without limitation:

A. Printing Bonds. The printing of the 2023 Bonds, including, without limitation, the printing on each 2023 Bond of any applicable statement of insurance guaranteeing the payment of the principal of and the interest on the insured 2023 Bonds by the insurer or insurers thereof;

B. Final Certificates. The execution of such certificates electronically or otherwise as may be reasonably required by the Underwriter, relating, among other matters, to:

- Authority,
- taxation,
- (1) The signing of the 2023 Bonds,
 - (2) The tenure and identity of the officials of the Board and the
 - (3) The exemption of interest on the 2023 Bonds from Federal income
 - (4) The delivery of the 2023 Bonds and the receipt of the purchase price,
 - (5) If it is in accordance with fact, the absence of litigation, pending or threatened, affecting the validity thereof, and
 - (6) The execution of any agreement related to the Paying Agent and Registrar not inconsistent with this Instrument;

C. Continuing Disclosure Certificate. The completion and execution electronically or otherwise of the Continuing Disclosure Certificate concerning the 2023 Bonds;

D. Official Statement. The preparation and distribution of an official statement for use for prospective buyers of the 2023 Bonds, including, without limitation, such use by the Underwriter and their associates, if any; and

E. Bond Sale. The sale and issuance of the 2023 Bonds in accordance with the provisions of this Instrument, including but not limited to the completion and execution of the Bond Purchase Agreement.

Section 1203. Statute of Limitations. No action or suit based upon any Bond or other obligation of the Authority shall be commenced after it is barred by any statute of limitations pertaining thereto. Any trust or fiduciary relationship between the Authority and the holder of any Bond or the obligee regarding any such obligation shall be conclusively presumed to have been repudiated on the fixed maturity date or other due date thereof unless the Bond is presented for payment or demand for payment of any such obligation is otherwise made before the expiration of the applicable limitation period. Any moneys from whatever source derived remaining in any account reserved, pledged, or otherwise held for the payment of any such obligation, action or suit for the collection of which has been barred, shall revert to the Revenue Fund, unless the Board shall otherwise provide by instrument of the Authority. Nothing herein prevents the payment of any such obligation after any action or suit for its collection has been barred if the Board deems it in the best interests of the public so to do and orders such payment to be made.

Section 1204. Impairment of Prior Contracts. Nothing herein impairs the Authority's obligation of contracts with any Person in connection with the Authority, including, without limitation:

- A. Pledged Revenues. Pledged Revenues,

- Revenues,
- B. Outstanding Securities. Any Outstanding securities payable from Pledged
 - C. TMWA Water System. The TMWA Water System,
 - D. Project. The Project,
 - E. Prior Contracts. Any existing viable contracts pertaining to the TMWA Water System between the Authority and other Persons, or
 - F. Combination. Any combination thereof.

If any provision herein is inconsistent with any provision in any existing contract pertaining to the Authority so as to affect prejudicially and materially the rights and privileges thereunder, so long as such contract shall remain viable and in effect such provision therein shall control such inconsistent provision herein and the latter provision shall be subject and subordinate to such provision in such existing contract.

Section 1205. Governmental Powers. The enforceability of the Authority's obligations and creditors' remedies is:

- A. Equity Principles. Subject to general principles of equity to the extent relevant to the Authority (regardless of whether such enforceability is considered in a proceeding in equity or at law),
- B. Limitations Fixed by Law. Subject to the limitations upon enforceability fixed by bankruptcy, insolvency, reorganization, moratorium, and other laws affecting creditors' rights and privileges,
- C. State and U.S. Powers. Otherwise subject to the reasonable exercise in the future by the State and its governmental bodies of the police powers and the powers of eminent domain, taxation, and licensing inherent in the sovereignty of the State and to the exercise by the United States of the powers delegated to it by the Constitution of the United States,
- D. Limitations Upon Suits. Subject to the limitations stated in the 11th Amendment, Constitution of the United States, upon suits against states in Federal courts, and
- E. Sovereign Immunity. Subject to the possible passage hereafter of a State statute reestablishing the doctrine of sovereign immunity (heretofore waived by the State subject to certain exceptions and conditions) of the State and any political subdivision of the State from liability and suits thereagainst in the absence of the State's consent thereto.

Nothing herein prohibits or limits the exercise by the Federal Government, the State, or any other governmental entity of their respective sovereign powers. Generally, the State can neither contract away such sovereign powers nor limit or inhibit by contract the proper exercise of such powers, and this Instrument does not purport to do so.

Section 1206. Additional Securities. The Authority reserves the privileges of issuing at a later time or from time to time any securities now or hereafter authorized by law (not herein designated for issuance), as moneys, if any, are needed for the project or projects for which such securities are authorized respectively to be issued.

Section 1207. No Acceleration. Nothing in this Instrument or any other instrument of the Authority or any law of the State shall permit the acceleration of the time or times for the payment of the 2023 Bonds, as to all Bond Requirements prior to their respective maturities or other due dates as provided herein, even if the Authority defaults in the payment of any such Bond Requirements hereunder, and shall not permit such an acceleration of the time for the payment of any subordinate securities without the consent of the Insurer. The Authority may enter into Qualified Swaps which provide for a payment due on termination of the Qualified Swap, whether by reason of a default by the Authority or otherwise, without obtaining the consent of the Insurer so long as the termination payment does not have a lien on the Net Revenues that is on a parity with or superior to the lien thereon of the 2023 Bonds.

Section 1208. Subrogation of Bondholder's Rights. If the principal, or the Redemption Price, if applicable, and interest due on the 2023 Bonds shall be paid by the Insurer, if any, the assignment and pledge of Pledged Revenues, and all covenants, agreements, other obligations, liabilities, and duties of the Authority or the Trustee, or both of them, as the case may be, to the holders of the 2023 Bonds shall continue to exist; and the Insurer shall be subrogated to the rights and privileges of such holders of the bonds so paid by the Insurer, if any.

Section 1209. The Insurer Treated as Holder. So long as it has not defaulted on its insurance policy with respect to the 2023 Bonds, the Insurer, if any, shall be deemed to be the holder of the 2023 Bonds as provided below:

A. Consent to Amendments. At any time the consent of a holder of 2023 Bond is required for adoption of an amendatory or supplemental instrument, the Insurer must consent in writing to the adoption of the instrument, which consent must be obtained in lieu of the consents required to be obtained from the holders of the 2023 Bonds. Copies of any amendments consented to by the Insurer must be sent by first class mail, postage prepaid, to Standard & Poor's Ratings Group.

B. Other Purposes. Following an Event of Default for all other purposes (except payment of the principal of and interest on the 2023 Bonds unless the Insurer is entitled to such payment by virtue of its ownership of a 2023 Bond or subrogation), until after the curing of all defaults which may theretofore have occurred, the Insurer shall be treated as the holder of all of the 2023 Bonds.

C. Notices. A copy of any notices required to be sent pursuant to the provisions of this Instrument must be sent to the Insurer at such address as is provided in writing for such purpose by the Insurer.

ARTICLE XIII

PRIVILEGES, RIGHTS AND REMEDIES

Section 1301. Bondholder's Remedies. Each holder of any 2023 Bond and the Trustee, acting for each such holder, shall be entitled to all of the privileges, rights, and remedies provided herein, in the Authority Act, in the Bond Act, and as otherwise provided or permitted at law or in equity or by other statutes, except as provided in Sections 206 through 210 hereof, but subject to the provisions herein concerning Pledged Revenues and the proceeds of the 2023 Bonds.

Section 1302. Right To Enforce Payment. Nothing in this article affects or impairs the right of any holder of any 2023 Bond to enforce the payment of the Bond Requirements of his bond or the obligation of the Authority to pay the Bond Requirements of each 2023 Bond to the holder thereof at the time and the place expressed in the 2023 Bond.

Section 1303. Events of Default. Except as otherwise provided herein, each of the following events is hereby declared an "event of default:"

A. Nonpayment of Principal and Premium. Payment of the principal of any of the 2023 Bonds, or any prior redemption premium due in connection therewith, or both, is not made when the same becomes due and payable, either at maturity or by proceedings for prior redemption, or otherwise;

B. Nonpayment of Interest. Payment of any installment of interest is not made when the same becomes due and payable;

C. Incapable To Perform. The Authority for any reason is rendered incapable of fulfilling its obligations hereunder;

D. Nonperformance of Duties. The Authority fails to carry out and to perform (or in good faith to begin the performance of) all acts and things lawfully required to be carried out or to be performed by it under any contract relating to Pledged Revenues, to the TMWA Water System, or to all or any other combination thereof, or otherwise, including, without limitation this Instrument, and such failure continues for 60 days after receipt of notice directly from the holders of a majority in principal amount of the 2023 Bonds and parity securities then Outstanding or receipt of such notice from such holders is delivered by the Trustee;

E. Failure to Reconstruct. The Authority discontinues or unreasonably delays or fails to carry out with reasonable dispatch the repair, reconstruction, or other replacement of any material part of the TMWA Water System which is destroyed or damaged and is not promptly replaced (whether such failure to replace the same is due to impracticability of such replacement, is due to a lack of moneys therefor, or for any other reason);

F. Appointment of Receiver. An order or decree is entered by a court of competent jurisdiction with the consent or acquiescence of the Authority appointing a receiver or receivers for the TMWA Water System or for any Pledged Revenues and any other moneys subject to the lien to secure the payment of the 2023 Bonds, or both such TMWA Water System and such

moneys, or an order or decree having been entered without the consent or acquiescence of the Authority is not vacated or discharged or stayed on appeal within 60 days after entry; and

G. Default of Any Provision. Except as otherwise provided herein, the Authority makes any default in the due and punctual performance of any other of the representations, covenants, conditions, agreements, and other provisions contained in the 2023 Bonds or in this Instrument on its part to be performed, and such default continues for 60 days after written notice specifying such default and requiring the same to be remedied is given to the Authority directly by the holders of a majority in principal amount of the 2023 Bonds and any parity securities then Outstanding or such notice from such holders is received by the Trustee and delivered to the Authority by the Trustee. If the Authority defaults in performance of the Rate Maintenance Covenant pursuant to Section 1001 hereof, and: (1) the Authority has consulted an Professional Engineer with regard to the steps it should take to increase Net Revenues; (2) the rates and charges collected by the Authority equal or are greater than 100 percent of combined maximum principal and interest requirements; and (3) the Authority is following those recommendations of the Professional Engineer, it does not constitute an event of default as long as such default does not continue for a period of not more than three years.

Section 1304. Remedies for Defaults. Upon the happening of an event of default as provided in subsections A or B of Section 1303 with respect to any 2023 Bond which is insured by the Insurer, the Trustee shall instruct the Paying Agent to proceed as provided in the payment procedures provided by the Insurer. Upon the happening and continuance of any of the events of default, as provided in Section 1303 hereof, then and in every case the holder or holders of not less than a majority in principal amount of the 2023 Bonds and any parity securities then Outstanding or the Trustee therefor may proceed against the Authority and its agents, officers, and employees to protect and to enforce the rights of any holder of 2023 Bonds under this Instrument by mandamus or by other suit, action, or special proceedings in equity or at law, in any court of competent jurisdiction, either for the appointment of a receiver or for the specific performance of any covenant or agreement contained herein or by an award of execution of any power herein granted for the enforcement of any proper, legal, or equitable remedy as such holder or holders may deem most effectual to protect and to enforce the rights aforesaid, or thereto enjoin any act or thing which may be unlawful or in violation of any right of any holder of any 2023 Bond, or to require the Authority to act as if it were the trustee an expressed trust, or any combination of such remedies. All such proceedings at law or in equity shall be instituted, had, and maintained for the equal benefit of all holders of the 2023 Bonds and any parity securities then Outstanding.

Section 1305. Vesting in Trustee Powers of Statutory Trustee. The holders of the 2023 Bonds shall be entitled to the benefits and be subject to the provisions of NRS 350.660, 350.664, and 350.666 (except as hereinafter provided with respect to the method of the appointment of a trustee), and the trustee referred to therein (being the Trustee appointed and confirmed herein) shall have the powers provided by such sections of the Bond Act; the provisions of such sections of the Bond Act (except as to such method of appointment) shall be fully applicable to all Outstanding 2023 Bonds; the right or privilege of such holders to appoint such trustee in the manner provided in such sections is hereby abrogated; all of the rights, powers, and duties of such trustee shall be and hereby are vested in the Trustee without further act on the part of the holders of the 2023 Bonds; and the Authority shall not interpose, as a defense to any

proceedings under such sections of the Bond Act, failure of holders of 2023 Bonds to appoint a trustee in the manner provided in such sections of the Bond Act.

Section 1306. Receiver's Rights and Privileges. Any receiver appointed in any proceedings to protect the rights of such holders hereunder, the consent to any such appointment being hereby expressly granted by the Authority, may enter and take possession of the TMWA Water System, subject to the rights and privileges of any lessee or other user under any lease or other contract, may operate and maintain the same, may prescribe rates, fees, and other charges, and may collect, receive, and apply all Gross Revenues and any other revenues pertaining to the TMWA Water System arising after the appointment of such receiver in the same manner as the Authority itself might do.

Section 1307. Rights and Privileges Cumulative. The failure of any holder of any Outstanding 2023 Bond to proceed in any manner herein provided shall not relieve the Authority, its Board, or any of the Authority's officers, agents, or employees of any liability for failure to perform or carry out any duty, obligation, or other commitment. Each right or privilege of any such holder (or trustee thereof) is in addition and is cumulative to any other right or privilege, and the exercise of any right or privilege by or on behalf of any holder shall not be deemed a waiver of any other right or privilege thereof.

Section 1308. Duties upon Defaults. Upon the happening of any of the events of default as provided in Section 1303 hereof, the Authority, in addition, shall do and perform all proper acts on behalf of and for the holders of the 2023 Bonds, and any parity securities payable from Pledged Revenues to protect and to preserve the security created for the payment of the securities and to insure the payment of the Bond Requirements of the securities promptly as the same become due. During any period of default, so long as any of the securities, as to any Bond Requirements, are Outstanding, all Net Revenues shall be paid into the Bond Fund, and, to the extent such revenues, if any, exceed the Bond Requirements of the Outstanding securities payable from such account, both accrued and to accrue to their respective fixed maturity dates or to any Redemption Date or Redemption Dates pertaining thereto, whichever is earlier, if any, into any like account or like accounts for any Outstanding subordinate securities. If the Authority fails or refuses to proceed as in this Section provided, the holder or holders of not less than a majority in principal amount of the bonds and any parity securities then Outstanding, after demand in writing, may proceed to protect and to enforce the rights of the holders of the securities as hereinabove provided; and to that end any such holders of Outstanding securities shall be subrogated to all rights of the Authority under any agreement, lease, or other contract involving Pledged Revenues, or the TMWA Water System entered into prior to the effective date of this Instrument or thereafter while any such securities are Outstanding.

Section 1309. Duties in Bankruptcy Proceedings. If any lessee or other user of the TMWA Water System proceeds under any laws of the United States relating to bankruptcy, including, without limitation, any action under law providing for corporate reorganization, it shall be the duty of the Authority and its appropriate officers are hereby authorized and directed to take all necessary steps for the benefit of the holders of the 2023 Bonds and any parity securities in such proceedings, including, without limitation, the filing of any claims for unpaid rates, fees, other charges, and other payments due to the Authority or otherwise arising from the breach of any of the covenants, terms, or conditions of the lease or any other contract pertaining to the TMWA

Water System, unless the TMWA Manager or his delegate determines that the costs of such action are likely to exceed the amounts thereby recovered from such obligor.

Section 1310. Prejudicial Action Unnecessary. Nothing in this article requires the Authority to proceed as provided therein if the TMWA Manager or his delegate determines in good faith and without any gross abuse of his discretion that if the Authority so proceeds it is more likely than not to incur a net loss rather than a gain or such action is otherwise likely to affect materially and prejudicially the holders of the Outstanding 2023 Bonds and any Outstanding parity securities.

ARTICLE XIV

CONCERNING THE TRUSTEE

Section 1401. Appointment of Trustee. The Bank of New York Mellon Trust Company, N.A. is hereby appointed and confirmed as Trustee. The Trustee shall signify its acceptance of the duties and obligations imposed upon it by this Instrument by executing the certificate of authentication endorsed upon the 2023 Bonds; and the Trustee shall be deemed to have accepted such duties and obligations not only with respect to the 2023 Bonds so authenticated, but also with respect to all the 2023 Bonds thereafter to be issued hereunder.

Section 1402. Property Held in Trust. All moneys and securities held by the Trustee at any time pursuant to the terms of this Instrument shall be and hereby are assigned, transferred, and set over unto such Trustee in trust for the purposes and under the terms and conditions on this Instrument.

Section 1403. Deposit and Security of Funds. Subject to the provisions of Sections 602 and 603 hereof, all moneys (not including securities) held by the Trustee may, subject to the provisions of this Section, be deposited by the Trustee in demand or time deposit in its banking department, the banking department of any of the Trustee's affiliates, or with such other Banking Institutions as may be designated by the Authority. No such moneys shall be deposited with any Banking Institution, other than the Trustee or an affiliate of the Trustee, in an amount exceeding 50% of the amount which an officer of such bank shall certify to the Trustee and to the Authority as the combined capital and surplus of such bank. No such moneys shall be deposited or remain on deposit with any Banking Institution, including the Trustee and its affiliates, in excess of the amount guaranteed by the Federal Deposit Insurance Corporation or other Federal agency:

A. Pledge of Collateral Security. Unless such bank shall have lodged with the corporate trust department of the Trustee or, with the written approval of the Trustee and of the Authority, pledged to some other Banking Institution for the benefit of the Authority and every holder of any 2023 Bond issued hereunder, as collateral security for the moneys deposited, Federal Securities or such securities as are provided by law for securing a deposit in a Banking Institution in the State of cities and towns in the State, having a market value (exclusive of accrued interest) at least equal to 110% of the amount of such moneys; or

B. Surety Bond. Unless, in lieu of such collateral security as to all or any part of such moneys, there shall have been lodged with the corporate trust department of the Trustee for the benefit of the Authority and every holder of any 2023 Bond issued hereunder, and remain in full force and effect as security for such moneys or part thereof, the indemnifying bond or bonds of a surety company or companies qualified as surety for deposits of funds of the United States and qualified to transact business in the state in which such Banking Institution is located in a sum at least equal to the amount of such moneys or part thereof.

The Trustee shall allow and credit interest on any such moneys held by it at such rate as it customarily allows upon similar funds of similar size and under similar conditions or as

required by law. Interest or any other gain in respect of moneys or on securities in any account shall be credited in accordance with the provisions of Article VI hereof.

Section 1404. Basic Duties of Trustee. The Trustee undertakes, prior to default, and after the curing of all defaults which may have occurred, to perform such duties and only such duties as are specifically set forth in this Instrument and, in case of an event of default (which has not been cured) to exercise such of the rights and powers vested in it by this Instrument and to use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs, except as herein otherwise expressly provided. The Trustee, upon receipt of evidence furnished to it by or on behalf of the Authority pursuant to any provision of this Instrument shall examine the same to determine whether or not such evidence conforms to the requirements of this Instrument.

Section 1405. Trustee's Conduct. Except as herein otherwise expressly provided, no provision of this Instrument relieves the Trustee from liability for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

A. Absence of Implied Duties. Prior to default hereunder and after the curing of all defaults which may have occurred, the Trustee shall not be liable except for the performance of such duties as are specifically set out in this Instrument, and no implied covenants or obligations shall be read into this Instrument against the Trustee, but the duties and obligations of the Trustee, prior to default and after curing of all defaults which may have occurred, shall be determined solely by the express provisions of this Instrument;

B. Reliance Upon Instruments. Prior to default hereunder and after the curing of all defaults which may have occurred, and in the absence of bad faith on the part of the Trustee, the Trustee may conclusively rely as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates, opinions, or other instruments conforming to the requirements of this Instrument;

C. No Liability for Mere Error of Judgment. The Trustee shall not be personally liable for any error of judgment made in good faith by a responsible officer or officers of the Trustee, unless it shall be proven that the Trustee was negligent in ascertaining the pertinent facts or in the performance of an expressed duty;

D. Action Directed by Bondholders. The Trustee shall not be personally liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the holders of not less than a majority in principal amount of the 2023 Bonds and parity securities then Outstanding relating to the time, method, and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee under this Instrument;

E. Incurrence of Personal Liabilities. The Trustee shall not be required to advance or expend or use its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if the repayment of such funds or liability is not assured to it by the security afforded it by the terms of this Instrument or by other security or indemnity reasonably satisfactory to the Trustee;

F. Limited Liability Concerning Bonds. The Trustee shall not be under any responsibility or duty with respect to the disposition by the Authority of the 2023 Bonds or the application by the Authority of the proceeds thereof or of any moneys paid to the Authority under any of the provisions hereof, except to the extent that such proceeds are paid to the Trustee in its capacity as Trustee or Paying Agent. The Trustee shall have no responsibility or liability with respect to any information, statement or recital in any offering memorandum or other disclosure material prepared or distributed with respect to the issuance of the Bonds; and

G. Cost of Execution or Enforcement of Trusts. The Trustee, in the case of any default hereunder, shall not be under any obligation to take any action toward the execution or enforcement of the trusts created by this Instrument, which, in the opinion of the Trustee, will likely involve it in expense or liability, unless one or more of the holders of 2023 Bonds shall, as often as required by the Trustee, furnish to the Trustee security and indemnity satisfactory to the Trustee against such expense or liability.

H. No Liability for Continued Tax-Exempt Status of 2023 Bonds. Under no circumstances does the Trustee assume any responsibility or liability for the issuance of the 2023 Bonds as obligations the interest on which is excludable from gross income for purposes of Federal income taxation or for the maintenance of such tax-exempt status subsequent to the date of issuance of the 2023 Bonds.

Section 1406. Recitals of Fact and Representations. The recitals of fact contained herein and in the bonds (other than the Trustee's certificate of authentication) shall be taken as the statements of the Authority, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representations as to the validity of this Instrument or of the 2023 Bonds issued thereunder.

Section 1407. Entry upon TMWA Water System. The Trustee shall not be personally liable in case of entry by it upon the TMWA Water System for debts contracted or liability or damages incurred in the management or operation of the properties comprising the TMWA Water System.

Section 1408. Further Permitted Reliance. To the extent permitted by Sections 1404 and 1405:

A. Reliance upon Documents. The Trustee may rely and shall be protected in acting upon any resolution, certificate, opinion, notice, request, consent, order, appraisal, report, bond, or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

B. Reliance upon Counsel. The Trustee may consult with counsel and the opinion of such counsel shall be full and complete authorization and protection in respect of any action taken or suffered by it hereunder in good faith and in accordance with the opinion of such counsel; and

C. Reliance upon Assistants. Whenever this Instrument provides for certain action to be taken or a certain document shall be executed and forwarded to the Trustee or otherwise by a designated official and such action is taken or such document is executed and so

forwarded by the assistant to such official or by an acting official so designated, the Trustee may conclusively assume that the designated official is unable to act in such capacity at such time and the assistant or acting official is then authorized to take such action or to execute and so forward such document, as the case may be; and the Trustee may rely upon such action or document.

D. Actions by Agents. The Trustee may act through agents or attorneys, and shall not be responsible for the misconduct or negligence of agents or attorneys appointed with due care.

Section 1409. Other Immunities. The Trustee shall not be under any responsibility for the approval of any expert for any of the purposes expressed in this Instrument, but nothing in this Section contained shall relieve the Trustee of its obligation to exercise reasonable care with respect to the approval of independent experts who may furnish opinions or certificates to the Trustee pursuant to any provision of this Instrument. Any instrument of the Board shall be evidenced to the Trustee by a copy thereof certified by the Secretary of the Authority to have been duly adopted, and the Trustee may accept such copy as conclusive evidence of the adoption of such instrument. Nothing contained in this Section modifies the obligation of the Trustee to exercise after default the rights and powers vested in it by this Instrument with the degree of care and skill specified in Section 1404. No surety bond or other security shall be required of the Trustee unless ordered by a court having jurisdiction and for cause shown.

Section 1410. Permitted Transactions with Authority. The Trustee, the affiliates of the Trustee, any paying agent, and any other Banking Institution to which this Instrument pertains may buy, hold, sell or deal in, or be a pledgee of the bonds and any other securities of the Authority and may engage or be interested in any financial or other transaction with the Authority, all as freely as if they were not Trustee, paying agent, or such other bank hereunder.

Section 1411. Commingling of Moneys. Except as herein otherwise provided, all moneys received by the Trustee, whether as Trustee or otherwise, until used or applied as herein provided, shall be held in trust for the purposes for which they were paid, but need not be segregated from other moneys except to the extent required by law, unless herein otherwise expressly provided.

Section 1412. Compensation of Trustee. The Authority covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, reasonable compensation for all services rendered by it in the execution of the trusts hereby created and in the exercise and performance of any of the powers and duties hereunder of the Trustee, which compensation shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust; and the Authority will pay to the Trustee from time to time its expenses and disbursements (including, without limitation, reasonable compensation and the expenses, charges, counsel fees, and other disbursements of its counsel, officers, employees, other agents, and of all other Persons not regularly in the Trustee's employ). The Authority also covenants to indemnify the Trustee for, and to hold it harmless against, any loss, liability, or expense incurred without negligence or bad faith on the part of the Trustee, arising out of or in connection with the acceptance or administration of this trust, including the costs and expenses of defending against any claim of liability in the premises. The obligations of the Authority to the Trustee under this Section shall constitute

additional obligations secured by the lien of this Instrument, and shall be defrayed as Operation and Maintenance Expenses.

Section 1413. Preference in Event of Defaults. In order to further assure the Trustee that it will be compensated, reimbursed, and indemnified, all parties to this Instrument agree, and hereafter each holder of any bond and any other security hereafter authorized and payable from Pledged Revenues by his acceptance thereof shall be deemed to have agreed that in the event of the occurrence of any one or more of the events of default mentioned in Section 1303 hereof, the Trustee may file from time to time in any proceeding or proceedings one or more claims, supplemental claims, and amended claims as a creditor for its reasonable compensation for all services rendered by it (including services rendered during the course of any such proceeding or proceedings) and for reimbursement as Operation and Maintenance Expenses for all advances, expenses, and disbursements (including the reasonable compensation and the expenses and disbursements of its counsel and of all other Persons not regularly in its employ) made or incurred by it in the execution of the trusts hereby created and in the exercise and performance of any of the powers and duties herein of the Trustee, and for any and all amounts to which the Trustee is entitled as indemnity; and the Trustee and its counsel and agents may file in any such proceeding or proceedings applications or petitions for compensation for such services rendered, for reimbursement for such advances, expenses, and disbursements, and for such indemnity, as such Operation and Maintenance Expenses.

Section 1414. Adjustment and Allowance of Claims. The claim or claims of the Trustee filed in any such proceeding or proceedings shall be reduced by the amount of compensation for services, reimbursement for advances, expenses, and disbursements, and indemnity paid to it following final allowance to it and to its counsel and agents by the court in any such proceedings as an expense of administration or in connection with a plan of reorganization or readjustment. To the extent that compensation, reimbursement, and indemnity are denied to the Trustee or to its counsel or its other agents because of not being rendered or incurred in connection with the administration of an estate in a proceeding or in connection with a plan of reorganization or readjustment approved as required by law, because such services were not rendered in the interests of and with benefit to the estate of the Authority as a whole but in the interest of and with benefit to the holders of the 2023 Bonds and any other securities hereafter authorized and payable from Pledged Revenues in the execution of the trusts hereby created or in the exercise and performance of any of the powers and duties hereunder of the Trustee, or because of any other reason, the court may, to the extent permitted by law, allow such claim, as supplemented and amended, in any such proceeding or proceedings and for the purposes of any plan of reorganization or readjustment of the Authority's obligations, may classify the Trustee as a creditor of a class having priority for the payment of the Operation and Maintenance Expenses, and precedence over the class in which the holders of the 2023 Bonds and any such securities are placed. The amount of the claim or claims of the Trustee for services rendered and for advances, expenses, and disbursements, including the reasonable compensation and the expenses and disbursements of its counsel and of all Persons not regularly in its employ which are not allowed and paid in any such proceeding, but for which the Trustee is entitled to the allowance of a claim as herein provided may be fixed by the court or judge in any such proceeding or proceedings to the extent that such court or judge has or exercises jurisdiction over the amount of any such claim or claims.

Section 1415. Certificates of Officers and Experts. Whenever in the administration of the trusts of this Instrument, prior to a default hereunder, the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed), subject to the provisions of Sections 1404 and 1405, may be deemed to be prima facie proved and established by a certificate signed by an Authority officer, or may be deemed to be conclusively proved and established by a certificate signed by the Chairman or Vice Chairman and Secretary or Treasurer of the Board and delivered to the Trustee, and any such certificate so conclusively proved shall be full warrant to the Trustee for any action taken or suffered by it under the provisions of this Instrument upon the faith thereof. Likewise, all appraiser's certificates, engineer's certificates, independent appraiser's certificates, independent engineer's certificates, officers' certificates, and other certificates or instruments herein provided to be given to the Trustee, shall be full warrant and protection to the Trustee, subject to the provisions of Sections 1404 and 1405 hereof, for any action or non-action taken or suffered by it under the provisions of this Instrument upon the faith thereof. Whenever it is provided in this Instrument that the Trustee shall take any action upon the happening of a specified event or upon the fulfillment of any condition or upon the request of the Authority or of any holder of any 2023 Bond, the Trustee shall have full power to give any and all notices and to do any and all acts and things incident to such action.

Section 1416. Resignation of Trustee. The Trustee, or any successor thereof, may at any time resign and be discharged of its duties and obligations hereunder by giving not less than 60 days written notice to the Authority. Such resignation shall take effect upon the day specified in such notice unless previously a successor shall have been appointed by the Authority or holders of 2023 Bonds as herein provided, in which event such resignation shall take effect immediately on the appointment of such successor.

Section 1417. Removal of Trustee. The Trustee, or any successor thereof, may be removed at any time by the Authority, as designated by the TMWA Manager or the Chief Financial Officer, as long as the Authority is not in default pursuant to the terms of this Instrument or any other instrument authorizing the issuance of parity securities, and at any time by the holders of a majority in principal amount of the 2023 Bonds and any other bonds payable from Pledged Revenues then Outstanding, which payment is secured by a lien on such revenues, excluding any such bonds held by or for the account of the Authority, by an instrument or concurrent instruments in writing signed and acknowledged by such holders of bonds or by their attorneys-in-fact duly authorized and delivered to the Authority. Copies of each such instrument shall be delivered by the Authority to the Trustee and to any successor thereof.

Section 1418. Successor Trustee. In case the Trustee, or any successor thereof, shall resign or shall be removed or shall become incapable of acting or shall be adjudged a bankrupt or insolvent, or if a receiver, liquidator, or conservator thereof or of its property shall be appointed, or if any public officer shall take charge or control thereof or of its property or affairs, a successor may be appointed by the Authority, as designated by the TMWA Manager or the Chief Financial Officer, or in the case of removal of the Trustee by the holders, a successor may be appointed by the holders of a majority in principal amount of the then Outstanding 2023 Bonds and any other parity bonds payable from Pledged Revenues, which payment is secured by a lien on such revenues, excluding any such bonds held by or for the account of the Authority, by an instrument or concurrent instruments in writing signed and acknowledged by such holders of such parity

bonds or by their attorneys-in-fact duly authorized and delivered to the Authority. Pending such appointment by holders of such bonds, the Authority shall forthwith appoint a successor to act until such appointment is made by the holders of such bonds. Copies of each such instrument and of any instrument of the Authority providing for any such appointment shall be delivered by the Authority to the successor and to the predecessor Trustee. If no appointment of a successor shall be made within 30 days after the Trustee has been removed or resigned or after the occurrence of any other event requiring or authorizing such appointment, any holder of such parity bonds or the trustee of such bonds may apply to any court of competent jurisdiction for the appointment of such a successor, and the court thereupon after such notice, if any, as the court may deem proper and may prescribe, may appoint such successor. Any successor appointed under the provisions of this Section shall be a trust bank and willing and able to accept the appointment on reasonable and customary terms and authorized by law to perform all the duties required by this Instrument.

Section 1419. Transfer of Rights and Property. Any successor appointed under the provisions of Section 1418 of this Instrument shall execute, acknowledge, and deliver to its predecessor and also to the Authority an instrument accepting such appointment; and thereupon such successor, without any further act, deed, or conveyance, shall become fully vested with all moneys, estates, properties, rights, powers, duties, and obligations of its predecessor hereunder, with like effect as if originally appointed herein as Trustee; but the Trustee then ceasing to act shall, nevertheless, on request by the Authority or by such successor, execute, acknowledge, and deliver such instruments of conveyance and further assurance and such other things as may reasonably be required for more fully and certainly vesting and confirming in such successor all the right, title, and interest of such Trustee in and to any property held by it hereunder and shall pay over, assign, and deliver to such successor any money or other property subject to the trusts and conditions herein set forth. If any deed, conveyance, or instrument in writing from the Authority is required by such successor for more fully and certainly vesting in and confirming to it any such moneys, estates, properties, rights, powers, duties, or obligations, any and all such deeds, conveyances, and instruments in writing shall on request and so far as may be authorized by law be executed, acknowledged, and delivered to the Authority by the Trustee originally appointed herein.

Section 1420. Merger or Consolidation. Any company in which the Trustee may be merged or with which it may consolidate or any company resulting from any merger or consolidation to which it shall be a party or any company to which the Trustee may sell or transfer all or substantially all of its corporate trust business, if such company is a trust bank qualified to be a successor to the Trustee under the provisions of Section 1418 hereof, shall be the successor to the Trustee without any further act, deed, or conveyance.

Section 1421. Electronic Instructions. The Trustee shall have the right to accept and act upon instructions, including funds transfer instructions (“Instructions”) given pursuant to this Instrument and delivered using Electronic Means (“Electronic Means” means the following communications methods: S.W.I.F.T., e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Trustee, or another method or system specified by the Trustee as available for use in connection with its services hereunder); provided, however, that the Authority, shall provide to the Trustee an incumbency certificate listing officers with the authority to provide such Instructions (“Authorized Officers”) and containing specimen signatures of such Authorized Officers, which

incumbency certificate shall be amended by the Authority, whenever a person is to be added or deleted from the listing. If the Authority elects to give the Trustee Instructions using Electronic Means and the Trustee in its discretion elects to act upon such Instructions, the Trustee's understanding of such Instructions shall be deemed controlling. If the Trustee elects not to act upon such Instructions, the Trustee shall notify the Authority. The Authority understands and agrees that the Trustee cannot determine the identity of the actual sender of such Instructions and that the Trustee shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Trustee have been sent by such Authorized Officer. The Authority shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Trustee and the Authority and all Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the Authority. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The Authority agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Trustee and that there may be more secure methods of transmitting Instructions than the method(s) selected by the Authority; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Trustee immediately upon learning of any compromise or unauthorized use of the security procedures.

Section 1422. Force Majeure. The Trustee shall not be considered in breach of or in default in its obligations hereunder or progress in respect thereto in the event of enforced delay in the performance of such obligations due to unforeseeable causes beyond its control and without its fault or negligence, including, but not limited to, Acts of God, terrorism, war, riots, strikes, fire, floods, earthquakes, epidemics or other like occurrences beyond the control of the Trustee; it being understood that the Trustee shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

ARTICLE XV

AMENDMENT OF INSTRUMENT

Section 1501. Privilege of Amendments. This Instrument may be amended as provided in Section 1510 hereof without the need of obtaining consent of any of the holders of the 2023 Bonds. The “Regular Record Date” as defined in Section 302 hereof may be changed by the Authority without the need of obtaining consent of any holders of the 2023 Bonds if the Authority receives the consent of the securities depository then holding the 2023 Bonds pursuant to Section 302 hereof, if any, and if the Authority gives to the registered owner of each 2023 Bond a notice of change in the Regular Record Date, if a securities depository is the registered owner of the 2023 Bonds, by registered or certified mail, and otherwise, by first class mail, not less than six months before the first interest payment date to which the changed Regular Record Date will be applicable. In addition, except for supplemental instruments adopted pursuant to Section 712 hereof which do not expressly or impliedly amend or otherwise modify this Instrument, and except as provided in Section 1502 hereof, this Instrument may be amended or supplemented by instruments adopted by the Board in accordance with the laws of the State, without receipt by the Authority of any additional consideration, but, subject to the provisions of Section 1209 hereof, with the written consent of the Insurer of the Bonds, if any, or the holders of 66% in aggregate principal amount of the 2023 Bonds and parity securities Outstanding at the time of the adoption of such amendatory or supplemental instrument, excluding, pursuant to paragraph (5), Section 102(B) hereof, any 2023 Bonds which may then be held or owned for the account of the Authority, but including such refunding securities as may be issued for the purpose of refunding any of the 2023 Bonds if such refunding securities are not owned by the Authority.

Section 1502. Limitations upon Amendments. Notwithstanding the provisions of Section 1209(A) of this Instrument, no such instrument shall permit without the consent of the Insurer, if any, and the beneficial owners of the 2023 Bonds affected thereby:

- A. Changing Payment. A change in the maturity or in the terms of redemption of the principal of any Outstanding 2023 Bond or any installment of interest thereon; or
- B. Reducing Return. A reduction in the principal amount of any 2023 Bond, the rate of interest thereon, or any prior redemption premium payable in connection therewith; or
- C. Prior Lien. The creation of a lien upon or a pledge of revenues ranking prior to the lien or the pledge created by this Instrument; or
- D. Modifying Limitations upon Modifications. A reduction of the principal amount or percentages or otherwise affecting the description of 2023 Bonds or the consent of the holders of which is required for any such amendment or other modifications; or
- E. Priorities Between Bonds. The establishment of priorities as between 2023 Bonds issued and Outstanding under the provisions of this Instrument; or
- F. Partial Modification. Materially and prejudicially modifying or otherwise materially and prejudicially affecting the rights or privileges of the holders of less than all of the 2023 Bonds then Outstanding.

Section 1503. Notice of Amendment. Whenever the Board proposes to amend or modify this Instrument under the provisions of this article, it shall cause notice of the proposed amendment to be mailed within 30 days to the Trustee and the Insurer of the Bonds, if any, or each holder of the Outstanding 2023 Bonds and any parity securities. Such notice shall briefly set forth the nature of the proposed amendment and shall state that a copy of the proposed amendatory instrument is on file in the office of the Secretary for public inspection.

Section 1504. Time for Amendment. Whenever at any time within one year from the date of the mailing of such notice, there shall be filed in the office of the Secretary an instrument or instruments executed by the insurer of the Bonds, if any, or the holders of at least 66% in the aggregate principal amount of the 2023 Bonds and any parity securities then Outstanding, which instrument or instruments shall refer to the proposed amendatory instrument described in such notice shall specifically consent to and approve the adoption of such instrument, thereupon, but not otherwise, the Board may adopt such amendatory instrument and such instrument shall become effective.

Section 1505. Binding Consent to Amendment. If the insurer of the Bonds, if any, or the holders of at least 66% in the aggregate principal amount of the 2023 Bonds and parity securities then Outstanding, at the time of the adoption of such amendatory instrument, or the predecessors in title of such holders, shall have consented to and approved the adoption thereof as herein provided, no insurer of the Bonds or holder of any bond whether or not such holder shall have consented to or shall have revoked any consent as in this article provided, shall have any right or interest to object to the adoption of such amendatory instrument or to object to any of the terms or provisions therein contained or to the operation thereof or to enjoin or restrain the Authority from taking any action pursuant to the provisions thereof.

Section 1506. Time Consent Binding. Any consent given by the holder of a 2023 Bond and any parity securities pursuant to the provisions of this article shall be irrevocable for a period of 6 months from the date of the mailing of the notice above provided for in Section 1503 and shall be conclusive and binding upon all future holders of the same bond during such period. Such consent may be revoked at any time after 6 months from the date of such mailing of such notice, by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary, but such revocation shall not be effective if the holders of 66% in aggregate principal amount of the bonds Outstanding as in this article provided, prior to the attempted revocation, consented to and approved the amendatory instrument referred to in such revocation.

Section 1507. Unanimous Consent. Notwithstanding anything in the foregoing provisions of this article, the terms and the provisions of this Instrument or of any instrument amendatory thereof or supplemental thereto and the rights and the obligations of the Authority and of the holders of the 2023 Bonds may be amended or otherwise modified in any respect upon the adoption by the Authority and upon the filing with the Secretary of an instrument to that effect and with the consent of the holders of all the then Outstanding 2023 Bonds, such consent to be given as provided in Section 1204 hereof; and no notice to holders of 2023 Bonds shall be required as provided in Section 1503 hereof, and the time of consent shall not be limited except as may be provided in such consent.

Section 1508. Exclusion of Authority's Bonds. At the time of any consent or of other action taken under this article, the Authority shall furnish to the Secretary a certificate of the Treasurer, upon which the Authority may rely, describing all bonds to be excluded, for the purpose of consent or of other action or of any calculation of Outstanding bonds provided for in this article, and the Authority shall not be entitled with respect to such bonds to give any consent or to take any other action provided for in this article, pursuant to paragraph (5) of Section 102(B) hereof.

Section 1509. Notation on Bonds. Bonds authenticated and delivered after the effective date of any action taken as in this article provided may bear a notation by endorsement or otherwise in form approved by the Board as to such action; and if such Bonds so authenticated and delivered shall bear such notation, then upon demand of the holder of any Bond Outstanding at such effective date and upon presentation of his Bond for the purpose at the principal office of the Secretary, suitable notation shall be made on such Bond by the Secretary as to any such action. If the Board so determines, new Bonds so modified as in the opinion of the Board to conform to such action shall be prepared, authenticated, and delivered; and upon demand of the holder of any Bond then Outstanding, exchanged without cost to such holder for Bonds then Outstanding upon surrender of such Bonds.

Section 1510. Amendments Not Requiring Consent. The Authority, acting by and through the Board, and the Trustee, notwithstanding the provisions of other sections of this article, and without the consent of or notice to the insurer of the Bonds, if any, or any holder of any 2023 Bond, shall consent to any amendment, change, or modification of this Instrument as required:

- A. Bond Resolution. By the provisions of this Instrument,
- B. Curing Defects. For the purpose of curing any ambiguity or formal defect or omission herein,
- C. Additional Securities. In connection with the issuance and delivery of additional bonds or other securities payable from the Net Revenues, or
- D. Other Change. In connection with any other change herein which, in the judgment of the Trustee and in the opinion of bond counsel to the Authority, is not to the prejudice of the Trustee, the Insurer of the Bonds, if any, or the holders of the 2023 Bonds or any parity securities then Outstanding.

PASSED, APPROVED AND ADOPTED BY AT LEAST A TWO-THIRDS MAJORITY OF THE BOARD OF DIRECTORS OF THE TRUCKEE MEADOWS WATER AUTHORITY ON THIS SEPTEMBER 20, 2023.

By: _____
Chairman

(SEAL)

Attest:

Secretary

STATE OF NEVADA)
) ss.
 COUNTY OF WASHOE)
)
 TRUCKEE MEADOWS)
 WATER AUTHORITY)

I am the duly chosen, qualified, and acting Secretary of the Truckee Meadows Water Authority and of its Board of Directors (herein the “Authority” and the “Board,” respectively), the Authority being situate in the County of Washoe and State of Nevada, do hereby certify:

1. The foregoing pages together with the Exhibits appended thereto constitute a true, correct, complete, and compared copy of the “2023 Bond Resolution,” introduced, passed, and adopted at a meeting of the Board held on September 20, 2023.

2. The original of the 2023 Bond Resolution has been approved and authenticated by the signatures of the Chairman of the Board and myself as Secretary, and sealed with the seal of the Authority, and has been recorded in the minute book of the Board kept for that purpose in the Authority’s office, which record has been duly signed by such officers and properly sealed.

3. At least two-thirds of the Directors voted on the passage of such instrument as follows:

Those Voting Aye:	Paul Anderson Clara Andriola Jenny Brekhus Kristopher Dahir Naomi Duerr Alexis Hill Devon Reese
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Those Voting Nay: _____

Those Absent: _____

4. The foregoing proceedings were in fact held as in such minutes specified as originally of record in my possession.

5. All members of the Board were given due and proper notice of the meeting.

6. Public notice of such meeting was given and such meeting was held and conducted in full compliance with the provisions of NRS 241.020. A copy of the notice of meeting is attached as Exhibit A.

7. At least 3 working days before such meeting, such notice given to each member of the Board and to each person, if any, who has requested notice of meetings of the Board in accordance with the provisions of chapter 241 of NRS.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of the Truckee Meadows Water Authority, on this September 20, 2023.

(SEAL)

Secretary

EXHIBIT A

(Attach Copy of Notice of Meeting)



TRUCKEE MEADOWS WATER AUTHORITY
Board of Directors
AGENDA
Wednesday, September 20, 2023 at 10:00 a.m.
Sparks Council Chambers, 745 4th Street, Sparks, NV

Board Members

Chair Kristopher Dahir – City of Sparks	Vice Chair Naomi Duerr – City of Reno
Paul Anderson – City of Sparks	Alexis Hill – Washoe County
Jenny Brekhus – City of Reno	Clara Andriola – Washoe County
Devon Reese – City of Reno	

NOTES:

1. The announcement of this meeting has been posted at the following locations: Truckee Meadows Water Authority (1355 Capital Blvd., Reno), at <http://www.tmwa.com>, and State of Nevada Public Notice Website, <https://notice.nv.gov/>.
2. TMWA meetings are streamed online at <https://www.youtube.com/@tmwboardmeetings6598>.
3. 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 (775) 834-8002 at least 24 hours before the meeting date.
4. Staff reports and supporting material for the meeting are available at TMWA and on the TMWA website at <http://www.tmwa.com/meeting/>. Supporting material is made available to the general public in accordance with NRS 241.020(6).
5. The Board 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.
6. Asterisks (*) denote non-action items.
7. Public comment during the meeting is limited to three minutes and is allowed during the two public comment periods rather than each action item. 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 Chair has the discretion to allow public comment on any individual agenda item, including any item on which action is to be taken.
8. Written public comment may be provided by submitting written comments online on TMWA's Public Comment Form (tmwa.com/PublicComment) or by email sent to boardclerk@tmwa.com prior to the Board opening the public comment period during the meeting. In addition, public comments may be provided by leaving a voicemail at (775)834-0255 prior to 4:00 p.m. the day before the scheduled meeting. Voicemail messages received will be noted during the meeting and summarized for entry into the record.
9. In the event the Chair and Vice-Chair are absent, the remaining Board members may elect a temporary presiding officer to preside over the meeting until the Chair or Vice-Chair are present (**Standing Item of Possible Action**).
10. Notice of possible quorum of Western Regional Water Commission: Because several members of the Truckee Meadows Water Authority Board of Directors are also Trustees of the Western Regional Water Commission, it is possible that a quorum of the Western Regional Water Commission may be present, however, such members will not deliberate or take action at this meeting in their capacity as Trustees of the Western Regional Water Commission.

1. Roll call*
2. Pledge of allegiance*
3. Public comment — limited to no more than three minutes per speaker*
4. Possible Board comments or acknowledgements*
5. Approval of the agenda (**For Possible Action**)

6. Approval of the minutes of the August 16, 2023 meeting of the TMWA Board of Directors **(For Possible Action)**
7. Presentation of fiscal year 2023 unaudited financial performance — Matt Bowman*
8. Discussion and action on Resolution No. 318: A resolution authorizing the deposit of legally available moneys into an escrow account in an amount not to exceed \$75,000,000.00 for the defeasance and call for prior redemption of certain of the authority’s outstanding bonds; authorizing the execution of an escrow agreement in connection therewith; and providing the effective date hereof — Matt Bowman **(For Possible Action)**
9. Discussion and action on Resolution No. 319: A resolution designated by the short title “2023 bond resolution” authorizing the issuance by the Truckee Meadows Water Authority of its “Truckee Meadows Water Authority, water revenue bonds, series 2023,” in the maximum aggregate principal amount of \$76,000,000.00 for the purpose of defraying wholly or in part the cost of acquiring, constructing, improving and equipping water facilities; providing the form, terms and conditions of the bonds, and the security therefor; providing for the collection and disposition of revenues derived from the operation of the authority’s water system; pledging such revenues to the payment of the bonds; and providing other covenants, agreements and details relating thereto — Matt Bowman **(For Possible Action)**
10. Discussion and action, and possible direction to staff regarding funding plan and proposed rate adjustments — Matt Bowman **(For Possible Action)**
11. Presentation on results of employee development and engagement efforts — Jessica Atkinson, Cammy Elquist LoRe, and John Zimmerman*
12. Presentation of General Manager goal results for contract year 2022-2023 — John Zimmerman*
13. Discussion and action on request for Board input and acceptance of General Manager performance objectives for contract year 2023-2024 — John Zimmerman **(For Possible Action)**
14. Discussion and possible direction from Board regarding the evaluation process for conducting the General Manager’s performance evaluation — Jessica Atkinson and John Zimmerman **(For Possible Action)**
15. Discussion and action on Resolution No. 320: A Resolution to approve funding for the projects recommended by the Truckee River Fund Advisory Committee and an authorization for the Community Foundation to fund such projects from Fund proceeds (Resolution may reflect action taken in one or more votes on recommended projects) — Sonia Folsom and Kara Steeland **(For Possible Action)**
16. General Manager’s Report*
17. Public comment — limited to no more than three minutes per speaker*
18. Board comments and requests for future agenda items*
19. Adjournment **(For Possible Action)**



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Matt Bowman, CFO
DATE: September 11, 2023
SUBJECT: Discussion and action, and possible direction to staff regarding funding plan and proposed rate adjustments

Recommendation

Based on the results of TMWA's most recent funding plan and additional analysis and consideration at the direction of the TMWA Board, staff recommends the Board tentatively approve (1) rate increases of 4.5%, 4.0%, and 3.5% in fiscal years 2024, 2025 and 2026, with annual reviews respectively and (2) a policy of annually reviewing the need for rate increases based on CPI-U with a maximum of 4.5% and a minimum of 1.0%. Staff's recommendation includes some use, as much as fiscally responsible, of the Rate Stabilization Fund to lower the first three increases. These adjustments are necessary to maintain TMWA's solid long-term operational reliability and sound financial health including meeting all bond covenants and Board policies and excellent credit ratings. These rate adjustments were reviewed and approved by TMWA's citizens Standing Advisory Committee (SAC) in August 2023. Staff is asking for tentative approval of these rate increases now so that we may conduct public outreach and seek feedback from customers in October and November and bring them back to the Board for formal approval in December 2023 and January 2024. It should be noted that although the rate adjustments would be scheduled to take place in the years noted above, including the ongoing index-based increases, TMWA staff will present a funding plan to the Board each year for review. Each year during this review, the Board will have the opportunity to modify the subsequent year's scheduled rate adjustment.

Discussion

At the August Board meeting, staff presented the Board with a recommendation for three annual rate adjustments as stated above. The Board requested staff consider two additional scenarios and provide additional information regarding TMWA's operational efficiencies.

Scenario C – Higher rate increases sooner and low-income assistance program

Member Reese requested staff present a scenario in which the first three rate increases were higher and consider whether that scenario would allow the creation of a program to assist low-income customers with their water bills. Scenario C includes rate increases of 5.0%, 5.5% and 6.0% in fiscal years 2024, 2025 and 2026, respectively. The results of this scenario are below –

Scenario C – 5.0%, 5.5% and 6.0% increase in FYs 2024, 2025 and 2026 and CPI based thereafter *Rate Stabilization Fund used

- Lowest all-in Debt Service Coverage (DSC) 1.50x (FY 2024)
- Lowest unrestricted cash balance \$124.1m (FY 2027)
- Unrestricted cash compared to minimum required \$12.8m (FY 2028)

DSC includes use of proceeds from Rate Stabilization Fund of \$0.3m in FY 2024, replenished in FY 2025.

The TMWA Board could implement a low-income assistance program if it changed its policy prohibiting cross-subsidization among customer classes.¹ Such a program would not, however, require higher rate increases because TMWA’s lowest water usage rate (Tier 1) is essentially a lifeline rate. According to the American Water Works Association (AWWA), a common type of bill discount used by water utilities is a ‘lifeline rate.’ Per the AWWA, *lifeline rates typically apply to all customers, with the expectation that low-income customers will have a high percentage of their consumption covered by the lifeline rate. Like conservation or inclining block-rates, after consumption of the first block (the 2,000 gallons), rates rise, sometimes dramatically, for each subsequent block consumed, so that the utility can recover the full cost of service from the rest of its customer base.* Under TMWA’s rate structure, the lowest water users pay the lowest rate on water because most, if not all, of their consumption will occur in the first tier at the lowest rates. Customers with larger lots and more irrigation progress into the more costly tiers. TMWA’s Residential Metered Water Service (RMWS) tiers are below (per 1,000 gallons) –

Tier 1	0 to 6,000 gallons per billing period	\$1.97
Tier 2	6,001 to 25,000 gallons per billing period	\$3.18
Tier 3	Greater than 25,000 gallons per billing period	\$3.72

The Tier 1 threshold was set at the 80th percentile of indoor water use, which means that 80% of TMWA’s single-family services have indoor water use less than or equal to 6,000 gallons per month and pay the Tier 1 rate, which equates to \$33 per month (\$11.82 for water usage and \$21.18 for the monthly customer charge for a 3/4” meter).

TMWA’s customer service staff regularly work with customers who are struggling with their water bills. Steps to help customers include leak adjustments, payment arrangements, equal payment plans and certain fee write-offs.

Additionally, there are programs administered by other entities which TMWA customers can utilize. Recently, with funding through the Federal Low-Income Household Water Assistance Program (LIHWAP), Nevada established the Water and Sewer Assistance Program (WSAP), administered through the State’s Department of Health and Human Services. This program has provided approximately \$70,000 of assistance to TMWA customers over the last year. AWWA and water and sewer utilities are asking Congress to extend Federal funding for this program and make it permanent. TMWA staff already discuss this program with customers in need when they contact customer service, however, staff will increase customer awareness of the above-described program before customers request assistance so that those in need can take advantage of it.

¹TMWA has considered a low-income and senior discount program in the past (most recently in 2015). For reference, the staff report, attachments and minutes from 2015 are included as Attachment #1.

Staff would need approximately six months to evaluate how to implement a low-income assistance program. This would include an analysis of the cost and administration of the program, a Board resolution authorizing cross-subsidization for low-income customers, and public outreach similar to the rate increases. Because such a program would not impact the recommended rate increases and staff would need time to evaluate and design the program, staff recommends the Board go forward with the rate increase process before considering the program. For the above-described reasons, however, staff does not recommend implementation of a low-income assistance program.

Scenario D – Delay rate increase and combine with rate structure study

Member Hill requested staff consider delaying the rate adjustments until a rate structure study is completed and implement both at the same time. TMWA is in the initial stages of a rate structure study. This process will evaluate the existing rate structure and consider improvements that simplify the rate structure. Staff expects to perform the study internally and the project is expected to take about a year and half to complete. Staff will update the Board during the process. Below is additional information regarding the process to perform the study and the correlation to the proposed rate adjustments.

As part of the rate study, Staff will look at each of the rate schedules and how they collect revenue in detail. The rate study does not determine the amount of revenue collected, only how the revenue is collected from different customer classes, so it will not change the necessary rate increases. The study will provide estimates of how much revenue will need to be collected from each customer class based on cost allocations.

1. First the revenue requirements are determined from the funding plan.
2. Rate design study determines the number of water rate schedules and the rate structure.
3. Revenue requirements, rate designs, and customer usage are inputted into a cost-of-service study.
4. The cost-of-service study will outline the share of required revenue that must be collected from each rate schedule.
5. Using the amount of revenue that must be collected by rate schedule, the rate parameters are then calculated to collect the targeted revenue.

If the Board decided to delay rate adjustments until the rate structure study was complete (approximately fiscal year 2025), then the rate increase would need to be 8% and 4% in FY 2025 and FY 2026, respectively, and use all \$10.5m of the Rate Stabilization Fund. In that scenario (**Scenario D**), the Rate Stabilization Fund would not be fully funded until fiscal year 2029. For this reason, staff does not recommend delaying the rate adjustments. Further, the rate structure study should be considered distinct from the rate adjustments proposed as a result of the funding plan.

All scenarios are presented below for ease of review.

Scenario A – 5.25%, 4.0% and 3.5% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **No rate stabilization fund used*

- Lowest all-in DSC (after FY 2024) 1.50x (FY 2025)
- Lowest unrestricted cash balance \$116.3m (FY 2028)
- Unrestricted cash compared to minimum required \$3.8m (FY 2028)

(Recommended) Scenario B – 4.5%, 4.0% and 3.5% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2024)
 - Lowest unrestricted cash balance \$112.1m (FY 2028)
 - Unrestricted cash compared to minimum required **-\$0.3m** (FY 2028)
- DSC includes use of proceeds from Rate Stabilization Fund of \$3.75m, \$1.0m in FYs 2024 and 2025, replenished in FYs 2026-2028*

Scenario C – 5.0%, 5.5% and 6.0% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2024)
 - Lowest unrestricted cash balance \$124.1m (FY 2027)
 - Unrestricted cash compared to minimum required \$12.8m (FY 2028)
- DSC includes use of proceeds from Rate Stabilization Fund of \$0.3m in FY 2024, replenished in FY 2025.*

Scenario D – 0.0%, 8.0% and 4.0% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2028)
 - Lowest unrestricted cash balance \$111.2m (FY 2027)
 - Unrestricted cash compared to minimum required **-\$6.9m** (FY 2028)
- DSC includes use of proceeds from Rate Stabilization Fund of \$4.5m, \$6.0m in FYs 2024 and 2025, replenished in FYs 2027-2029*

Another idea discussed during the August board meeting was to delay the implementation of the rate increase until after the irrigation season. Staff modeled this scenario, which is presented as Scenario E below.

Scenario E – 0.0%, 7.0%, 5.0% and 4.0% increase in FYs 2024, 2025, 2026 and 2027 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2026)
 - Lowest unrestricted cash balance \$115.4m (FY 2027)
 - Unrestricted cash compared to minimum required \$3.8m (FY 2028)
- DSC includes use of proceeds from Rate Stabilization Fund of \$3.75m, \$2.75m in FYs 2024 and 2025, replenished in FYs 2026-2027*

TMWA operational efficiencies

The Board asked staff to describe TMWA's operational efficiencies. The AWWA has several metrics to evaluate efficiency of water and wastewater utilities nationwide. One AWWA metric of efficiency that the Board and staff regularly evaluate is total customers compared to number of employees. For fiscal year 2023, the AWWA's top 75th quartile for this metric was 547 customers per employee. TMWA's ratio was 560 customers per employee so TMWA's efficiency is above 75% of water and wastewater utilities nationwide. Another AWWA metric TMWA uses is million gallons delivered per day (MGD) per employee. In fiscal year 2023,

AWWA's top 75th quartile was 0.25 MGD per employee and TMWA's was at .30 MGD per employee. Even though TMWA added headcount during the year, efficiency remained in the top quartile of the AWWA benchmarks.

One of the efficiencies at the core of TMWA's operations is electric power consumption. Specifically, targeted, time-of-use pumping across the system is a key standard used by TMWA's Operators. Effectively, TMWA targets the time of day and days of the week when off-peak electrical rates are in effect to maximize tank filling (pumping) when electrical rates are at the lowest. This process is continuously monitored to optimize the required supply, storage, and cost.

Additionally, TMWA has fostered an environment of constant improvement. Specifically, in areas where workload is increasing, Staff first looks to assess solutions that do not result in headcount increases. For example, current projects include –

- Technology services helpdesk which will allow for organization and efficient monitoring and resolution to technology related employee requests.
- New Business process improvements are in progress and resulting from a two day collaborative workshop with approximately 30 employees across nearly all TMWA departments to ensure processing of new business applications and related tasks are completed as efficiently as possible and potentially automated in the future.
- Facilities and maintenance software which has allowed the facilities department to efficiently track the various types of equipment (notably HVAC systems) at TMWA's sites. Leveraging this software saves time and fuel because the technicians know exactly what parts and tools are needed before driving to the site.
- File transfer software which allows for a consistent protocol and process for various file transfers between systems. Currently, many of the file transfers which take place involve an employee initiating and monitoring transfers of data.

Lastly, TMWA has a robust water supply, however, TMWA's water system is one of the most complex in the western U.S., which increases the cost to operate it. First, topography alone adds complexity because it requires numerous pressure regulator stations (380), booster pump stations (118), and tanks (97) to meet peak customer water demands and fire flow requirements. This results in more pressure zones (280) than typical utilities of TMWA's size. By contrast, the City of Henderson and Las Vegas Valley Water District combined have 85 pump stations. TMWA also has five treatment plants. Second, TMWA relies on over 90 groundwater wells throughout the system to meet peak summer water demands and provide resiliency during droughts. All of these facilities have to be maintained and replaced as needed, which makes TMWA's system more costly. Despite the complicated nature of TMWA's system, TMWA is very efficient compared to other utilities and it shows in TMWA's AWWA rankings and the overall affordability of TMWA's water rates.

Staff's Recommendation

Staff seeks tentative approval of the rate adjustments and authorization to move forward with the schedule below to allow for implementation of the first rate adjustment in June 2024.

Schedule

September 2023

- Board tentative approval of funding plan, rate adjustments, and public outreach

October – November 2023

- Public open houses (four dates and four locations)
- Updates to BOD and SAC as needed

December 2023

- Recap and discussion of public outreach process
- Public hearing – first reading

January 2024

- Public hearing – second reading and adoption of rate adjustments

June 2024

- Implementation of rate adjustment

Recommended Motion

Move to tentatively approve the proposed rate plan (Scenario B) and timeline as recommended by staff.

TMWA Funding Plan and Proposed Rate Adjustments



Truckee Meadows Water Authority (TMWA)

Recap of August 2023 Meeting

- Funding plan, rate adjustments, and public outreach schedule presented to the Board.
- The Board requested two additional scenarios along with information about TMWA's operating efficiencies.
 - *Scenario C*: Higher rate increases sooner and low-income assistance program.
 - *Scenario D*: Delay rate increase and combine with rate structure/design study.

Truckee Meadows Water Authority (TMWA)

Scenario C – Higher rate increases sooner and low-income assistance program

Scenario C – 5.0%, 5.5% and 6.0% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in Debt Service Coverage (DSC) 1.50x (FY 2024)
 - Lowest unrestricted cash balance \$124.1m (FY 2027)
 - Unrestricted cash compared to minimum required \$12.8m (FY 2028)
- DSC includes use of proceeds from Rate Stabilization Fund of \$0.3m in FY 2024, replenished in FY 2025.*

Low Income Program

- Considered in the previous years (Attachment #1 to Staff Report)
- Lifeline rate
 - As described by the AWWA: *lifeline rates typically apply to all customers, with the expectation that low-income customers will have a high percentage of their consumption covered by the lifeline rate. Like conservation or inclining block-rates, after consumption of the first block (the 2,000 gallons), rates rise, sometimes dramatically, for each subsequent block consumed, so that the utility can recover the full cost of service from the rest of its customer base.*
 - Tier 1 covers 80% of TMWA customers' indoor water use
- Other programs
 - Water and Sewer Assistance Program (WSAP), funded through the Low-Income Household Water Assistance Program (LIHWAP)
 - Funded ~\$90,000 to TMWA customers
 - AWWA and utilities asking Congress to make this permanent

Truckee Meadows Water Authority (TMWA)

Scenario D – Delay rate increase and combine with rate structure study

What is the rate structure study?

- Evaluate options for rate consolidation and simplification
- Through statistical modeling, determine how revenue is collected from different rate classes.
- Allocate costs, input revenue collected, and usage from customer classes to determine cost-of-service.

How long will this take?

- Approximately 18 months.

Scenario D – 0.0%, 8.0% and 4.0% increase in FYs 2024, 2025 and 2026 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2028)
- Lowest unrestricted cash balance \$111.2m (FY 2027)
- Unrestricted cash compared to minimum required **-\$6.9m** (FY 2028)
- *DSC includes use of proceeds from Rate Stabilization Fund of \$4.5m, \$6.0m in FYs 2024 and 2025, replenished in FYs 2027-2029*

Truckee Meadows Water Authority (TMWA)

Scenario E – Delay rate increase to Fall 2024

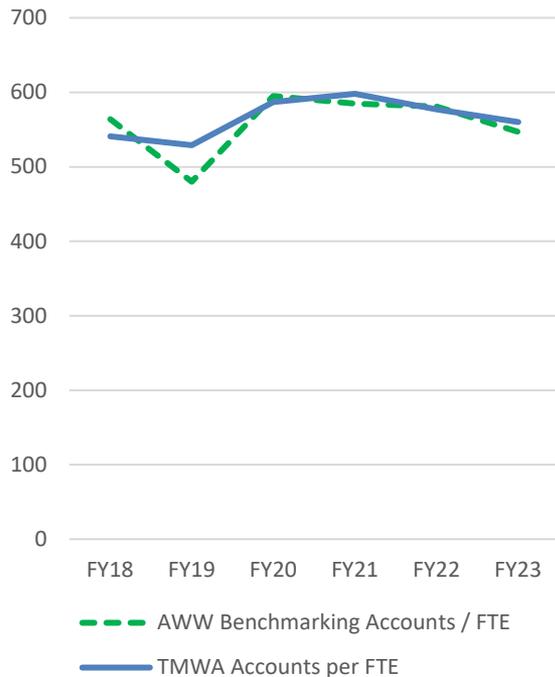
Scenario E – 0.0%, 7.0%, 5.0% and 4.0% increase in FYs 2024, 2025, 2026 and 2027 and CPI based thereafter **Rate Stabilization Fund used*

- Lowest all-in DSC 1.50x (FY 2026)
- Lowest unrestricted cash balance \$115.4m (FY 2027)
- Unrestricted cash compared to minimum required \$3.8m (FY 2028)
- *DSC includes use of proceeds from Rate Stabilization Fund of \$3.75m, \$2.75m in FYs 2024 and 2025, replenished in FYs 2026-2027*

Truckee Meadows Water Authority (TMWA)

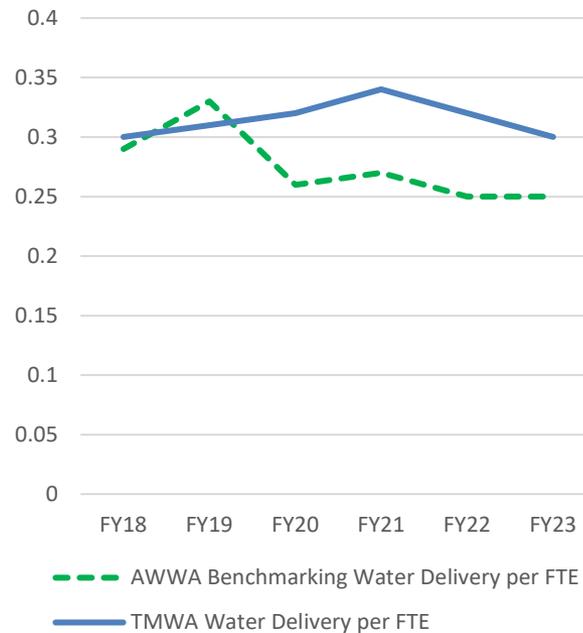
TMWA Operational Efficiencies

Top 25% AWWA Benchmark
Accounts per FTE Efficiency



Efficient!

Top 25% AWWA Benchmark
Water Delivery per FTE
Efficiency



Efficient!

But...

280 Pressure Zones that are like small systems themselves

Operationally Complex System &

Behind on Preventative Maintenance

Truckee Meadows Water Authority (TMWA)

Options

Measure	Scenario				
	A 5.25%, 4.0%, 3.5%	B 4.5%, 4.0%, 3.5%	C 5.0%, 5.5%, 5.6%	D 0.0%, 8.0%, 4.0%	E 0.0%, 7.0%, 5.0%, 4.0%
Lowest DSC	1.50	1.50	1.50	1.50	1.50
Lowest unrestricted cash balance	\$116.3m	\$112.1m	\$124.1m	\$111.2m	\$115.4m
Cash variance to minimum	\$3.8m	-\$0.3m	\$12.8m	-\$6.9m	\$3.8m
Rate Stabilization Used	-	\$4.8m	\$0.3m	\$10.5m	\$6.5m

Schedule

September 2023

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December 2023

- Recap and discussion of public outreach process
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January 2024

- Public hearing – second reading and adoption of rate adjustments

June 2024

- Implementation of rate adjustments

Thank you!
Questions?



STAFF REPORT

TO: Chairman and Board Members
THRU: Mark Foree, General Manager
FROM: John Erwin, Natural Resources Director
Kim Mazeres, Customer Relations Director
Jeff Tissier, Chief Financial Officer
DATE: April 6, 2015
SUBJECT: **Discussion and possible direction to staff regarding consideration of special rates or programs for low-income and/or senior citizen customers**

At its March meeting, the TMWA Board of Directors requested staff present information about potential assistance programs TMWA could offer to low-income, senior citizens who will be transitioning from the flat-rate to the metered rate.

BACKGROUND

The TMWA Board and Standing Advisory Committee have heard reports and recommendations on this issue on at least five occasions since TMWA's formation. The staff reports and minutes for these are attached. To summarize:

- In September of 2001 the Board adopted by resolution a Financial Guidelines document that includes a non-cross-subsidization policy. (Attachment #1)
- In October of 2003, the Board received information from staff regarding a variety of ratemaking ideas, including low income/senior citizen rates. The staff report and minutes are Attachment #2.
- In 2003 the Board appointed a Rate-Making Review Committee. This committee met a number of times, producing a final report and recommendations. Information about the formation of the committee and the final report are Attachment #3. In particular, they discussed the avoidance of cross-subsidization, as well a potential discount for low-income customers.
- In September of 2007, the Standing Advisory Committee reviewed several requests for specialized rates and recommended the Board continue with its non-cross-subsidization policy, including "refraining from providing rate reductions or exemptions to selected customers." See Attachment #4.

- In January of 2012, the Board again heard information regarding the possibility of special rates for low income or senior customers at the request of one of the Board members. Two months later additional information was presented to the Board as a result of this agenda item. This is Attachment #5.

In addition to these Board presentations and actions, a number of years ago the Board was sent a legal memorandum regarding this issue. Legal Counsel Michael Pagni recently updated this memo. See Attachment #6. In summary, it indicates there are legal concerns with providing any group of customers special rates or discounts. Because TMWA's purpose is limited and specific to the management and delivery of water, it is not like other government agencies and does not have a legitimate governmental interest in promoting affordable housing or alleviating the financial burden of providing water service to customers based on income, age, veteran status, or other specification.

CURRENT SITUATION

If the Board desires to proceed with some type of low-income or senior citizen discount or rate, the impact to revenues of this change would need to be considered via a budget augmentation. In fiscal year 2016, TMWA already has significant impacts to its budget and cash reserves. These include:

- An estimated \$2.5 million loss in water sales revenue due to drought-related water conservation.
- An additional estimated \$0.5 million loss in water sales revenue due to the switching of flat-rate customers to the metered rate. This estimate may be revised upward because of the timing of the conversion.
- \$21.8 million in capital expenditures due to drought-related construction of which \$15.0 million will be funded with a state revolving fund loan.

In addition, staff estimates revenues remain approximately \$4 million short of meeting the revenue requirement in order to meet all annual cash requirements for operations, indebtedness, repair and replacement and other capital projects.

As indicated in many of the attached reports, staff remains concerned about cross-subsidization between any customer groups, as well as which customer groups could / would be chosen to receive a subsidy. Another very large concern is the administration of this type of program, which would also need to be included in a budget augmentation. These budget augmentations would then need to be rolled in to a rate increase for all customers, in order for TMWA to receive the revenue to offset any discount(s) for specified customer group(s) further exacerbating the cross-subsidization problem.

If the Board desires to proceed with some type of low-income or senior citizen discount or rate, there is approximately a six-month calendar to do so. This is the public process calendar followed in all TMWA rate proceedings. It is necessary in order to provide all customers an opportunity to comment on the rate changes – both the increase necessary to fund low-income / senior citizen rates, as well as the discounted low-income / senior citizen rates, themselves.



STAFF REPORT

TO: Chairman and Board Members
FROM: Malyn Malquist, General Manager
DATE: September 26, 2001
SUBJECT: FINANCIAL GUIDELINES

The attached Financial Guidelines document is presented to the Chairman and Board Members for consideration and adoption. The Financial Guidelines has two sections; the first is to reaffirm the operational cash reserves required by the documents governing the 2001 Series A and 2001 Series B Bonds. The second section establishes a policy that considers, in general terms, equitable water rate structures and the mitigation of cross subsidization between different customer classes.

jl

**TRUCKEE MEADOWS WATER AUTHORITY
FINANCIAL GUIDELINES**

Policies that Guide the Establishment of Reserves and Cost Recovery of TMWA

1. The ultimate goal of water rates, associated fees, and other charges is to provide sufficient cash flow to (1) meet the cash operating expenses of Truckee Meadows Water Authority (TMWA), (2) provide for maintenance of certain reserve and fund balances, (3) satisfy debt service payment requirements and associated financial covenants, and (4) fund a portion of new capital for new capacity and existing capacity. All recommendations are consistent with the Flow of Funds section of the legal documents governing the 2001 Series A and 2001 Series B Bonds.
 - A. Operating revenues shall be sufficient to cover the expenses of TMWA including, but not limited to, payroll and operating and maintenance expenses. Revenues should be sufficient to meet scheduled and unscheduled repair and replacement demands (funded depreciation and emergency repairs). Funds for depreciation will be available by maintaining adequate and reasonable reserve funds to maintain stability and flexibility to the utility's financial position. A sixty-day working capital reserve of approximately \$4,600,000 for cash operating and maintenance expenses should be maintained to mitigate seasonal revenue and expense fluctuations. Additional amounts, if any, required to fund the working capital reserve shall be included in the annual budget.
 - B. An emergency repair and replacement reserve should be established to finance the cost of unscheduled repairs and/or major replacements. The minimum target emergency reserve should be \$10,000,000 in accordance with the Authority's bond documents and is consistent with American Water Works Association's guidelines. Additional amounts, if any, required to fund the emergency reserve shall be included in the annual budget. The annual review ensures that the reserve level keeps pace with inflation, and is adequate in light of the Authority's capital improvements program and the condition of its water system. This reserve allows for the funding of major replacement projects without necessarily relying on debt financing.
 - C. The TMWA shall maintain a debt coverage ratio **consistent with bond covenants**. The actual debt service coverage level should not fall below the minimum level required by bond financing documents. All revenues and fees shall be sufficient to meet operating and maintenance expenses in addition to each year's principal and interest payments on outstanding debt, pay-as-you-go capital requirements, and necessary reserve deposit and replenishments. Revenues need to be forecasted based on the most reliable information available and adjusted based upon collection experience.
2. In light of the aforementioned financial reserve requirements, attention must be directed to the recovery of the cost of service. In any equitable water rate structure, consideration must be given to cross-subsidization between customer groups, between customer classes and within customer classes. Any cross subsidization between customer groups, between customer classes and within customer classes should be mitigated as much as possible. Price signals should be developed to address consumption that may stress design criteria of the water system or cause the need for peak production facilities. Also, attention should be directed to address consumption that exceeds water right dedications for a particular service connection.

EXHIBIT A

- A. One example of cross-subsidization between major customer groups is existing customers subsidizing construction of new facilities to serve new development. This subsidization shifts the financial responsibility of construction of new capacity to existing customers, in effect allowing the last customers to connect on the water system at the expense of all prior existing customers. To the extent practicable, new development should fund the capital costs required to accommodate growth, including the possible reimbursement of funding advances made by existing customers.
 - B. Cross-subsidization between customer classes means that certain customer classes subsidize other customer classes. Specifically, residential customers are not allowed to subsidize commercial customers and other major consumers of water. Additionally, metered customers do not subsidize flat rate customers or vice-versa. A well-designed rate structure will allocate the cost of service among these major customer classes of customers based upon a rational and defensible methodology.
 - C. Of particular importance is cross-subsidization within a customer class. A water rate structure should be designed so that the “lifeline customer” does not subsidize the water user that puts a greater demand on the water system. A “lifeline customer” is defined as that customer that uses water only to meet indoor purposes. This class of customer is generally the multi-tenant dweller or ~~individuals~~ ~~individuals~~ with a lifestyle that puts the least per-connection impact on the water system throughout the year. This class of customer is also typical of individuals of less economic means.
 - D. In a well-designed water rate structure, price signals are developed to address consumption patterns that exceed the design criteria of the water system, cause the need for peak production facilities, and/or exceed the total annual water duty allowed through water right dedications. These consumption patterns are indicative of wasteful water use such as not repairing leaks controllable by the customer or wasteful irrigation practices. These price signals are established in such a way to respect lifestyle requirements consistent with water right dedications but also addresses efficient use of the water system.
3. At least annually, the Authority shall conduct a rate review and adjust rates and charges as required to meet all of its financial obligations, whether established by governing bond documents or Authority policy.

September 26, 2001

TRUCKEE MEADOWS WATER AUTHORITY
(TMWA)

RESOLUTION NO. 19

INTRODUCED BY: Malyn Malquist, General Manager

A RESOLUTION ADOPTING A FINANCIAL GUIDELINES POLICY

WHEREAS, the Truckee Meadows Water Authority will be establishing operational cash reserves in accordance with the documents governing the 2001 Series A and 2001 Series B Bonds and the funding of such cash reserves must be taken into consideration in future water rate cost recovery studies;

WHEREAS, the Truckee Meadows Water Authority is required by the documents governing the 2001 Series A and the 2001 Series B Bonds to establish the operational cash reserves; and

WHEREAS, the Truckee Meadows Water Authority desires to establish a policy that considers equitable water rate structures and the mitigation of cross subsidization between different customer classes;

WHEREAS, the Board has determined that the Financial Guidelines Policy attached hereto as Exhibit A appropriately accomplishes these objectives;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of TMWA that the Financial Guidelines Policy attached hereto as Exhibit A is adopted.

Upon motion of Alternate Member Rigdon, seconded by Alternate Member Doyle, the foregoing Resolution was passed and adopted this 26th day of September, 2001, by the following vote of the Board:

Ayes: Armstrong, Carrigan, Sferrazza-Hogan, Shaw, Doyle, and Rigdon

Nays: None

Abstain: None Absent: None

Approved this 26th day of September, 2001


Chairman

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

On this 17th day of October, 2001, personally appeared before me, a Notary Public in and for said County and State, TONY ARMSTRONG, Chairman of the Truckee Meadows Water Authority, known to me to be the Chairman, who acknowledged to me that he executed the above instrument freely and voluntarily and for the purposes therein mentioned.



Jackie Lewis
Notary Public

**TRUCKEE MEADOWS WATER AUTHORITY
FINANCIAL GUIDELINES**

Policies that Guide the Establishment of Reserves and Cost Recovery of TMWA

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 - A. Operating revenues shall be sufficient to cover the expenses of TMWA including, but not limited to, payroll and operating and maintenance expenses. Revenues should be sufficient to meet scheduled and unscheduled repair and replacement demands (funded depreciation and emergency repairs). Funds for depreciation will be available by maintaining adequate and reasonable reserve funds to maintain stability and flexibility to the utility's financial position. A sixty-day working capital reserve of approximately \$4,600,000 for cash operating and maintenance expenses should be maintained to mitigate seasonal revenue and expense fluctuations. Additional amounts, if any, required to fund the working capital reserve shall be included in the annual budget.
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2. In light of the aforementioned financial reserve requirements, attention must be directed to the recovery of the cost of service. In any equitable water rate structure, consideration must be given to cross-subsidization between customer groups, between customer classes and within customer classes. Any cross subsidization between customer groups, between customer classes and within customer classes should be mitigated as much as possible. Price signals should be developed to address consumption that may stress design criteria of the water system or cause the need for peak production facilities. Also, attention should be directed to address consumption that exceeds water right dedications for a particular service connection.

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 - D. In a well-designed water rate structure, price signals are developed to address consumption patterns that exceed the design criteria of the water system, cause the need for peak production facilities, and/or exceed the total annual water duty allowed through water right dedications. These consumption patterns are indicative of wasteful water use such as not repairing leaks controllable by the customer or wasteful irrigation practices. These price signals are established in such a way to respect lifestyle requirements consistent with water right dedications but also addresses efficient use of the water system.
3. At least annually, the Authority shall conduct a rate review and adjust rates and charges as required to meet all of its financial obligations, whether established by governing bond documents or Authority policy.

**TRUCKEE MEADOWS WATER AUTHORITY
MEETING MINUTES
OF THE BOARD OF DIRECTORS
September 26, 2001
9:00 a.m.**

The Board of Directors met in the Sparks City Council Chambers, 745 Fourth Street, Sparks, Nevada. Chairman Armstrong called the meeting to order at 9:00 a.m.

#1 ROLL CALL

Sherrie Doyle, Alternate, for Dave Aiazzi; David Rigdon, Alternate, for Jeff Griffin; Tony Armstrong, Chairman; Jessica Sferrazza-Hogan*; Mike Carrigan; and Jim Shaw.

#11 RESOLUTION NO. 19 – A RESOLUTION ADOPTING A FINANCIAL GUIDELINES POLICY

Mr. Malquist introduced Jeff Tissier, Administrative Services Principal, to brief the Board on the policy. Mr. Tissier noted that Legal Counsel Sylvia Harrison and a financial advisor who was the financial advisor to the acquisition have reviewed the policy. He distributed a document to the Board that outlines the flow of funds.

Chairman Armstrong expressed concern about rates being raised just so that TMWA can remain "fat." He also wanted to know how soon the financial statements would be ready. Mr. Tissier indicated that TMWA is in the process of preparing a very detailed budget that should be available in approximately 45 days. The Board will be provided a copy when it is ready.

Member Carrigan wanted to know what is going to be done with excess revenue. Mr. Tissier noted that decisions would come out of the budget and the Five Year Plan. Chairman Armstrong stated that if TMWA makes money, it would be possible to keep the rates the same, or even reduce them, in the future.

Alternate Member Rigdon wanted to know if TWMA has anything in the works in regards to giving seniors a rebate on water rates to reflect lower usage. Mr. Tissier stated that he is not aware of anything being done in that area. Mr. Malquist noted that TMWA would look into anything the Board would like them to. A commitment has been made to keep rates frozen for two years, or perhaps even more, and staff has been working in that direction.

Alternate Members Rigdon and Doyle and Member Sferrazza-Hogan wanted to note their support for incentives for senior housing.

On motion by Alternate Member Rigdon, second by Alternate Member Doyle, which motion duly carried by unanimous vote, the Board approved Resolution No. 19 – A Resolution Adopting a Financial Guidelines Policy, and authorized the Chairman to sign.



STAFF REPORT

TO: Chairman and Board Members
FROM: Kim Mazeres, Director, Customer Relations
 John Erwin, Manager, Water Resources
DATE: October 22, 2003
SUBJECT: RATE-MAKING REVIEW COMMITTEE

RECOMMENDATION

Staff recommends that the Board approve the proposed make-up of the Rate-Making Review Committee (RMRC) including acceptance of the already seated members, direct staff to begin the selection process for the vacant committee participants, and approve the committee's deliverables. Upon receipt of applications from potential committee members, staff would seek Board appointment of the members of the RMRC at the December Board meeting.

BACKGROUND

At the September 2003 Board meeting, staff was directed to form a committee subject to the Board's approval representing customers, including a representative from Washoe County Water Resources and from Sun Valley GID, and with the possibility of including an independent expert in water rate modeling subject to the condition that the costs and expenses of such expert shall not be borne by TMWA. The committee would be directed to examine issues with respect to cost classifications, cost of service allocation methods, and rate designs for water utilities including TMWA's rate model, and report to the Board. The intent is for the Committee to provide an additional perspective regarding staff's rate model.

Staff recommends utilizing customers previously involved in the Rate Review Customer Outreach Group if they are interested in participating. This group met several times earlier this year with the stated goals of helping identify customer issues related to rates and formulating appropriate responses to those issues. This group has already spent many hours educating themselves on the rate-making process, and the complexities of the TMWA water rates. This group includes the following individuals:

Sandy Bengtson, residential flat-rate customer
 Ed Pace, residential flat-rate customer
 Lou Rossi, residential flat-rate customer
 Neil McGuire, owner of Irish Green Lawns and residential metered customer (converted 9/5/03 from a flat rate)
 Lillian Baca-James, residential metered customer
 Brian Bass, residential metered customer

RATE-MAKING REVIEW COMMITTEE

October 22, 2003

Page 2

Michael Drinkwater, residential metered customer
Dave Grebner, residential metered customer
Gerri McCaroll, residential metered customer
Diana Langs, Sun Valley General Improvement District

In addition, the following representatives would need to be added in order to have representation from all customer groups:

- 1 representative from Washoe County Water Resources
- 1 medium commercial water customer (could be a Chamber of Commerce representative)
- 1 large commercial water customer (could be a Chamber of Commerce representative)
- 1 flat-rate multi-tenant water customer
- 1 metered multi-tenant water customer

Staff will solicit for vacant membership participants during the month of November, bringing the potential candidates for the RMRC to the Board for selection at the December 10 Board meeting.

Staff recommends the Board adopt the following deliverables for the RMRC:

- 1) Determine if a rate-making expert is to be hired, determine funding of the expenses for this person, and select the expert by February 1, 2004.
- 2) RMRC to complete its review of rate methodologies (including TMWA's), class cost of service allocations, and other issues complete with any expert analysis/comments by May 1, 2004.
- 3) Report on the results of the above analysis to the Board at the May or June 2004 Board meeting.
- 4) RMRC will name one representative to report to the Board on the committee's progress on a monthly basis at the TMWA Board meeting.

Rate Making Review Committee

1. Sandy Bengtson, residential flat-rate customer
2. Ed Pace, residential flat-rate customer
3. Lou Rossi, residential flat-rate customer
4. Neil Grad, residential flat-rate customer
5. Neil McGuire, owner of Irish Green Lawns and residential metered customer
6. Lillian Baca-James, residential metered customer
7. Michael Drinkwater, residential metered customer
8. Fred Schmidt representing Sun Valley General Improvement District, large wholesale customer (**VICE CHAIRMAN**)
9. Ted Rolfs representing Washoe County Department of Water Resources, large wholesale customer (**RECORDER**)
10. Mike Trudell representing Caughlin Ranch Homeowners Association, large irrigation customer (**RECORDER**)
11. Greg Vorreyer representing the Reno Hilton, large commercial customer
12. Rob Reeder representing Saint Mary's Regional Medical Center, large commercial customer (**CHAIRMAN**)
13. David Monroe representing Harrah's Reno, large commercial customer
14. Larry Balsley representing Smithridge Homeowners Association, flat-rate multi-tenant customer

**TRUCKEE MEADOWS WATER AUTHORITY
MEETING MINUTES
OF THE STRATEGIC PLANNING SESSION
October 29, 2003
9:00 a.m.**

The Board of Directors met at the Sky Tavern Lodge, Mt. Rose Highway, Reno, Nevada. Chairman Armstrong called the meeting to order at 9:30 a.m.

#1 ROLL CALL

Members present: Tony Armstrong, Chairman*; David Aiazzi*; Mike Carrigan; Carlo Panicari; Bob Cashell*; and Pete Sferrazza*.

#14 DISCUSSION/ACTION ON THE FORMATION OF A RATE-MAKING REVIEW COMMITTEE, MEMBERSHIP MAKE-UP, SELECTION, FUNDING, AND WORK PRODUCT

Ms. Mazeres briefed the Board on the formation of a rate-making review committee pursuant to Board direction at the September 17, 2003, Board meeting. The committee would be directed to examine issues with respect to cost classifications, cost of service allocation methods, and rate designs for water utilities including TMWA's rate model, and report to the Board. The intent is for the committee to provide an additional perspective regarding staff's rate model.

Staff recommends utilizing customers previously involved in the Rate Review Customer Outreach Group if they are interested in participating. In addition, the following representatives would need to be added in order to have representation from all customer groups:

- 1 representative from Washoe County Water Resources
- 1 medium commercial water customer (could be a Chamber of Commerce representative)
- 1 large commercial water customer (could be a Chamber of Commerce representative)
- 1 flat-rate multi-tenant water customer
- 1 metered multi-tenant water customer

Staff will solicit for vacant membership participants during the month of November, bringing the potential candidates to the Board for selection at the December 10 Board meeting.

Ms. Williams noted that a proposal was made at the September Board meeting to hire a rate consultant and the Board made it very clear that TMWA would not pay for the consultant. Staff is recommending that the committee determine if a rate-making consultant is to be hired, determine funding of the expenses for this person, and make the selection. The committee would have a timeline to follow and report back to the Board by June or July of next year.

Member Carrigan asked if a written report could be submitted at each Board meeting on the committee's progress instead of having a representative present, and Chairman Armstrong

suggested that the committee have an odd number of members instead of an even number. Ms. Mazeres responded that both suggestions would be accommodated.

Diana Langs, Sun Valley General Improvement District, asked the Board to consider Fred Schmidt as their representative on the committee. Member Carrigan asked her if her Board wanted an elected representative on the committee. Ms. Langs will take that suggestion back to her Board, but that they had directed her to appoint Fred Schmidt at their last meeting. Member Aiazzi indicated that he would prefer an elected representative on the committee for Sun Valley General Improvement District.

On motion by Member Cashell, second by Member Panicari, which motion duly carried by unanimous vote, the Board approved staff's recommendations to form a rate-making committee. In addition, the committee will be comprised of an odd number of members and a written report on the committee's progress will be submitted at each Board meeting.

#15 DISCUSSION AND DIRECTION TO STAFF ON THE FOLLOWING ITEMS RELATED TO RATEMAKING: SENIOR AND LOW INCOME RATES, SPECIAL RATES FOR PARKS, BUDGET BILLING, AND CREDIT FOR CUSTOMERS WHO USE ELECTRONIC FUND TRANSFER AS MEANS OF PAYMENT

Kim Mazeres and John Erwin began the discussion on rate-making issues such as special irrigation rates for parks, low income/senior citizen rates, budget billing, and a RapidPay program credit as suggested by the Board at their September 17 Board meeting.

Staff recommends against the development of special rate schedules for parks and low income/senior citizens, as it would create cross-subsidization between customer classes. TMWA currently offers budget billing under its Equal Payment Program to residential metered customers. This plan is available to any residential metered customer who inquires about it and asks to be placed on the plan. Staff is currently working with ORCOM's systems analysts to determine the expense of automating the adjustment of a customer's account who pays via RapidPay. Staff will provide the Board with the cost of crediting RapidPay customers as a reward for using this payment method as soon as the information becomes available. However, these costs – both implementation and the credit – would need to be absorbed through the customer charge that all customers pay every month.

On motion by Member Sferrazza, second by Member Aiazzi, which motion duly carried by unanimous vote, the Board accepted staff's recommendations and directed staff to consider alternatives to crediting RapidPay customers – \$.21 per bill or a one time payment for switching over – and bring the issue back to the Board explaining the benefits of each.

The Board confirmed that staff was not to pursue the other rate items discussed.



STAFF REPORT

TO: Chairman and Board Members
FROM: Kim Mazeres, Director, Customer Relations
John Erwin, Manager, Water Resources
DATE: October 22, 2003
SUBJECT: RATEMAKING IDEAS

At the September 17 Board meeting during the discussion on TMWA rates, Board members asked for the following topics to be considered by TMWA staff: park rates, low income/senior citizen rates, budget billing, and a credit for customers who use our RapidPay program (electronic funds transfer) to pay their bills. Discussion on each of these ideas follows below.

Park Rates

Outside irrigation is the reason that drives TMWA's production costs and its water rates. The ratio of residential summer use to winter use is approximately 4:1. Irrigation customers' water use is also highest during the summer. The development of any water rate charges by TMWA should reflect the cost to deliver the requested service, in this case irrigation service. As a result of such a large investment in production facilities to meet the combined summer peak water use of all its customers, all usage for irrigation is charged at the highest rates.

If a rate were adopted that allows any irrigation customer, including city parks, to pay a lower rate for their water use than indicated for the cost of such service, the costs would have to be borne by other customers. The resulting inequity runs counter to the Board's non-cross-subsidization policy adopted by the Board in September 2002. Staff would recommend against the development of rate schedules like this that create cross-subsidization between customer classes.

In 2002, the Board modified its Rate Schedules that expanded the use of non-potable water for irrigation purposes. Where appropriate, staff has aggressively pursued the use of non-potable water at city parks and schools such as the projects currently underway at Idlewild Park and Reno High School. The rate for non-potable water is \$.86 per thousand gallons as compared to \$2.90 per thousand gallons for treated water. There are still several sites that are being investigated that will achieve the Board's goal under this directive without creating potential cross-subsidization issues.

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Staff will continue to work with eligible customers on an individual basis to assist where possible in implementing non-potable solutions.

Low Income/Senior Citizen Rates

Similar to the park rate issue, creating special rates for low income/seniors transfer costs from one group of customers to another. If TMWA were to adopt lower rates for this type of customer, the additional costs to serve these customers would have to be borne by other customers – another case of cross-subsidization. In addition, additional administrative resources would be needed to determine whether or not a customer was qualified to receive this rate. Staff would recommend against the pursuit of rate structures that would have one group of customers bearing the cost for another group.

In the alternative, staff will (1) continue to work with customers on an individual basis to assist where possible with efficient use of water and to identify leaks and waste, and (2) propose working with other agencies such as the Regional Water Planning Commission to utilize the Regional Water Management Fee to assist low income and/or senior citizens to reduce their water usage by replacing leaking yard lines, repairing leaking fixtures, and even replacing landscaping. This reduced usage would, in turn, reduce their water bills for customers on meters or who chose to move to meters and pay for only their actual use.

Budget Billing

TMWA currently offers a budget billing under its Equal Payment Program to our residential metered customers set forth in its Rule 4.D. This plan is available to any residential metered customer who inquires about it and asks to be placed on the plan. The plan provides for twelve (12) equal payments of the customer's estimated annual water bill based upon their prior twelve (12) month's usage. There are 96 customers who are currently on budget billing. Although the participation in the plan is small and provides level billing for the customer and a level revenue stream for TMWA, there is the potential that a large level of participation could have negative impacts for TMWA. Budget billing, just like any flat-rate billing system, tends to make customers non-attentive to their *actual* water bill and therefore their water use, and therefore they do not receive the price signal that tells them they are using too much water, including over watering, possible leaks, etc. The result is the less attention a customer pays to their water bill/use the more likely water use will increase and costs will go up. Also, every 12 months when the bill is "trued-up," a customer can be very surprised at the amount they *actually* owe TMWA.

RapidPay

There are currently 4,233 customers who pay their water bill via electronic funds transfer. These customers save TMWA time and money. Customers who pay via check cost \$.21 to process. Approximately 60,000 customers a month pay via check. Customers who choose to come into TMWA's office to pay (in many cases those choosing to pay in cash and usually in danger of being disconnected for non-payment) cost, at a minimum, \$1.00 per transaction. About 6,000

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customers choose to pay at TMWA's office every month. All of these costs are currently rolled into the customer charge that each customer receives in their monthly bill. With the upcoming third-party payment agent (i.e., grocery store) program, the customer will bear a \$.75 Western Union service charge for the convenience of paying at the store. Staff is currently negotiating with credit card vendors to be able to offer a similar service to customers wishing to pay their water bills via credit card. Those customers will bear the merchant fee cost – likely to be in the neighborhood of \$4 - \$5 per transaction. The customer is asked to bear these costs so they are not subsidized by customers who choose to pay in less expensive ways.

Staff is currently working with ORCOM's systems analysts to determine the expense of automating the adjustment of a customer's account who pays via RapidPay. As soon as we have this information, we can provide the Board with the cost of crediting RapidPay customers as a reward for using this payment method. However, these costs – both implementation and the credit – would need to be absorbed through the customer charge that *all* customers pay every month.

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**TRUCKEE MEADOWS WATER AUTHORITY
MEETING MINUTES
OF THE STRATEGIC PLANNING SESSION
October 29, 2003
9:00 a.m.**

The Board of Directors met at the Sky Tavern Lodge, Mt. Rose Highway, Reno, Nevada. Chairman Armstrong called the meeting to order at 9:30 a.m.

#1 ROLL CALL

Members present: Tony Armstrong, Chairman*; David Aiazzi*; Mike Carrigan; Carlo Panicari; Bob Cashell*; and Pete Sferrazza*.

#15 DISCUSSION AND DIRECTION TO STAFF ON THE FOLLOWING ITEMS RELATED TO RATEMAKING: SENIOR AND LOW INCOME RATES, SPECIAL RATES FOR PARKS, BUDGET BILLING, AND CREDIT FOR CUSTOMERS WHO USE ELECTRONIC FUND TRANSFER AS MEANS OF PAYMENT

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FINAL REPORT AND RECOMMENDATIONS

Prepared by

TMWA RATE-MAKING REVIEW COMMITTEE

May 20, 2004

ACKNOWLEDGEMENTS

We would like to take this opportunity to thank the Truckee Meadows Water Authority for accommodating the needs of this committee by providing us meeting space; support services; an inordinate amount of background information, staff reports, and statistical information; as well as the professional staff time to present this committee with a complete overview of the financial requirements of the utility and the rate making methodology employed to recover the costs of providing those services. We especially wish to recognize Mr. Jeff Tissier for his financial presentations, Mr. John Erwin for his review and discussions of the rate model, Ms. Kim Mazeres and Marlene Olsen of Olsen & Associates for detailing TMWA's public relations efforts, and, most importantly, Ms. Catherine Hansford as TMWA's liaison to the committee. Her tremendous support!and professional conduct made our task a more pleasant experience.

INTRODUCTION

The Truckee Meadows Water Authority (“TMWA”) Rate-Making Review Committee (the “Committee”) (see attached list for Committee members) was formed at the direction of the TMWA Board (“Board”) via Resolution Number 51 at the September 2003 Board meeting. The final selection of members to sit on that committee was formalized at the December 2003 Board meeting and consisted of seventeen members representing nearly all of the customer classes served. Applicants were notified of their selection to the committee and the first meeting was held on January 8, 2004. The committee was directed to examine issues with respect to cost classifications, cost of service allocation methods, and rate designs for water utilities including TMWA’s rate model and report!to the Board. The Board’s intent was to have the committee provide an additional perspective regarding TMWA’s rate structure. Over a period of five months, thirteen meetings, lasting several hours each, were held by the Committee to consider the various aspects of the TMWA rate study. In addition, a utility rate expert was hired by several members (funded by wholesale customers and the Reno-Sparks Chamber of Commerce) to add an outside perspective of what the strengths and weaknesses of the TMWA rate model may be. Although there were times when one may have felt that it was a long and arduous journey, there was always a quorum of the members present to continue on with their appointed duty. The fundamental question always asked concerning any issue was: “Is it fair and does it provide equity among consumers?” It is important to recognize that this feature of group dynamics continuously existed with this committee despite the diverse makeup of its members. In the end, all members were heard, each member was afforded the opportunity to make recommendations, all recommendations were discussed, consolidated, edited and then voted on. The attached recommendations in this report were supported by a consensus or majority vote of Committee members.

COMMITTEE FINDINGS AND RECOMMENDATIONS

The consensus of opinion of this Committee is that certain deficiencies exist in the rate study performed by TMWA staff. While in total the deficiencies may not be fatal to the study's overall relevance, they do affect the cost allocation basis and the resulting rate design. In addition, there are policies and public relations issues that the Committee believes should be addressed in future studies. In short, there are improvements that the Committee believes would add to development of a more fair and equitable distribution of TMWA's cost of providing water service. The following recommendations represent the Committee's effort to consolidate or narrow the many individual suggestions made by Committee members and it is important to take into account the discussion of those items to better understand each recommendation. The Committee offers the following specific recommendations for your consideration:

1. Future cost-of-service studies should include an analysis of the cost of providing private and public fire protection services in accordance with AWWA guidelines and the Uniform Fire Code and determine an appropriate method for recovering those costs.
2. TMWA should form an advisory committee made up of professionals, development community representatives and citizens to advise the Board on rate-making and rate-design issues as those issues arise.
3. Every effort should be made to defer or avoid unnecessary costs associated with anticipated compliance to new arsenic rules.
4. The TMWA Board should adopt a policy that "Growth pays for growth" and to the extent practical, the costs for growth would include, but not be limited to the following:
 - a. The cost of additional drought reserves.
 - b. Water plan development costs.
 - c. Facility planning costs.
 - d. Costs associated with the acquisition and resale of water rights to the development community.
 - e. Inspection and development review costs.
 - f. The incremental costs associated with adding supply, treatment, storage, pumping, transmission and distribution capacity.

- g. The carrying costs associated with intra fund loans necessary to cover the costs of adding capacity.
 - h. The economically justified portion of the cost of plant in service as well as a proportionate share of past debt service for excess capacity paid by existing customers.
5. The following procedures should be adopted when considering growth and development issues over time:
- a. All revenues and expenses associated with new development should be accounted for separately so that the Board can be assured that those charges and fees are recovering the cost of providing those services.
 - b. A new cost-of-service study should be performed every two years based on the most recent year's audited data.
 - c. Rates should be designed to reflect future capital costs and operating expenses as well as the growth in customers and revenues over the same forecasted period.
6. The rate model employed by TMWA should reflect a system designed to meet max-day demand or peak hour demand plus fire flow, whichever is greater, so that rates may be designed to more closely match the demands placed on the system by each customer class. As a means of improving the data on which this modeling is based, we further recommend that non-billing meters be installed on all customers as soon as feasible without mandated conversion to a metered rate.
7. TMWA should continue to pursue an efficient repair and replacement program to ensure a functioning system under the premise that scheduled repairs are always cheaper than emergency repairs. In addition, the cash collected from customers for that purpose should be accounted for separately and be held in a separate restricted cash account for that purpose.
8. Except for fire protection services, hydrant testing, general maintenance or extenuating circumstances, the withdrawal of water from fire hydrants should otherwise be prohibited uniformly throughout the TMWA service territory. If a local government wishes to allow such withdrawal, then such withdrawal should be metered and require an appropriate backflow device to protect the integrity of the water system. In addition, the entity making such withdrawal should be charged the cost of providing such service.

9. Future rate designs for TMWA should follow the principles outlined in the AWWA Rate Manual by employing the base-extra capacity methodology and distinguishing between transmission and distribution costs allocated to customer classes. If the use of the commodity-demand methodology is continued, then the current rate design should be corrected so that 25% of demand costs are not allocated to commodity.
10. The Board should adopt a policy that the issuance of any future debt related to system expansion should not result in an increase in rates on existing customers. Additionally, rates should be designed to as closely as possible match the useful life of the assets or cost expenditures. When possible, current ratepayers who actually receive service from those assets or cost expenditures should pay proportionally for the benefit they receive from those assets.
11. The allocation of costs to all customers should be based on their fair share of the costs relating to supply, treatment, inter-service area transmission, and customer service. Costs associated with storage and fire protection services should be excluded from the cost allocation of wholesale customers where such customers have their own such facilities. Customers in other classes should receive credits against their cost allocation of storage and fire protection costs if such customers provide their own storage and fire protection.
12. Phase II and Phase III rate increases should be deferred at least until 2005/06 as it does not appear they can currently be justified.
13. Staff should be encouraged to:
 - a. Stabilize rates over time by exploring alternative financing approaches to the investor-owned utility model's use of depreciation expense;
 - b. Specifically identify efforts to control or reduce spending and improve operating efficiencies;
 - c. Implement separate cash accounting for facility charges relative to unrestricted cash balances.
14. Water rates should be set to reflect as accurately as possible the actual cost of service. Any proposed change to those rates to provide a social benefit to a particular customer class or group of customers at the expense of other rate-payers should be disclosed and justified prior to implementation. The fiscal impact of any reductions to the actual cost of service as a result of changes to rates for social benefit should be equally shared among

all remaining rate-payers. A discount of the customer service charge should be available to all persons who qualify through the Senior Citizen Center or the Washoe County Department of Social Services.

15. TMWA staff should be encouraged to enforce water-wasting regulations aggressively and fairly.
16. TMWA should continue to effectively communicate with and educate the public by:
 - a. Explaining major expenses and the reason for those expenses;
 - b. Providing information on the amount of water consumed per square foot of landscape;
 - c. Holding public meetings seeking input at least quarterly;
 - d. Establishing follow-up policies for addressing issues presented at the public meetings;
 - e. Publishing to the public the capital requirements and projected growth for the next ten years.
17. An Ombudsman position should be established to represent customers and address complaints and concerns raised by customers.

We hope the Board considers and accepts these recommendations in the light in which they were intended. Our purpose was not to denigrate or belittle the tremendous efforts put forth by staff, but to offer suggestions of ways to improve the quality of the end product. We also want to recognize our fellow committee members and their employers for allowing them to participate in this review process. All of our meetings were held during normal business hours which meant that they had to take time away from their usual work schedule to partake in this vital process.

DISCUSSION OF RECOMMENDATIONS

1. Public and Private Fire Protection. Determining the allocation of costs relating to fire protection services is probably the most subjective process performed in cost-of-service studies. A great deal of the difficulty arises out of the fact that fire protection services are often viewed as a supplementary service. While a potential demand exists, it is only the incremental cost of providing service that most view as the applicable cost to be applied to rate determination. Studies on the subject have attributed as much as fifty percent of a systems transmission and distribution capacity to that of meeting fire flow requirements. As a percentage of gross revenues the total cost has ranged anywhere from six to thirty percent. The current TMWA model allocated less than one percent of the gross revenue requirement to private fire protection and nothing to public fire protection. The entire public fire protection service cost was embedded in their cost allocations to the various customer classes based on each classes commodity and demand characteristics. According to the AWWA manual titled Managing Water Rates and Finance, “Including public fire protection service in water rates unfairly apportions the cost of this service.” The most obvious misapportionment occurs when you consider that it is included in the irrigation rates for parks or commercial services that have private fire protection. According to the Uniform Fire Code, “A reduction in required fire flow of fifty percent, as approved, is allowed when the building is provided with an automatic sprinkler system.” While the Code recognizes the fact that water used through sprinkler connections can reduce fire demands by faster more efficient extinguishing fires, allocating public fire protection based on the consumption characteristics of each class overstates the real cost associated with buildings equipped with an automatic sprinkler system. In addition, some customers (e.g. Reno Hilton) have installed their own fire fighting storage facilities and as such place less of a potential demand on the TMWA’s storage and distribution system and should be receiving a credit toward their allocated cost.

Another factor that should be taken into account when evaluating the commercial customer’s public fire protection liability is the unique building construction standards of commercial property. The public fire protection demand factor for typical residential

construction is 5.3 times higher than its commercial counterpart of the same size and its commodity requirement is 10.7 times higher. While consumption based charges may be inappropriate, great care should be taken when including public fire protection service costs in the customer's base charge or creating a surcharge to allocate those costs. And finally, they should not be included in wholesale service costs as those entities are required to provide and maintain their own public and private fire protection facilities and infrastructure.

2. Advisory Committee. There is a general concern among committee members that there is insufficient input being solicited from the public and that there is no independent oversight or evaluation of the actions or recommendations that staff is making to the Board. When the utility was privately held, it fell under the purview of the PUC and there was always professional staff looking after the interests of the consumer. While it has been argued that the Board better represents the interests of the consumer, the missing ingredient from our perspective is that independent third party professional with the expertise to truly evaluate the utilities operations.
3. Arsenic Rule Compliance. All avenues to limit the cost associated with arsenic mitigation should be explored and a cost-benefit analysis performed among alternatives. More specifically, is it cheaper to add capacity at Chalk Bluff or treat ten wells? Perhaps certain wells should be abandoned in favor of re-drilling them in a location more favorable to centralized treatment or blending with Chalk Bluff or Glendale Plant water. Furthermore, with the recent addition of capacity at Chalk Bluff there is an opportunity to defer and phase in the cost associated with arsenic mitigation over a longer period thus reducing the impact on rates. These are only a few suggestions that we as lay people thought of and we hope that TMWA staff would be even more creative in seeking economical solutions to this problem.

4. Growth and Development. After reviewing the translation of the budget to the functional revenue requirement, evaluating the Business Service Fee schedule and the Water Facility Charge schedule, it is quite clear that growth and development is not paying their fair share of the cost associated with the impact they impose. With that in mind, the Committee recommends that the Board adopt a policy wherein staff is directed to establish Facility and Business Service Fee schedules that more accurately recover the costs associated with growth. A discussion of the specific concerns follows.
- a. Recently the drought reserve requirement in TMWA's water plan was changed from a ten-year drought design to an eight-year drought design criteria. This was done in part to better match the design with historical data, but more importantly, it created reserves to meet the 2025 build out of the TMWA system, i.e. future growth requirement. Currently there is not a facility fee structure in place to recover the cost of these excess reserves that will be used to meet needs of new customers and are being paid for by current customers.
 - b. The Water Resource and Planning Department of TMWA have spent the last two years and considerable expense developing the Water Plan for the utility. The content of this plan is focused on how the utility will meet the needs of growth out to the year 2025. At the same time, the cost associated with this plan was included in the rate base of current customers. We suggest that a fee be added to either the Business Service Fee schedule or the Facility Charge schedule to cover the cost of updating and maintaining this resource plan.
 - c. While the existing Business Service Fee schedule includes a fee structure for recovering the costs specific to a particular property or subdivision, there is not a fee in place to recover the costs associated with area or basin facility planning or development of the Master Plan for those areas. Presently these planning efforts are being paid from customer rates even though they are specific to growth and development.
 - d. The Water Resource and Planning Department of TMWA administers the purchase and resale of water rights to the development community. At the present time the cost associated with this activity is included in the Supply functional category of the TMWA rate model and any revenues received from this activity

are being credited back in the model based on each customer class's total cost responsibility relative to the total cost being allocated. We believe the revenues and expenses associated with this activity should be excluded from the model and accounted for separately in order that a true matching of the effort!required, the carrying cost of those water rights and their original purchase price can more realistically be reflected in the resale price of those rights by those who obtain the rights. This would minimize the potential for cross subsidization occurring in this program.

- e. There is little dispute that inspection and development specific review charges are solely the responsibility of growth. Our concern is how those fees are determined (a flat fee structure) and what costs were included in the development of those fees. Were vehicle expenses included? Was an appropriate allocation of administrative and general overhead expense included? Were outside testing services included? Does the flat fee structure adequately cover the real cost of providing those services?
- f. In its simplest form the incremental cost of adding capacity is the dollar cost of new infrastructure required to serve a new property or subdivision. In its more complex form it is the allocation of the cost associated with the addition of new infrastructure, the upgrade of existing infrastructure and the cost associated with the premature abandonment or replacement of infrastructure before the end of its useful life. As a practical matter, it is rare that a new transmission or distribution line or pump station or treatment plant is added or upgraded to meet only the needs of one property owner. The facilities are usually oversized to meet the needs of future development and as such the lump sum incremental cost should be broken down into smaller units. At the same time, one must recognized two other aspects of the cost allocation. The first consideration is that a particular line or pump station was adequate to serve existing customers and still had a use somewhere into the future. The second consideration is that while that asset may have had many years of service life remaining, the reconditioning and upgrading of a facility results in a useful life far beyond that which it replaced. The goal should be to place new and existing customers on the same footing. With that in mind, it seems

only appropriate existing customer pay their fair share of the cost of capacity that relates to them less the book value of the asset that was replaced. Likewise, the developer or the new customer should pay their fair share of new asset plus the book value of the asset they caused to be replaced or upgraded. In this manner both parties pay in relation to the actual benefit they receive and neither party is granted an advantage over the other. In short, both existing customers and development pays their fair share and not more than their fair share.

- g. To the extent that any money is advanced from rate-payer revenues to support either the construction of or payment of debt relating to the addition of new capacity to support growth, those loans should be interest bearing and included in the development of future facility charges.
 - h. We have heard the continued argument from staff that no excess capacity exists in the system that was acquired from Sierra and as such the buy-in aspect of a facility charge is also nonexistent. It is our feeling that quite the contrary is true and the simplest example provides the proof thereof. If in fact no excess capacity existed in the system, then every new home or subdivision would require a new treatment plant or well, new transmission lines from the parcel being served all the way back to the supply and treatment source, additional upstream storage, multiple pump stations to move the water to the new service, and the like. Clearly this is not the case. The Facility Charge for new development should include a buy-in component for existing facilities and that portion of the Facility Charge should be used to offset existing customers' rate requirement. This buy-in component should be limited to the principle and interest costs absorbed by existing customers at the time of connection by the new customer. Having said that, it is our opinion that the real excess capacity of the system is significant and the inclusion of the buy-in component in the Facility Charge would more reasonably distribute the utility's acquisition cost.
5. Modeling the Impacts of Growth. There are three elements to this particular recommendation. The first deals with how developer related revenues and expenses are presented. It is our judgment they should be presented in our discrete presentation so that the Board and the rate-payer are assured that the charges and fees being collected truly

cover the cost of providing that service. At the same time it should be noted that the study and modeling is to determine the cost of providing water service exclusively.

The second element deals with the frequency and the data used to perform each study. While forecasting out five years provides certain management and strategic benefits, we feel it is inappropriate to base rates on estimates that far into the future due to the variability of costs and the uncertainty related to customer growth. At the same time we understand the need to continuously adjust rates to account for these changes. Thus it is our suggestion that a rate study be performed every two years using the audit data of the most recent year. This would minimize any rate adjustment and avoid rate shock. It would also allow time to evaluate any customer reaction or response to the previous rate adjustment.

The final element deals with the basic accounting and forecasting tenet that requires the matching of revenues and expenses, i.e., if you are forecasting expenses five years out in the future then you also include a forecast of the revenues for the same period. That means you include the expected growth in customers and the additional revenues they represent. This aspect of forecasting was not included in the current TMWA rate model. While the argument was made by staff that they expected little or marginal change in the consumption statistics and therefore it had no impact on rates, this only speaks to the variable cost associated with consumption. Other costs such as administrative and general overhead, insurance, public relations, conservation efforts, debt service, etc. are now spread over an additional 10,000 customers and as such the cost per customer is reduced for these components. Therefore we advocate the inclusion of growth projections in all future rate models.

6. Inclusion of System Design in Rate Model. It is our contention that future rate models should take into account the systems design and the unique conditions under which it is operated so that rates are more closely matched to the demand requirements of each customer class. The first consideration is system design, i.e., the system is designed to meet max-day or peak hour plus fire flow and basing the model on max-month may not

truly reflect the demand characteristics imposed by a particular customer class compared to another. The second and more difficult aspect to consider is the unique operating conditions of the system. Currently residential and commercial customers are limited to out-door watering on a two day a week watering schedule and further restricted to certain hours of the day. Some of the questions that need to be answered when addressing the max-day or peak hour modeling are: Which day really represents their peak day? Is it simply the one peak day out of four for residential customers and the one peak day out of two for commercial customers or is it the average? Are there more odd addresses or even addresses? What would the relationship be if the watering schedule was split into thirds and both commercial and residential were placed on that schedule? The point is that by restricting the watering schedules of all customer classes, you are compressing and accentuating the loading factors placed on the system by each customer class. Residential customers are allowed to water outdoors four days a week as compared to commercial customers who are only allowed to water two days a week resulting in a ratio of 2:1. However if you compared the total average consumption between the two classes the ratio is 2.49:1 and if you compare peak months the ratio is 2.57:1. Is this restriction benefiting one party over the other? If so, how do you accommodate this differential in your modeling to the more accurately reflect their true loading? While we are of the opinion that improvements can be made to better match the actual demand requirements of each customer class to the systems design and operating characteristics, great care should be taken when deriving those relationships.

In order to more closely arrive at what the relationships are between customer classes, it is imperative that all services be metered. While it is not our intent to mandate that all customers immediately convert to a metered billing rate, it is necessary to perfect the data on which rates are developed. (It should be noted that an overstatement error of approximately sixteen percent was found in the rate model when comparing the model consumption to the actual production for the same period. This error was determined to be an overstatement of flat rate consumption estimates.) The added benefit of metering all customers is that it allows TMWA to perform a water audit to determine what its actual system losses are and where they may be located. This in turn provides them with the information necessary to prioritize the projects in their line replacement program.

7. R&R Program and the Cash Collected to Support It. As a show of support, the Committee has included this recommendation in the final report as a further endorsement of the coordinated effort to make certain improvements when it is the most efficient and cost effective time to perform those activities. It is not meant to accelerate or limit the current program, only to voice our approval. The intent of the second part of this recommendation is to restrict the cash collected for this purpose via funding of depreciation, to the R&R program and not to be expended for any other purpose thereof.

8. Fire Hydrant Usage. From the Committee's perspective the use of fire hydrants for anything other than fire protection poses three problems. The first relates to the potential risk to the system itself. Without an appropriated backflow device, contaminants can be drawn back into the system if a sudden change in system pressure is experienced during its use. This represents a potential danger of corrupting the quality of water to all downstream users. The second problem is that from the committee's view, unmetered withdrawal of water from a fire hydrant constitutes theft, regardless of who that party may be. If an authorized withdrawal is made it should be metered and that entity, whether a contractor or a municipal entity, should pay for that water. And lastly, with numerous sources of non-potable water available throughout both cities and the county, that water should be utilized for dust control, street sweeping, and other non-domestic uses.

9. Rate Methodology. The AWWA M-1 Rate Manual has generally been accepted as the industry standard for establishing and modeling customer rates. As such it is the consensus of opinion that those principles be followed as closely as possible. That manual distinguishes between transmission and distribution lines for cost allocation purposes and that should also be done in TMWA's rate design. While both the base-extra capacity and commodity-demand methodologies are accepted procedures for allocating the cost-of-service, we feel that the base-extra capacity method should be use as it is the most widely accepted and more accurately addresses the diversity of demand across various customer classes. If perchance TMWA decides to continue using the commodity-demand approach, then an adjustment to the model needs to be made wherein those facilities that are

normally allocated to max day or peak hour be reclassified from the commodity side to the demand side of the cost allocation to more accurately reflect the loading effects of each customer class.

10. Future Debt Issues. It is our viewpoint that any future debt issues relating to the expansion or addition of capacity to the system should not impact the rates of existing customers. This applies not only to the principal and interest payments on that debt, but also any coverage requirements included in the bond covenants of that debt issue. At the same time, the rate design should take into account, to the extent possible, the recovery of this cost over the useful life of the assets. This results in a better matching of the benefits received by current and future customers and their respective cost responsibility.

11. Wholesale Rates. Wholesale service is defined as a “situation in which water is sold to a customer at one or more points of delivery for resale to individual retail customers within the wholesale customer’s area.” As such, wholesale customers do not use certain facilities and services required by retail customers. Usually, these wholesale customers provide these additional services to its customers. Thus TMWA provides water at one or more delivery points, and the wholesale customer provides the distribution system, meter reading, individual customer billings, customer service and fire protection services. TMWA requires a written contract between each of its wholesale customers for each particular area served and specifies the responsibilities of each party. The special provisions of these contracts stipulate the following and I quote: “. . .each party shall at all times be solely responsible for maintenance of its retail distribution system, including, but not limited to, storage, fire flows, peak flows, minimum pressure equipment, leak repairs, and maintenance of water quality supplied hereunder within their respective water systems.” With this in mind, the analysis performed in the rate study should include the specific conditions of service, specific type and level of service provided, and consider the way in which TMWA actually provides service. TMWA’s rate design should recover the cost, as nearly as possible, of providing service to a customer, or class of customers including wholesale customers, with minimal cross-subsidization among customer classes

or discrimination between such classes. TMWA should re-evaluate its cost allocation to the all customers, taking into account the above factors.

12. Proposed Rate Increases. Given the current financial status of TMWA as a result of the last rate increase, it is believed that the Phase II and Phase III rate increases should be deferred a least another year at which time another rate study could be performed to re-evaluate what the new revenue requirement should be. This would also give staff the time to analyze the impact of flat rate customers converting to a metered rate, allow more time for the installation of non-billing meters to better assess the demand requirements of the flat rate customer class, acquire a more accurate estimate of projected growth and its impact on rates and allow consideration of new bonds as an alternative to the depreciation expenses included in current rates.

13. Financing, Cost Control, & Cash Management. The first point of this recommendation deals with the idea that there are many alternative financing vehicles or approaches that should be explored in an effort!to stabilize rates over time and better match the needs of the development community with that of existing customers. A couple of simple examples in the area include joint venturing with a large developer where the over-sizing cost is either shared or paid solely by the developer and he is reimbursed as that excess capacity is used or placing a surcharge on customers in a certain area to cover the financing cost associated with current customers advancing the cost necessary to expand the system to meet the needs of growth. In short, staff needs to consider more creative financing mechanisms.

The second point is that there should be a concerted effort made to control or reduce spending and avoid any expenditures that do not directly pertain to the delivery of water service. With TMWA carrying almost one-half billion dollars of debt and facing rising costs of labor, materials and supplies; philanthropic gifts and civic contributions should be held to a complete minimum until such time as the rates and financial health of the entity is stabilized. Staff should make every endeavor to improve operating efficiencies and minimize costs.

And finally, TMWA should account for facility charges and fees separately and restrict that cash to the purpose for which it was intended. Commingling of this cash leads to distrust from both the development community and the retail customer.

14. Social Engineering. It was disclosed to this committee that a certain amount of social engineering took place in the last rate study at the direction of the Board and without fully disclosing the fiscal impact of those changes. It is our feeling that such changes should be clearly justified to the rate-payer prior to implementation and the impact equally shared among all remaining customers. Having said that, it is our feeling that provisions should be considered to our public parks and low income or senior citizen low-income situations. Currently customers are screened through the Senior Citizen Center and Social Services for low-income assistance and rather than creating another bureaucracy, those customers should be referred to those agencies. Upon receipt of a letter from either agency, a discount could be provided.
15. Conservation. This recommendation does not require further discussion.
16. Public Relations. While TMWA generally does a good job in the public relations arena, we think there are certain topics that need to be continually addressed or brought to the forefront of public attention. Additionally, greater attention should be given to making presentations to local NAB's and CAB's as a way of interfacing with the public directly.
17. Ombudsman. While most customer service clerks do an excellent job answering questions or putting people in contact with the correct TMWA staff, often times the customer is left to follow-up on their own because that party was unavailable at the time of the call or the customer is dissatisfied with the initial response. With an ombudsman, they become the responsible party for getting the required information, following up on the customer's request or complaint and generally advocating on the public's behalf. While the end result may be the same, sometimes it's how you get there that makes the difference.

**TRUCKEE MEADOWS WATER AUTHORITY
MEETING MINUTES
OF THE BOARD OF DIRECTORS
May 20, 2004
11:00 a.m.**

The Board of Directors met in the Sparks City Council Chambers, 745 Fourth Street, Sparks, Nevada. Chairman Armstrong called the meeting to order at 11:00 a.m.

#1 ROLL CALL

Members present: Chairman Armstrong, Carlo Panicari, David Aiazzi, Mike Carrigan, Bob Cashell, and Pete Sferrazza.

C. ADJOURNMENT OF PUBLIC HEARING ON 2004-2005 BUDGET

#8 REPORT AND RECOMMENDATIONS FROM THE RATE MAKING REVIEW COMMITTEE AND RETROACTIVE BOARD ACCEPTANCE OF A CHANGE IN THE DUE DATE OF THE REPORT FROM THE PREVIOUSLY ADOPTED MAY 1, 2004 DATE TO MAY 20, 2004 (Item taken out of order)

Rate Making Review Committee (RMRC) Chairman Rob Reeder, and Fred Schmidt, Vice Chairman, presented their recommendations per direction from the Board in September 2003. The Committee was asked to examine issues with respect to cost classifications, cost of service allocation methods, and rate designs for water utilities including TMWA's rate model. Mr. Reeder noted that the Committee met over a period of five months and held thirteen meetings, approximately 25 hours worth of work for each member on the committee. Mr. Reeder thanked Lori Williams and her staff for being very supportive and responsive to the needs of the Committee.

Member Carrigan asked Mr. Reeder to explain the philosophy behind recommendation #10 regarding a policy the Board should adopt that issuance of any future debt related to system expansion should not result in an increase in rates on existing customers. Mr. Reeder stated that discussion centered on the belief that future growth and development ought to be borne by those who are taking the lead and making that happen. The perspective from the Committee is that some of the existing development is being borne by the existing rate payers. Mr. Schmidt stated "that after exploring the rates and rate design, there is not a detailed or careful distinction of all

those costs today, and the Committee found that substantial new debt incurred by TMWA without raising the rates of the existing customers by looking at different ways to finance than are being done today. If that can be done, then this part of the recommendation can be followed for the foreseeable future. He agreed with Mr. Reeder that part of the recommendation really needs to be read in the context of the other recommendations. There are a number of recommendations that relate to a much more detailed accounting of the manner in which growth that are charged costs related to excess capacity in the current system or new development that is needed to supply infrastructure for that growth."

Member Carrigan also questioned recommendation #2 regarding the formation of an advisory committee and who would those individuals report to. Mr. Reeder responded that the Committee was providing a recommendation and not so much oversight. It would be viewed much the same way in which the Board asked the RMRC to make recommendations. This would be an opportunity to allow an outside entity to have some input in addition to input from staff. Mr. Schmidt noted that one thing the Committee found lacking was that there was no advisory committee on the professional level.

Michael Pennington, representing the Reno-Sparks Chamber of Commerce, and Neil McGuire, RMRC member, praised staff and the Board for putting the Committee together. The Board thanked the Committee for their efforts.

On motion by Member Panicari, second by Member Cashell, which motion duly carried by unanimous vote of the members present, the Board accepted the report from the Rate Making Review Committee.



STAFF REPORT

TO: Standing Advisory Committee
FROM: Terri Thomas, Project Manager - Finance
DATE: September 4, 2007
SUBJECT: **Special Requests and Fee Reductions to Benefit Low-Income Customers and Nonprofit Organizations such as the Veterans' Guest House**

Recommendation

This item was tabled after substantial discussion at the August 7, meeting, with a request for it to be considered at this meeting so that the SAC could provide specific recommendations to the Board on this item.

Background

The Regional Housing Task Force (RHTF) approached the SAC requesting that TMWA consider providing rate/fee reductions or other benefits to low-income customers or on behalf of housing projects that will benefit low-income persons within TMWA's service territory. At about the same time, the TMWA Board considered the question whether to grant an exemption from payment of the monthly water bill to the Veteran's Guest House, a non-profit organization. The Board deferred a decision on this request pending a recommendation from the SAC with regard to the issues presented by RHTF.

Discussion

At the SAC's August 7, 2007 meeting, TMWA's legal counsel presented to the SAC the legal obstacles that prevent TMWA from providing such special fee/rate waivers or reductions. Specifically, assistance to low-income housing projects or other non-profit entities is not rationally related to the purposes for which TMWA was created. TMWA was formed for the purpose of securing and managing the quantity and quality of the water supply within its service territory. Although the authority given to TMWA by its member entities to carry out that purpose is wide-ranging, it *does not* include the alleviation of social problems associated with a lack of affordable housing. As such, the opinion of TMWA's legal counsel presented to the SAC is that preferential rate/fee waivers or other benefits based upon income are unconstitutional.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it continue with its existing policy avoiding cross subsidization among rate classes and refraining from providing rate reductions or exemptions to selected customers. The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it refrain

from providing fee waivers or other direct monetary benefits to developers of low-income housing projects.

In light of counsel's opinion regarding the legality of rate/fee waivers or reductions, staff also provided the SAC with a list of possible tools that TMWA might employ to assist the Regional Housing Task Force to address some of the financial obstacles encountered by low income housing developments. As the SAC considered whether or not to recommend that the Board approve special requests and/or fee reductions for low-income customers or developers of low-income projects, the SAC directed staff and legal counsel to reframe staff's list of tools that might alleviate some of RHTF's concerns so that the SAC could take action upon each of them individually.

In response to the SAC's request, the following is a list of action items for SAC to consider and vote upon:

1. Ensure that organizations such as RHTF are aware of the outreach opportunity provided by TMWA's bill inserts

In February, 2003, the TMWA Board adopted a policy with regard to bill inserts which allows the member agencies (Washoe County, Reno and Sparks) to use space in TMWA's bill inserts on a rotating basis. Organizations such as RHTF can contact any of these member agencies to request space in TMWA's bill insert to promote some of the concerns RHTF presented to the SAC. Additionally, as space allows, TMWA staff also accepts from other public or private entities articles on water-related topics to place in bill inserts. TMWA staff uses its discretion to determine if a submitted article is appropriate content for the bill insert.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it allow access to organizations such as RHTF to the use of TMWA's bill inserts in the same manner as that opportunity is afforded to other entities.

2. Ensure that developers are aware that TMWA can provide individualized water demand calculations for projects.

Currently, TMWA can provide individualized water demand calculations for proposed development projects. This allows developers to minimize the amount of water rights needed for their projects, thereby reducing the project's overall costs.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that, at the time of request for project water demand, TMWA staff ensure that developers are aware that, upon request, TMWA staff is available to provide individualized water demand calculations.

3. Ensure developers are aware that existing water resource credits may be available for development projects

On a case-by-case basis, existing water resource credits may be available on a parcel to supplement the amount of water rights needed for project. TMWA staff can work with developers of affordable or workforce housing development projects to inform them of sites where existing water resource credits exist.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it encourage staff to make known to developers that existing water resource credits may be available and that staff is available to work with developers to identify the location of such credits.

4. Partner water rights owners who might want to donate water rights with developers of low-income housing projects

There are a number of water rights owners who may be interested in donating their water rights to benefit low-income housing projects. TMWA could assist developers of low-income housing projects to identify and approach water rights owners who might be interested in donating their water rights.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it encourage staff to make efforts to partner potential donors of water rights with individuals or entities in need of water rights for low-income development projects.

5. Provide flexibility in the timing of payments of water service fees if other security instruments can be provided

Subject to TMWA's rules, TMWA may be able to work with developers to delay the payment of water service fees. RHTF suggested that this would assist developers of low-income housing projects so that the payment of water service fees could coincide with times of greater cash flow. TMWA would condition such delayed payment upon the developer providing adequate security instruments. In the event of default by the developer, TMWA would expend time and resources to collect on the security. In light of legal limitations, any allowances provided by TMWA for delayed fee payments would have to be available to all individuals and entities that seek water service and are able to provide the requisite security.

The SAC RECOMMENDS/DOES NOT RECOMMEND to the Board that it adopt a policy to allow delayed water service payments to applicants who are able to provide adequate security instruments.



TRUCKEE MEADOWS WATER
A U T H O R I T Y

STANDING ADVISORY COMMITTEE

**MINUTES
SEPTEMBER 4, 2007**

The Standing Advisory Committee met in the Independence Room, 1355 Capital Blvd., Reno, Nevada. Chairman Greg Vorreyer called the meeting to order at 3:06 p.m.

1. ROLL CALL

Voting Members present: Kevin Bloomgren*, Ernest Buchner, John Krmptotic, Neil McGuire, Ernest Nielson***, Susan Ralphe, and Greg Vorreyer. Alternates present: Robert Chambers, Jim Maass, Dagny Stapleton (Voting), Darrin Price (Voting), and Barry Winzeler (Voting)**. Staff present: John Erwin, Mark Foree, Kim Mazeres, Lora Richards, Shawn Stoddard, Terri Thomas, Kim Mazeres, Bwire Ojiambo, Lori Williams and Debbie Leonard.

8. REVIEW OF PREVIOUS DISCUSSION AND RECOMMENDATIONS TO THE TMWA BOARD REGARDING SPECIAL REQUESTS AND FEE REDUCTIONS TO BENEFIT LOW-INCOME CUSTOMERS

A discussion on the recommendations, their effect on the TMWA staff and their financial implications was held. The following motions were made:

MOTION 1.

Upon motion duly made and seconded, and carried by unanimous consent of the members present, the SAC recommends to the TMWA Board that it continue with its existing policy avoiding cross subsidization among rate classes and refraining from providing rate reductions or exemptions to selected customers. The SAC recommends to the Board that it refrain from providing fee waivers or other direct monetary benefits to developers of low-income housing projects.

MOTION 2.

Upon motion duly made and seconded, and carried by unanimous consent of the members present, the SAC recommends to the TMWA Board that it allow access to organizations such as the Regional Housing Task Force to the use of owner agencies' bill inserts in the TMWA bill in the same manner as that opportunity is afforded to other entities.

MOTION 3.

Upon motion duly made and seconded, and carried by unanimous consent of the members present, the SAC withdraws a potential proposal to the Board that, at the time of request for project water demand, TMWA staff ensure that developers are aware that, upon request, TMWA staff is available to provide individualized water demand calculations.

MOTION 4.

Upon motion duly made and seconded, and carried by unanimous consent of the members present, the SAC withdraws a potential proposal to the Board that it encourage staff to make known to developers that existing water resource credits may be available and that staff is available to work with developers to identify the location of such credits.

MOTION 5.

Upon motion duly made and seconded, and carried by a vote of five to two with one abstention, the SAC recommends to the Board that it encourage potential donors of water rights to partner with individuals or entities in need of water rights for low-income development projects.

MOTION 6.

Upon motion duly made and seconded, and carried by a vote of seven to one, the SAC does not recommend to the Board that it adopt a policy to allow delayed water service payments to applicants who are able to provide adequate security instruments.

*Kevin Bloomgren was present for items 1 through 5

**Barry Winzeler was present for items 1 through 6

***Ernie Nielson was present for items 7 through 14.



TO: Chairman and Board Members
FROM: Mark Foree, General Manager and Kim Mazerres, Director of Customer Relations
DATE: January 12, 2012
SUBJECT: Discussion and possible action regarding special rates or donation subsidy programs for low income and senior customers

DISCUSSION AND RECOMMENDATION

At the December 2011 meeting, Vice Chairman Aiazzi asked for an agenda item regarding the possibility of instituting special rates for low income or senior customers.

The Board and the Standing Advisory Committee have considered this topic and similar requests in the past. In those prior discussions, it was recognized that creating special rates for low income or senior customers would require increases in costs for other customer classes and result in costs being transferred from one group of customers to other groups of customers. Because of issues with cross subsidization, the Board was not previously inclined to pursue these special rate classes and because of these issues, staff would recommend that special rates not be pursued. I have attached the Board's Financial Guidelines Policy (Resolution No. 19) (*Attachment D1*) along with previous staff reports and minutes (*Attachments D2, D3 and D4*) for your information.

Alternatively, a customer donation program (much like NV Energy's SAFE program) could be considered. This program allows TMWA to accept third party donations to help reduce costs to qualifying low income or senior customers. While there would be initial costs associated with setting up a program such as this, TMWA could work with an existing social service agency that is already set up to administer such programs and in doing so, TMWA staff time could be minimized.

Staff also notes that if the Board desired to include a special rate class as part of the pending rate adjustment proposal, such action would require a modification of the proposed rate adjustments to the level that no action could be taken on adoption at the January 18, 2012 meeting, and additional rate modeling and public hearings would be required before such proposal could be brought back to the Board. Given current fiscal pressures, if the Board desires to consider pursuing either of these options, staff recommends that such action be considered separate from the pending rate proposal, so as to avoid a delay in the implementation of any action on the rate adjustment scheduled for second reading at the January 18, 2012 meeting.

September 26, 2001

TRUCKEE MEADOWS WATER AUTHORITY
(TMWA)

RESOLUTION NO. 19

INTRODUCED BY: Malyn Malquist, General Manager

A RESOLUTION ADOPTING A FINANCIAL GUIDELINES POLICY

WHEREAS, the Truckee Meadows Water Authority will be establishing operational cash reserves in accordance with the documents governing the 2001 Series A and 2001 Series B Bonds and the funding of such cash reserves must be taken into consideration in future water rate cost recovery studies;

WHEREAS, the Truckee Meadows Water Authority is required by the documents governing the 2001 Series A and the 2001 Series B Bonds to establish the operational cash reserves; and

WHEREAS, the Truckee Meadows Water Authority desires to establish a policy that considers equitable water rate structures and the mitigation of cross subsidization between different customer classes;

WHEREAS, the Board has determined that the Financial Guidelines Policy attached hereto as Exhibit A appropriately accomplishes these objectives;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of TMWA that the Financial Guidelines Policy attached hereto as Exhibit A is adopted.

Upon motion of Alternate Member Rigdon, seconded by Alternate Member Doyle, the foregoing Resolution was passed and adopted this 26th day of September, 2001, by the following vote of the Board:

Ayes: Armstrong, Carrigan, Sferrazza-Hogan, Shaw, Doyle, and Rigdon

Nays: None

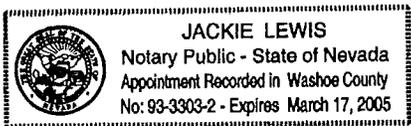
Abstain: None Absent: None

Approved this 26th day of September, 2001


Chairman

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

On this 1st day of October, 2001, personally appeared before me, a Notary Public in and for said County and State, TONY ARMSTRONG, Chairman of the Truckee Meadows Water Authority, known to me to be the Chairman, who acknowledged to me that he executed the above instrument freely and voluntarily and for the purposes therein mentioned.



Jackie Lewis
Notary Public

**TRUCKEE MEADOWS WATER AUTHORITY
FINANCIAL GUIDELINES**

Policies that Guide the Establishment of Reserves and Cost Recovery of TMWA

1. The ultimate goal of water rates, associated fees, and other charges is to provide sufficient cash flow to (1) meet the cash operating expenses of Truckee Meadows Water Authority (TMWA), (2) provide for maintenance of certain reserve and fund balances, (3) satisfy debt service payment requirements and associated financial covenants, and (4) fund a portion of new capital for new capacity and existing capacity. All recommendations are consistent with the Flow of Funds section of the legal documents governing the 2001 Series A and 2001 Series B Bonds.
 - A. Operating revenues shall be sufficient to cover the expenses of TMWA including, but not limited to, payroll and operating and maintenance expenses. Revenues should be sufficient to meet scheduled and unscheduled repair and replacement demands (funded depreciation and emergency repairs). Funds for depreciation will be available by maintaining adequate and reasonable reserve funds to maintain stability and flexibility to the utility's financial position. A sixty-day working capital reserve of approximately \$4,600,000 for cash operating and maintenance expenses should be maintained to mitigate seasonal revenue and expense fluctuations. Additional amounts, if any, required to fund the working capital reserve shall be included in the annual budget.
 - B. An emergency repair and replacement reserve should be established to finance the cost of unscheduled repairs and/or major replacements. The minimum target emergency reserve should be \$10,000,000 in accordance with the Authority's bond documents and is consistent with American Water Works Association's guidelines. Additional amounts, if any, required to fund the emergency reserve shall be included in the annual budget. The annual review ensures that the reserve level keeps pace with inflation, and is adequate in light of the Authority's capital improvements program and the condition of its water system. This reserve allows for the funding of major replacement projects without necessarily relying on debt financing.
 - C. The TMWA shall maintain a debt coverage ratio **consistent with bond covenants**. The actual debt service coverage level should not fall below the minimum level required by bond financing documents. All revenues and fees shall be sufficient to meet operating and maintenance expenses in addition to each year's principal and interest payments on outstanding debt, pay-as-you-go capital requirements, and necessary reserve deposit and replenishments. Revenues need to be forecasted based on the most reliable information available and adjusted based upon collection experience.
2. In light of the aforementioned financial reserve requirements, attention must be directed to the recovery of the cost of service. In any equitable water rate structure, consideration must be given to cross-subsidization between customer groups, between customer classes and within customer classes. Any cross subsidization between customer groups, between customer classes and within customer classes should be mitigated as much as possible. Price signals should be developed to address consumption that may stress design criteria of the water system or cause the need for peak production facilities. Also, attention should be directed to address consumption that exceeds water right dedications for a particular service connection.

- A. One example of cross-subsidization between major customer groups is existing customers subsidizing construction of new facilities to serve new development. This subsidization shifts the financial responsibility of construction of new capacity to existing customers, in effect allowing the last customers to connect on the water system at the expense of all prior existing customers. To the extent practicable, new development should fund the capital costs required to accommodate growth, including the possible reimbursement of funding advances made by existing customers.
 - B. Cross-subsidization between customer classes means that certain customer classes subsidize other customer classes. Specifically, residential customers are not allowed to subsidize commercial customers and other major consumers of water. Additionally, metered customers do not subsidize flat rate customers or vice-versa. A well-designed rate structure will allocate the cost of service among these major customer classes of customers based upon a rational and defensible methodology.
 - C. Of particular importance is cross-subsidization within a customer class. A water rate structure should be designed so that the "lifeline customer" does not subsidize the water user that puts a greater demand on the water system. A "lifeline customer" is defined as that customer that uses water only to meet indoor purposes. This class of customer is generally the multi-tenant dweller or individuals with a lifestyle that puts the least per-connection impact on the water system throughout the year. This class of customer is also typical of individuals of less economic means.
 - D. In a well-designed water rate structure, price signals are developed to address consumption patterns that exceed the design criteria of the water system, cause the need for peak production facilities, and/or exceed the total annual water duty allowed through water right dedications. These consumption patterns are indicative of wasteful water use such as not repairing leaks controllable by the customer or wasteful irrigation practices. These price signals are established in such a way to respect lifestyle requirements consistent with water right dedications but also addresses efficient use of the water system.
3. At least annually, the Authority shall conduct a rate review and adjust rates and charges as required to meet all of its financial obligations, whether established by governing bond documents or Authority policy.



STAFF REPORT

TO: Chairman and Board Members
FROM: Kim Mazeris, Director, Customer Relations
 John Erwin, Manager, Water Resources
DATE: October 22, 2003
SUBJECT: RATEMAKING IDEAS

At the September 17 Board meeting during the discussion on TMWA rates, Board members asked for the following topics to be considered by TMWA staff: park rates, low income/senior citizen rates, budget billing, and a credit for customers who use our RapidPay program (electronic funds transfer) to pay their bills. Discussion on each of these ideas follows below.

Park Rates

Outside irrigation is the reason that drives TMWA's production costs and its water rates. The ratio of residential summer use to winter use is approximately 4:1. Irrigation customers' water use is also highest during the summer. The development of any water rate charges by TMWA should reflect the cost to deliver the requested service, in this case irrigation service. As a result of such a large investment in production facilities to meet the combined summer peak water use of all its customers, all usage for irrigation is charged at the highest rates.

If a rate were adopted that allows any irrigation customer, including city parks, to pay a lower rate for their water use than indicated for the cost of such service, the costs would have to be borne by other customers. The resulting inequity runs counter to the Board's non-cross-subsidization policy adopted by the Board in September 2002. Staff would recommend against the development of rate schedules like this that create cross-subsidization between customer classes.

In 2002, the Board modified its Rate Schedules that expanded the use of non-potable water for irrigation purposes. Where appropriate, staff has aggressively pursued the use of non-potable water at city parks and schools such as the projects currently underway at Idlewild Park and Reno High School. The rate for non-potable water is \$.86 per thousand gallons as compared to \$2.90 per thousand gallons for treated water. There are still several sites that are being investigated that will achieve the Board's goal under this directive without creating potential cross-subsidization issues.

RATEMAKING IDEAS

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Staff will continue to work with eligible customers on an individual basis to assist where possible in implementing non-potable solutions.

Low Income/Senior Citizen Rates

Similar to the park rate issue, creating special rates for low income/seniors transfer costs from one group of customers to another. If TMWA were to adopt lower rates for this type of customer, the additional costs to serve these customers would have to be borne by other customers – another case of cross-subsidization. In addition, additional administrative resources would be needed to determine whether or not a customer was qualified to receive this rate. Staff would recommend against the pursuit of rate structures that would have one group of customers bearing the cost for another group.

In the alternative, staff will (1) continue to work with customers on an individual basis to assist where possible with efficient use of water and to identify leaks and waste, and (2) propose working with other agencies such as the Regional Water Planning Commission to utilize the Regional Water Management Fee to assist low income and/or senior citizens to reduce their water usage by replacing leaking yard lines, repairing leaking fixtures, and even replacing landscaping. This reduced usage would, in turn, reduce their water bills for customers on meters or who chose to move to meters and pay for only their actual use.

Budget Billing

TMWA currently offers a budget billing under its Equal Payment Program to our residential metered customers set forth in its Rule 4.D. This plan is available to any residential metered customer who inquires about it and asks to be placed on the plan. The plan provides for twelve (12) equal payments of the customer's estimated annual water bill based upon their prior twelve (12) month's usage. There are 96 customers who are currently on budget billing. Although the participation in the plan is small and provides level billing for the customer and a level revenue stream for TMWA, there is the potential that a large level of participation could have negative impacts for TMWA. Budget billing, just like any flat-rate billing system, tends to make customers non-attentive to their *actual* water bill and therefore their water use, and therefore they do not receive the price signal that tells them they are using too much water, including over watering, possible leaks, etc. The result is the less attention a customer pays to their water bill/use the more likely water use will increase and costs will go up. Also, every 12 months when the bill is "trued-up," a customer can be very surprised at the amount they *actually* owe TMWA.

RapidPay

There are currently 4,233 customers who pay their water bill via electronic funds transfer. These customers save TMWA time and money. Customers who pay via check cost \$.21 to process. Approximately 60,000 customers a month pay via check. Customers who choose to come into TMWA's office to pay (in many cases those choosing to pay in cash and usually in danger of being disconnected for non-payment) cost, at a minimum, \$1.00 per transaction. About 6,000

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customers choose to pay at TMWA's office every month. All of these costs are currently rolled into the customer charge that each customer receives in their monthly bill. With the upcoming third-party payment agent (i.e., grocery store) program, the customer will bear a \$.75 Western Union service charge for the convenience of paying at the store. Staff is currently negotiating with credit card vendors to be able to offer a similar service to customers wishing to pay their water bills via credit card. Those customers will bear the merchant fee cost – likely to be in the neighborhood of \$4 - \$5 per transaction. The customer is asked to bear these costs so they are not subsidized by customers who choose to pay in less expensive ways.

Staff is currently working with ORCOM's systems analysts to determine the expense of automating the adjustment of a customer's account who pays via RapidPay. As soon as we have this information, we can provide the Board with the cost of crediting RapidPay customers as a reward for using this payment method. However, these costs – both implementation and the credit – would need to be absorbed through the customer charge that *all* customers pay every month.

jl

Staff will solicit for vacant membership participants during the month of November, bringing the potential candidates to the Board for selection at the December 10 Board meeting.

Ms. Williams noted that a proposal was made at the September Board meeting to hire a rate consultant and the Board made it very clear that TMWA would not pay for the consultant. Staff is recommending that the committee determine if a rate-making consultant is to be hired, determine funding of the expenses for this person, and make the selection. The committee would have a timeline to follow and report back to the Board by June or July of next year.

Member Carrigan asked if a written report could be submitted at each Board meeting on the committee's progress instead of having a representative present, and Chairman Armstrong suggested that the committee have an odd number of members instead of an even number. Ms. Mazeres responded that both suggestions would be accommodated.

Diana Langs, Sun Valley General Improvement District, asked the Board to consider Fred Schmidt as their representative on the committee. Member Carrigan asked her if her Board wanted an elected representative on the committee. Ms. Langs will take that suggestion back to her Board, but that they had directed her to appoint Fred Schmidt at their last meeting. Member Aiazzi indicated that he would prefer an elected representative on the committee for Sun Valley General Improvement District.

On motion by Member Cashell, second by Member Panicari, which motion duly carried by unanimous vote, the Board approved staff's recommendations to form a rate-making committee. In addition, the committee will be comprised of an odd number of members and a written report on the committee's progress will be submitted at each Board meeting.

#15 DISCUSSION AND DIRECTION TO STAFF ON THE FOLLOWING ITEMS RELATED TO RATEMAKING: SENIOR AND LOW INCOME RATES, SPECIAL RATES FOR PARKS, BUDGET BILLING, AND CREDIT FOR CUSTOMERS WHO USE ELECTRONIC FUND TRANSFER AS MEANS OF PAYMENT

Kim Mazeres and John Erwin began the discussion on rate-making issues such as special irrigation rates for parks, low income/senior citizen rates, budget billing, and a RapidPay program credit as suggested by the Board at their September 17 Board meeting.

Staff recommends against the development of special rate schedules for parks and low income/senior citizens, as it would create cross-subsidization between customer classes. TMWA currently offers budget billing under its Equal Payment Program to residential metered customers. This plan is available to any residential metered customer who inquires about it and asks to be placed on the plan. Staff is currently working with ORCOM's systems analysts to determine the expense of automating the adjustment of a customer's account who pays via RapidPay. Staff will provide the Board with the cost of crediting RapidPay customers as a reward for using this payment method as soon as the information becomes available. However, these costs – both implementation and the credit – would need to be absorbed through the customer charge that all customers pay every month.

On motion by Member Sferrazza, second by Member Aiazzi, which motion duly carried by unanimous vote, the Board accepted staff's recommendations and directed staff to consider alternatives to crediting RapidPay customers – \$.21 per bill or a one time payment for switching over – and bring the issue back to the Board explaining the benefits of each.

The Board confirmed that staff was not to pursue the other rate items discussed.

Lunch break at 12:25 p.m./back in session at 1:00 p.m.

#16 CLOSED SESSION REGARDING PERFORMANCE EVALUATION OF GENERAL MANAGER

Adjourned to Closed Session at 1:00 p.m./public meeting reconvened at 1:50 p.m.

#17 DISCUSSION/ACTION REGARDING PERFORMANCE EVALUATION OF GENERAL MANAGER

There was discussion about Ms. Williams' performance. Member Aiazzi stated that Ms. Williams has done a marvelous job in taking over the reins at TMWA and he is in favor of a raise and wants to be consistent with what other employees received. Member Sferrazza commented that Washoe County employees received a 2.5% increase. He hopes that TMWA would try and keep more in line with what the other local entities received, and agree to a percentage that would be consistent across the board. Mr. Tissier stated that TMWA's percentage includes a cost of living increase and a merit increase. Member Sferrazza agrees with the Board that Ms. Williams has done an excellent job, but he cannot support bonuses for public officials.

First Motion

On motion by Member Aiazzi, second by Member Carrigan, which motion duly carried by unanimous vote, the Board approved a 3.2% salary increase for the General Manager.

Second Motion

On motion by Member Aiazzi, second by Member Cashell, which motion duly carried with Member Sferrazza opposed, the Board approved an 8.5% bonus for the General Manager.

#18 APPROVAL OF SETTLEMENT AGREEMENT IN PERSONNEL MATTER

On motion by Member Aiazzi, second by Member Cashell, which motion duly carried with Members Sferrazza and Carrigan opposed, the Board approved staff's recommendation and approved the personnel settlement agreement.



TO: Lori Williams, General Manager
FROM: Kim Mazeris, Customer Relations Director
Debbie Leonard, McDonald Carano Wilson, Legal Advisor to the Standing
Advisory Committee
DATE: September 10, 2007
SUBJECT: **Recommendations from the Standing Advisory Committee and possible
direction to Staff regarding exemptions or subsidy of non-profits for water
bills and fees**

At the March 21, 2007 TMWA Board meeting, the Board considered whether the Veterans' Guest House, a non-profit organization, should receive an exemption on its monthly water bill. At that time, the Board decided to refer this issue to the Standing Advisory Committee (SAC). (See *Attachment 1* the staff report from the March 21, 2007, meeting and *Attachment 2* the minutes from the March 21, 2007, meeting.)

Around the same time, the Regional Housing Task Force (RHTF) requested that the SAC consider rate waivers or reductions for low-income customers and/or fee exemptions or reductions for developers of low-income housing projects in order to help reduce barriers to the construction of affordable housing in the Truckee Meadows.

At its May, August and September meetings, the SAC considered the issue of low-income rates and fees. At the September meeting, the SAC made the following recommendations to the TMWA Board:

- Continue with TMWA's existing policy of avoiding cross subsidization among rate classes and refraining from providing rate reductions or exemptions to selected customers.
- Refrain from providing fee waivers or other direct monetary benefits to developers of low-income housing projects.
- Allow access to organizations such as the Regional Housing Task Force to the use of owner agencies' bill inserts in the TMWA bill in the same manner as that opportunity is afforded to other entities.
- Encourage potential donors of water rights to partner with individuals or entities in need of water rights for low-income development projects.

Background

At its March 6, 2007 meeting, the SAC heard a presentation from the Regional Housing Taskforce (RHTF) asking that TMWA partner with them in developing strategies and/or recommendations to assist them in solving some of the challenges involved in providing affordable housing in the Truckee Meadows. In response, staff requested a legal opinion as to whether TMWA could provide special rate exemptions to low-income customers or fee waivers to developers of low-income housing.

Debbie Leonard, of McDonald Carano Wilson, provided a legal opinion regarding both the RHTF's request and the potential rate exemption for the Veterans' Guest House. Specifically, counsel concluded that the authority to manage and provide water services to the community given to TMWA by the Joint Powers Agreement (JPA), though broad, does not allow TMWA to provide rate waivers to low-income persons or fee reductions for low-income housing projects. Both the Regional Housing Taskforce and the Veterans' Guest House requests essentially would result in unequal treatment among TMWA customers, and the equal protection laws prohibit this. A governmental entity must have a rational basis to distinguish among individuals based upon their economic status. In other words, there must be a legitimate connection between that government's disparate treatment and the governmental purpose that it is trying to accomplish.

The JPA authorizes TMWA to be a water purveyor and do whatever is necessary to provide water to customers within its service territory. There is nothing to connect those purposes to the alleviation of social problems associated with a lack of affordable housing. Because there is no nexus between managing the water supply and providing low-income housing, it is legal counsel's conclusion that there is no rational basis for TMWA to provide preferential treatment to low-income customers, non-profits, the Regional Housing Taskforce, or the developers of low-income housing.

In light of this legal opinion, staff developed a list of possible other strategies that TMWA might be able to legally employ to assist RHTF. After much debate on this item at both its August and September meetings, and consistent with the legal opinion provided by counsel, the Standing Advisory Committee voted to provide the recommendations presented above.



TO: Chairman and Board of Directors
THRU: Lori Williams, General Manager
FROM: Kim Mazeres, Customer Relations Director
DATE: March 9, 2007
SUBJECT: Request for Exemption for the Veterans Guest House's Water Bill

Recommendation

Staff requests that the Board provide direction on this requested item.

Background

At the February 21st Board of Directors meeting, Vice Chairman Aiazzi requested an agenda item to discuss the Veterans Guest House water bill and whether or not they should receive an exemption on their monthly bill.

Veterans Guest House is a 501(c)3 non-profit organization with a stated goal to "provide U.S. military service Veterans and their families with caring support during times of medical needs." The house is located at 880 Locust Street in Reno and has two water services, an irrigation line and a domestic line. Their annual water bill is about \$950, with the average monthly bill being \$78.11.

Considerations

As TMWA's Board of Directors considers whether or not to provide a special exemption for this organization, the following issues need to be considered:

- Creating special rates, discounts or exemptions for any customer requires the resulting costs to be absorbed by other customers. This would hold true if TMWA were to adopt reduced rates or exemptions for the Veterans Guest House. In addition, the resulting inequity runs counter to the Board's cross-subsidization policy adopted in September 2001.
- If one non-profit organization were to receive preferred rates, there are hundreds of other non-profits in the area that would look to TMWA to provide them the same exception. These non-profits range from special events, to arts and culture organizations, to environmental groups, to sports organizations, to faith-based groups. Establishing precedents such as this would likely raise questions as to why this organization and not

1-18-12 BOARD Agenda Item 6 Attachment 4

9-19-07 Board Agenda Item 7 Attachment 1
from: 3-21-07 Agenda Item #9

others. The question becomes what differentiates one non-profit from another non-profit and what rationale will be used for such rate relief. It is expected that any rationale developed will need to be consistently implemented across all customers and non-profits.

- The cost for implementing a discounted rate or exemption for Veterans Guest House will be expensive. Every time we add an additional rate code to the system, there is an attendant cost, which is dependent upon the complexity of the rate.
- Another option for the Veterans Guest House is to take advantage of our Audit program. This option has been utilized by many customers to reduce their water bills. Or, there is also the possibility that they can seek relief from other community based non-profit organizations such as the Veterans of Foreign Wars (VFW) locals to assist them with their water expenses.

TRUCKEE MEADOWS WATER AUTHORITY
ITEM 9 EXCERPT FROM MINUTES OF THE MARCH 21, 2007
MEETING OF THE BOARD OF DIRECTORS

The Board of Directors met at the Sparks Council Chambers, Legislative Building, 745 Fourth Street, Sparks, Nevada. Vice-Chairman Dave Aiazzi called the meeting to order at 10:02 a.m.

1. ROLL CALL

Members Present: Vice Chairman Dave Aiazzi; Members Mike Cate, Bob Larkin*, Geno Martini, and Ron Smith.

9. CONSIDERATION OF REQUEST FOR EXEMPTION FOR THE VETERANS GUEST HOUSE'S WATER BILL

Kim Mazeres, Director of Customer Services, presented this request at the behest of Vice Chairman Dave Aiazzi. The Board recognized the worthiness of Veterans Guest House and valued the contributions made by all veterans. However, there are over 1,200 registered non-profit agencies in Reno and Sparks which might also seek similar relief if an exemption is granted to the Veterans Guest House. Also, if granted, the resulting inequity runs counter to the Board's cross-subsidization policy adopted in September 2001. Debbie Shosteck, an attorney at McDonald Carano Wilson, is researching the feasibility and advisability of this type of subsidy for the Standing Advisory Committee because of a request from the Regional Housing Task Force to determine whether TMWA had any appetite for some sort of subsidy or help for affordable housing, possibly as an exemption from developer fees. Counsel Harrison suggested it might be prudent for the Board to see what counsel ascertains and what the SAC recommends in respect to that project. Consideration of this issue on a more global basis and at a policy level could be held in the future. Ms. Mazeres explained the Audit program offered by TMWA and suggested the Veterans Guest House take advantage of the program to possibly find ways to reduce their water bills. As TMWA partners with each of the governing entities, there may be an opportunity to solicit or ask for support through a bill insert for the Veterans Guest House or other worthy non-profits. Mr. Cate mentioned that this issue could be brought before other organizations which possibly could help the Veterans Guest House as their special charitable project.

The Board took this item off the table and determined to wait for recommendations by the Standing Advisory Committee.

TRUCKEE MEADOWS WATER AUTHORITY
MINUTES OF THE JANUARY 18, 2012
MEETING OF THE BOARD OF DIRECTORS

The Board of Directors met on Wednesday, January 18, 2012, at Sparks Council Chambers, Legislative Building, 745 Fourth Street, Sparks, Nevada. Chairman Carrigan called the meeting to order at 6:01 p.m.

1. ROLL CALL

Members Present: Dave Aiazzi, John Breternitz, Mike Carrigan, Mike Cate, and Geno Martini

Members Absent: Bob Cashell and Bob Larkin. A quorum was present.

6. DISCUSSION AND POSSIBLE ACTION REGARDING SPECIAL RATES OR DONATION SUBSIDY PROGRAMS FOR LOW INCOME AND SENIOR CUSTOMERS

Kim Mazeres referred to the staff report that contained all the reports from past Board meetings where this issue had been discussed, as well as the Board policy that mitigates cross-subsidization between different customer classes. She noted that the Standing Advisory Committee (SAC) had also discussed this issue.

Vice Chairman Aiazzi said he was bringing up the issue on behalf of Reno City Councilman Pierre Hascheff after discussions with the Senior Citizen Advisory Committee, who were of the opinion that every utility includes a special rate or subsidy to give aid to seniors and/or low income customers. Vice Chairman Aiazzi gave as an example the City of Reno's sewer department, which gives rebates to certain residents who meet certain income qualifications and guidelines. The rebate money comes from the sewer fund. Ms. Mazeres said when she worked at Sierra Pacific Power Company, they had a special fund, established by their shareholders, into which customers could donate funds if they so chose.

Vice Chairman Aiazzi said that TMWA hasn't put into place any mechanism for people who are having trouble paying their water bill and questioned if someone met income qualification guidelines as established by the State, could TMWA do something similar. He then asked for staff to research the programs and criteria of other entities and utilities.



STAFF REPORT

TO: Chairman and Board Members
THRU: Mark Foree, General Manager
FROM: Kim Mazeres, Director of Customer Relations
DATE: March 12, 2012
SUBJECT: Report on low-income program research

BACKGROUND

At the December 2011 meeting, Vice Chairman Aiazzi asked for an agenda item regarding the possibility of instituting special rates or subsidies for low income and/or senior customers. At the January 2012 meeting, the Board asked for staff to research such programs and criteria of other entities and utilities.

RESEARCH

The attached report is the result of this research. It includes utilities from throughout Nevada. However, there is also information about California programs, as well as general information concerning water affordability.

This research found less than half the utilities surveyed had some type of economic hardship program. Utilities also reported difficulty in qualifying customers due to the recent discontinuance of the state's STARR program.

RECOMMENDATION

The average TMWA residential water bill is approximately \$37 a month, and for indoor use only the average bill is less than \$25 a month. TMWA currently offers relief to customers who experience leaks and/or broken pipes. In addition, TMWA extends payment arrangements to customers who need additional time to pay their bills, offers a budget billing option, and provides free conservation audits and devices (including showerheads and hose timers). Due to the issues with cross-subsidization, qualifying customers, administering and funding this type of program, staff does not recommend TMWA institute a low-income program at this time.



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Memorandum

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TO: Kim Mazeres and Jeff Tissier
FROM : Catherine Hansford
DATE: March 12, 2012
SUBJECT: **Economic Hardship Programs in the State of Nevada**

Background

At the January 12, 2012 Board meeting staff was asked to investigate what economic hardship programs, if any, are provided by water and wastewater utilities for citizens in the State of Nevada. A survey was sent to a selection of Northern and Southern Nevada water and wastewater providers in response to the Board's request. This memorandum provides the results of that survey as well as discussion of what is considered an affordable rate in the industry, and general utility approaches to addressing affordability of service.

Findings

The survey responses led to these findings:

1. None of the agencies serving multiple jurisdictions or communities provide an economic hardship program. These include the Las Vegas Valley Water District and the Clark County Water Reclamation District.
2. Number of service connections and/or revenue of the provider does not influence whether an economic hardship program is provided.
3. Economic hardship programs are utilized by 0% to 3.0% of residential customers. The cities of Henderson and Boulder have the greatest utilization of their program.
4. There is no common mechanism used for reducing total water/ wastewater cost burdens with an economic hardship program. Of the six purveyors with programs open to new participants, two provide rebates, three provide a reduced bill, and one has a separate rate schedule. Two purveyors have senior citizen only programs not open to new participants. Participants that are grandfathered in until their property changes hands benefit from reduced bills.
5. All the economic hardship programs reported in the survey subsidize participants with payments made by other customers, whether by rebate, reduced bill, or separate rate schedule. No surveyed

purveyors have a voluntary contribution program for reducing eligible participant water/wastewater bills.

6. Most of the economic hardship programs are directed toward senior citizens and low income households. Some programs also target disabled persons.
7. With the exception of annual costs provided by the City of Reno, the annual costs to run the included survey economic hardship programs are reported as minimal.
8. The City of Reno and the City of Boulder are the only purveyors with economic hardship programs reported that have an annual funding cap.

Discussion

Thirteen public water / wastewater purveyors and one private purveyor were contacted to complete the economic hardship program survey by telephone and email. Purveyors are listed in Table 1 below. Of these purveyors, twelve responded to the survey between February 10th and March 10th 2012. Six of the twelve respondents have economic hardship programs currently open to new participants. Carson City and the City of North Las Vegas have suspended their senior citizen programs although a number of senior citizens are grandfathered into their programs.

Table 1

Purveyor	Private or Public	Services	Economic Hardship Program
Utilities Inc. of Central Nevada	Private	Water	NO
City of Boulder	Public	Water and Wastewater	YES
City of Henderson	Public	Water and Wastewater	YES
City of Reno	Public	Wastewater	YES
City of Sparks	Public	Wastewater	YES
City of North Las Vegas	Public	Water and Wastewater	NO
City of Las Vegas	Public	Wastewater	YES
City of Elko	Public	Water and Wastewater	NO*
City of Fernley	Public	Water and Wastewater	NO
Washoe County	Public	Water and Wastewater	NO
Lyon County	Public	Water and Wastewater	YES
Carson City	Public	Water and Wastewater	NO
Clark County Reclamation District	Public	Wastewater	NO*
Las Vegas Valley Water District	Public	Water	NO

* No survey response was provided; internet searches found no evidence of an economic hardship program.

These water/wastewater purveyors serve a range of number of service connections; from approximately 5,000 service connections in Lyon County to 355,000 service connections in the Las Vegas Valley Water District's service territory. Annual revenues are correspondingly varied from about \$1.4 million per year to over \$333.1 million. The purveyors most similar in size to Truckee Meadows Water Authority (TMWA) include the utilities department of the cities of Henderson and North Las Vegas. A summary of purveyor number of service connections and annual revenue is shown in Table 2 on the following page.

A copy of the survey is provided as Exhibit A attached. A matrix summarizing survey responses from those purveyors with economic hardship programs is provided in Exhibit B.

Program Type and Participation

Survey respondents show differing types of programs. The majority of programs target senior citizens and low income households. The percentage of residential customers benefiting from the economic hardship programs is very small, ranging from 0% to under 3.0%. Henderson and Boulder have the highest participation rates.

The purveyors with senior citizen eligibility used to rely on the Senior Tax Assistance/Rent Rebate Program (STARR Program); with this program each county would send a list of qualified persons to the purveyor annually. The STARR program was eliminated in Section 10 of Senate Bill 423 during the 2011 Legislative Session. Since fiscal year 2011 each of the programs have been looking for alternative ways to screen for eligible senior citizen participants. The City of Henderson has partnered with the non-profit agency HopeLink which determines eligible participants using birth certificates, driver's licenses, mortgage paperwork, lease agreements, social security benefit certifications, paystubs, bank statements, utility bills, and other documents. The City of Henderson requires that the senior citizen be a resident of Henderson, be the responsible party on the utility bill, at least 62 years of age and meet minimum qualifications of the Federal Energy Assistance Program as determined by the State of Nevada Division of Welfare and Supportive Services.

Other purveyors including the City of Reno and City of Sparks are looking for new ways to screen for senior citizen eligibility; however, they have not had to suspend their programs. The City of Las Vegas provides relief for senior citizens with low incomes; the wastewater division does not have to screen for eligibility because this is performed by the City's utility tax rebate program staff.

Since the elimination of STARR, Carson City and the City of North Las Vegas have been unable to staff for screening eligibility and have suspended their economic hardship programs, which was only for senior citizens in the past (note Carson City's program was for water and wastewater customers, and North Las Vegas' program was only for water customers). Existing qualified participants have been grandfathered in until the senior citizen owned property changes hands.

Table 2

Nevada Water / Sewer Agency Name	Service Type	No. of Service Connections	Annual Revenue	Economic Hardship Program?
Truckee Meadows Water Authority	Water	90,700	\$71,400,000	NO
1 City of Reno	Wastewater	67,000	\$42,000,000	YES
2 City of Sparks	Wastewater	39,043	\$16,050,000	YES
3 Lyon County	Water	6,208	\$2,896,000	YES
Lyon County	Wastewater	4,779	\$2,778,000	YES
4 Washoe County	Wastewater	20,120	\$10,216,000	NO
Washoe County	Water	19,052	\$16,277,000	NO
5 Carson City	Wastewater	15,400	\$6,200,000	NO *
Carson City	Water	16,800	\$9,200,000	NO *
6 Las Vegas Valley Water District	Water	355,000	\$333,100,000	NO
7 City of North Las Vegas	Water	80,368	\$46,682,000	NO *
City of North Las Vegas [1]	Wastewater	60,461	\$35,328,000	NO
8 City of Henderson	Water	85,963	\$60,477,000	YES
City of Henderson	Wastewater	83,619	\$33,411,000	YES
9 City of Boulder	Water	6,637	\$5,655,000	YES
City of Boulder	Wastewater	6,637	\$1,387,000	YES
10 Clark County Water Reclamation District	Wastewater	<i>No response [2]</i>		NO
11 City of Elko	Water	<i>No response [2]</i>		NO
City of Elko	Wastewater	<i>No response [2]</i>		NO
12 City of Fernley	Water	7,275	\$4,800,000	NO
City of Fernley	Wastewater	6,081	\$1,900,000	NO
13 City of Las Vegas	Wastewater	193,000	\$85,000,000	YES
14 Utilites Inc	Water	<i>Unwilling to share</i>		NO

"summ"

* Programs for senior citizens only. Programs have been suspended but customers that qualified when the program was suspended are grandfathered in until the property changes hands.

[1] Treatment of wastewater by City of Las Vegas.

[2] Although no response was provided, internet searches found no evidence of an economic hardship program.

Low income household eligibility is less problematic. Generally evidence of assistance with energy bills, bank statements or government assistance letters will suffice. Five of the six purveyors with programs open to new participants provide assistance to low income households. In addition, the City of Henderson provides assistance to permanently disabled customers, evidence of which may include a doctor's statement or social security letter.

Program Administration

Program administration is performed primarily by the department responsible for billing which may be the finance department or utility department. Support from other departments or a non-profit partner is often entailed in determining participant eligibility. Having support from other departments defrays the cost of running the program that is borne by the utility enterprise fund for a city or county. Both Carson City and the City of North Las Vegas do not have the appetite at this time to raise rates to support staffing needs of economic hardship programs within their utility enterprise funds.

The cost of the economic hardship programs varies by purveyor from none (the cost is absorbed by existing staff) to up to \$374,000 per year. Most purveyors stated little manpower was needed; however, some purveyors allocated a full time equivalent to administration of the program.

Program Funding

Of the survey respondents, only the City of Reno and City of Boulder reported a cap on annual funding of their program. The City of Boulder reported a maximum funding amount for electric, water, sewer and garbage combined but no cap for one specific utility. Most of the respondents were unable to state how much was provided in relief to customers through their economic hardship programs in 2011. With the largest number of beneficiaries, Henderson's subsidy to water customers likely represents the highest range in annual subsidy of about \$305,000 in 2011.

The purveyors use different methods of providing the utility bill relief including rebates, reduced bills and a separate rate class.

- Reno and Sparks wastewater divisions provide rebates, the amounts of which vary from year to year.
- Lyon County has a separate lower rate schedule for low income households consisting of a lower rate for the monthly base charge for both water and wastewater. The water consumption rate per 1,000 gallons is not reduced for low income households.
- The cities of Henderson, Boulder and Las Vegas reduce participant bills either by percentage discount (Boulder – 35% and Las Vegas – 20%), or waiver of basic service charges (Henderson).
- Grandfathered participants in the City of North Las Vegas benefit from charges that are half of the basic service charge (water only, no wastewater discount) plus a calculated consumption rate per 1,000 gallons that is the cost per 1,000 gallons of water that the City purchased in the preceding year. All other customers pay consumption charges based on a 4-tier rate schedule.
- Grandfathered participants in Carson City pay bills reduced by between 10% and 90% depending on income level of the head of household.

Whether the mechanism is rebate, reduced bill or separate, lower rate schedule, all of these mechanisms require cross-subsidization of customer groups.

Cross-subsidization is legally permissible in Nevada but is often frowned upon in the industry. In California, per Article XIID of the Constitution (otherwise known as Proposition 218), rates must be proportional to service received. It is illegal for one group of customers to subsidize another. California water / wastewater utilities have the following options if an economic hardship program is desired:

1. Customers can vote to impose a special tax upon themselves specifically for the program (the vote requires a two-thirds majority to carry),
2. Customers can voluntarily donate to a separately maintained fund which is used to reduce qualified beneficiary accounts,
3. Late fees and penalties can be applied toward lowering of qualified beneficiary accounts, or
4. Use a separate, unrelated funding source, such as the General Fund of a city.

In addition to qualified customer discounts, water providers can utilize other tools such as these to address affordability issues:

1. Cost containment.
2. Rate design.
3. Customer assistance and education (payment plans, leak-repair assistance, free conservation devices).

Affordability of Rates

The industry standard for affordability is generally per EPA guidelines. Each State may adopt its own definitions of an affordable or a reasonable rate for State low-interest loan programs partially funded by the EPA, and other grant programs. The EPA considers rates less than 1.0% of median household income as a low cost burden, rates between 1% and 2% a mid-range cost burden, and rates greater than 2% of median household income as a high burden.

In Nevada the Board for Financing Water Projects, which is the governing body of the Clean Water State Revolving Fund receiving EPA funding, and the administering body of the Nevada AB98 grant water funding programs, defines water rates as reasonable when:

- A. In communities where median household income is **equal to or greater than** the State's median household income, the average monthly cost for 15,000 gallons is equal to or greater than 2% of the area median household income, and
- B. In communities where median household income is **less than** the State's median household income, the average monthly cost for 15,000 gallons is equal to or greater than 1.5% of the area median household income.

Currently, a metered residential TMWA customer using 15,000 gallons in a month would pay \$55.87 (includes the right of way toll at 5% and the regional water management fee). The cost burden is 1.58% of

the area median household income¹. The regional community's median household income is less than the State's median household income therefore TMWA's rates are reasonable according to the Nevada Board for Financing Water Projects' definition. Using EPA's guideline, TMWA's rates are in the mid-range of affordability.

¹ Area median household income based on the 2000 Census using a weighted average for Reno, Sparks, and the unincorporated county is \$42,400; Nevada's median household income is \$44,581. Census 2010 income figures will not be available until mid-2012.

TRUCKEE MEADOWS WATER AUTHORITY
MINUTES OF THE MARCH 21, 2012
MEETING OF THE BOARD OF DIRECTORS

The Board of Directors met on Wednesday, March 21, 2012, at Sparks Council Chambers, Legislative Building, 745 Fourth Street, Sparks, Nevada. Chairman Carrigan called the meeting to order at 10:04 a.m.

1. ROLL CALL

Members Present: Mike Carrigan, Bob Cashell, Mike Cate, Kitty Jung, Bob Larkin, and Geno Martini. Members Absent: Dave Aiazzi. A quorum was present.

15. REPORT ON LOW-INCOME PROGRAM RESEARCH

Kim Mazeres presented this item, as requested by the Board at the January meeting. She introduced Catherine Hansford, a consultant who researched the programs of 14 other Nevada water and wastewater organizations and prepared the report. Ms. Mazeres said that staff did not recommend instituting a low income program at this time because not only are water bills very low in comparison with other utilities, but staff already works extensively with customers who are having difficulty paying their bills. She explained that the flat rate, which a lot of senior customers are on, is where a lot of water waste is found. She described how staff works with these customers to help them understand the savings they would realize if they eliminated waste and/or fixed leaks and moved to the metered rate.

Member Martini said that he felt TMWA is already addressing those problems with staff and the rate structure. He complimented the staff on the job that they are already doing. Member Jung added that she would support the staff recommendation because of her personal experience. Before serving as a County Commissioner, she was a community liaison for the City of Reno, working on many of these types of customer and community issues. She said she had confidence in TMWA, because *"TMWA's customer service is one of the best in the community, working hard to solve customers' issues."*

No action was taken.

McDONALD·CARANO·WILSON^{LLP}ATTORNEY WORK PRODUCT
ATTORNEY-CLIENT PRIVILEGE ASSERTED

TO: Kim Mazeres

FROM: Michael Pagni

DATE: March 31, 2015

RE: Preferential rate treatment for low-income or senior customers

You have requested a legal opinion regarding whether TMWA may provide preferential rate to low-income or senior customers within TMWA's service territory. My review of state and federal law, as well as the explicit powers and authorities outlined in the Cooperative Agreement governing TMWA, indicates that such preferential treatment is prohibited.

TMWA's Powers and Authorities

A. Joint Powers Authority

As you know, TMWA is a Joint Powers Authority created pursuant to a cooperative agreement ("Cooperative Agreement") among the cities of Reno, Sparks, and Washoe County pursuant to NRS Chapter 277. TMWA is a political subdivision of the State of Nevada, and operates as a separate legal entity from the county and cities, pursuant to NRS 277.074 and 277.120. NRS 277.110 makes clear that public entities acting jointly may exercise the same power, privilege and authority as each has individually. The recitals contained in Cooperative Agreement articulate that the purpose of forming TMWA was to facilitate the cooperation of individual member entities to "assure sufficient water supply to meet the needs of existing and future development within the service area." TMWA's power and authority in furtherance of this broad purpose are enumerated in the Cooperative Agreement.

B. Specific Provisions of the Cooperative Agreement

The Cooperative Agreement specifies the functions that the member entities have conferred upon TMWA. "Conferred Function" is defined in the Cooperative Agreement as "any function which the Authority is empowered to perform by article 5 of this Agreement." Art. 2(d). The Conferred Functions set forth in Article 5 by which TMWA can carry out its broad purpose are wide ranging and, for the purposes of the Housing Task force's request, include:

To establish rates, tolls and other charges for the delivery of retail water service within its retail service area in general accordance with the procedures and authorities established in NRS Chapter 318 or as otherwise adopted by the Board.

Art. 5(j). The Cooperative Agreement also gives TMWA the power:



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To fix rates, charges and other fees for water and other commodities including connection charges, hook-up fees, standby charges and availability of service charges; and

To perform all other acts necessary or convenient for the performance of any Conferred Function or the exercise of any of its powers.

Art. 6(p) and (q). Under Article 7, which lists prohibited functions and powers, the Cooperative Agreement provides:

Nothing in this Agreement shall be construed as authorizing the Authority to perform any function or to exercise any power that is not performable or exercisable by at least one of its Members.

Art. 7(a).

Preferential Rates

As a general rule, a public utility cannot discriminate unjustly in its rates to consumers similarly situated or of the same class for the same service or kind of service. 43 Am Jur 683, Public Utilities and Services, § 171. The general rule is well established that when a municipality undertakes to furnish a public service, such as the supplying of electricity, gas, or water, to consumers other than itself, it acts in its proprietary, and not in its governmental, capacity, and cannot grant free or reduced rates or otherwise make discriminations which would be unlawful if the service were rendered by an individual or private corporation; in other words, the fact that the service is by a municipal plant does not change the rule prohibiting unreasonable discrimination. 50 A.L.R. 126 While some cases have upheld preferential rates in certain contexts (for example, different rates for citizens living within the municipality that those living outside city limits), the general rule is preferential rates are inappropriate.

It is axiomatic in rate making that utilities are barred from treating persons similarly situated in a dissimilar fashion. [State ex rel. Utilities Commission v. The Mead Corp., 238 N.C. 451, 78 S.E.2d 290 \(1953\)](#); [Postal Telegraph-Cable Co. v. Associated Press, 228 N.Y. 370, 127 N.E. 256 \(1920\)](#). Reasonable classifications between consumers may be made, but there must be adequate findings of fact, supported by evidence, which demonstrate a rational basis for the classification. Classification of customers must necessarily be accomplished by reference to general characteristics having some rational nexus with the criteria used for determining just and reasonable rates. Whether cost of service, value of service, or other criteria are used, either alone or in conjunction with each other, classifications of persons must be on the basis of similar-but not identical-characteristics



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Additionally, in order for a governmental entity to give preferential treatment to certain rate payers or customers based upon their income or age, the rate disparity must be rationally related to a legitimate governmental interest. Silveira v. Lockyer, 312 F.3d 1052, 1088 -1089 (9th Cir. 2002). Generally, this standard, known as the “rational basis test” is relatively relaxed. Id. Nevertheless, the governmental entity must be able to demonstrate a rational connection between the disparate treatment and some legitimate policy objective. See id.; Romer v. Evans, 517 U.S. 620, 634-35 (1996).

Because TMWA was formed for the limited purpose of managing the water supply to certain areas within the Truckee Meadows, it does not have a legitimate interest in alleviating the financial burden of providing water service to low-income or elderly customers. Any decision to do so implicates the Equal Protection Clause of the Constitution.

Notwithstanding any other governmental interests in assisting seniors or low income residents, TMWA is likely prohibited from adopting disparate rates for seniors or low income customers. The Cooperative Agreement makes clear that TMWA was formed to manage the water supply within TMWA’s service territory. Although TMWA’s conferred powers and functions in furtherance of this purpose are fairly extensive, TMWA nevertheless does not have the same governmental functions or responsibilities as its members. While Reno, Sparks and Washoe County may, individually, have a legitimate interest in ensuring that affordable housing exists for elderly or low income residents within their respective jurisdictions, TMWA—as municipal water supplier—does not. There simply is not a nexus between managing the water supply and promoting these types of social policies. As a result, the Equal Protection Clause likely prohibits TMWA from providing preferential rate fees for senior or low income customers.

For example, in Mountain States Legal Foundation v. Utah Public Service Commission, 636 P. 2d 1047 (1981), the Utah Supreme Court struck down a “senior citizen rate” for electricity on the ground that the sole justification for the rate was that seniors, on average, earn less money and consume less power. The Court found that the public utilities commission had improperly failed to explain why the lower average income and smaller consumption of senior citizens warranted treating them differently from other residential consumers, or why the shortfall should be borne only by other residential customers instead of all customers. Similarly, the Court in Indiana struck down a “lifeline” electric rate structure, which provided a below-cost electric rate to low income elderly and disabled residential customers for their essential needs on the ground the utility was prohibited from charging any customer different rates for the same services, regardless of whether the group receiving preferential rates was deserving. Citizens Action Coalition of Indiana, Inc. v. Public Service Co. of Indiana, 450 N.E.2d 98, 29 A.L.R.4th 606 (Ind. Ct. App. 4th Dist. 1983).

Conclusion

TMWA was formed for the purpose of securing and managing the quantity and quality of the water supply within its service territory. Although the authority bestowed upon TMWA by



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the member entities to carry out that purpose is wide-ranging, it does not include the alleviation of social problems and as such, it is more than likely that a preferential reduced rate for low income or elderly customers would not pass the rational relationship test and would be contrary to the general rule against preferential rate treatment.

Fulfilling TMWA's Vision & Business Objectives

TMWA's VISION:

*TO ENHANCE THE QUALITY OF LIFE IN THE TRUCKEE MEADOWS BY
DELIVERING EXCEPTIONAL, CUSTOMER-FOCUSED WATER SERVICES*

Succession Planning at TMWA

2019

- Focus on immediate term
- Identify skill gaps & training needs
- Retain institutional knowledge
- Replace highly specialized competencies
- Support business continuity

2023

- Focus on the long-term
- Identify skill gaps & training needs
- Prepare TMWA for future
- Prepare employees to assume new roles or perform new duties
- Build systems and processes to ensure leadership continuity
- Identify and develop key competencies needed in the future
- Define learning paths and provide development opportunities
- Support business continuity

Process Steps

Director –Manager Strategic Planning

Environmental Assessments

Employee Communications

Employee Career Map Exercise

Leaning & Development Activities

Employee Engagement & Communication Activities

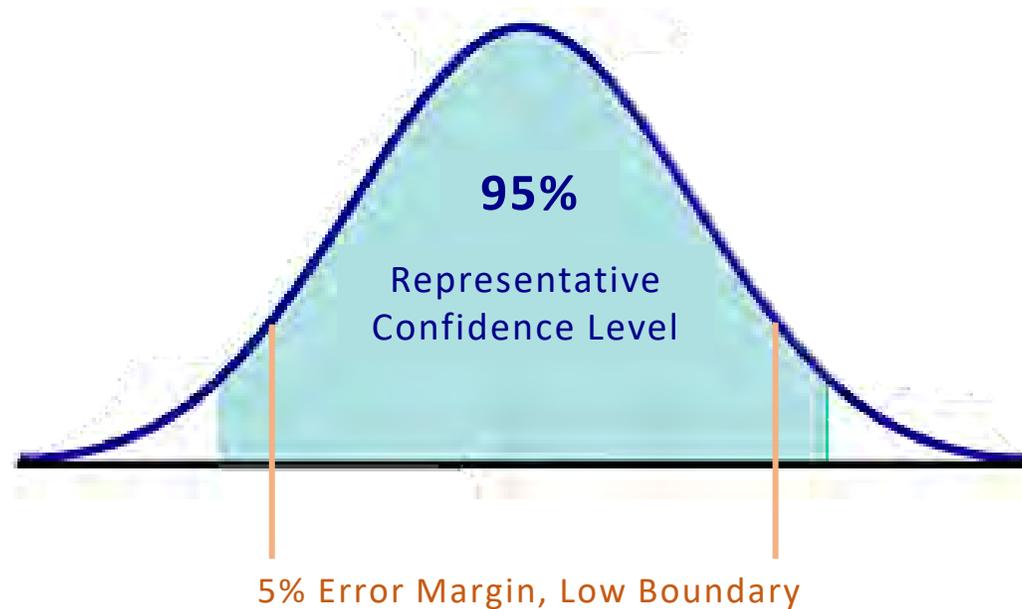
Employee Career Mapping: Survey Overview

Career Map

1. Employee Information
2. Career Targets
3. Career & Development Planning
4. Aspirations
5. Capabilities
6. Engagement
7. Additional Questions

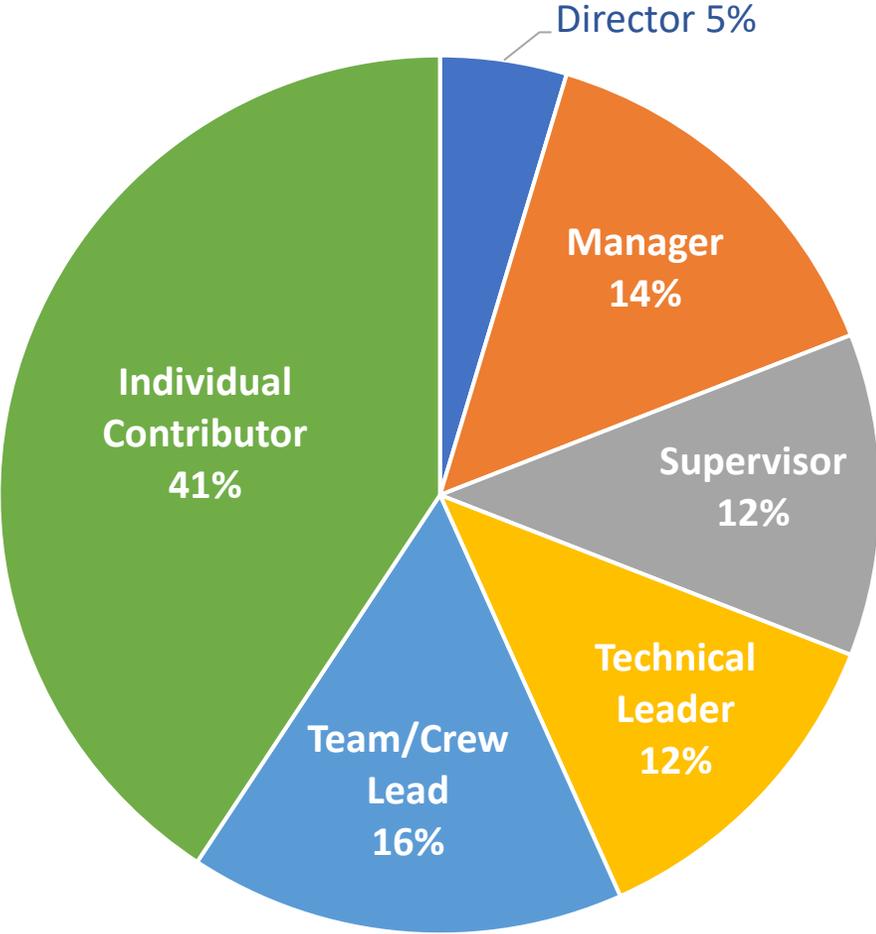
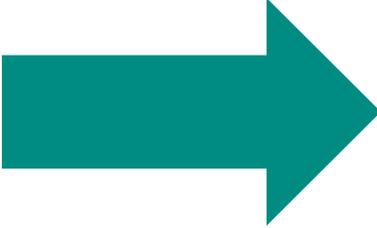
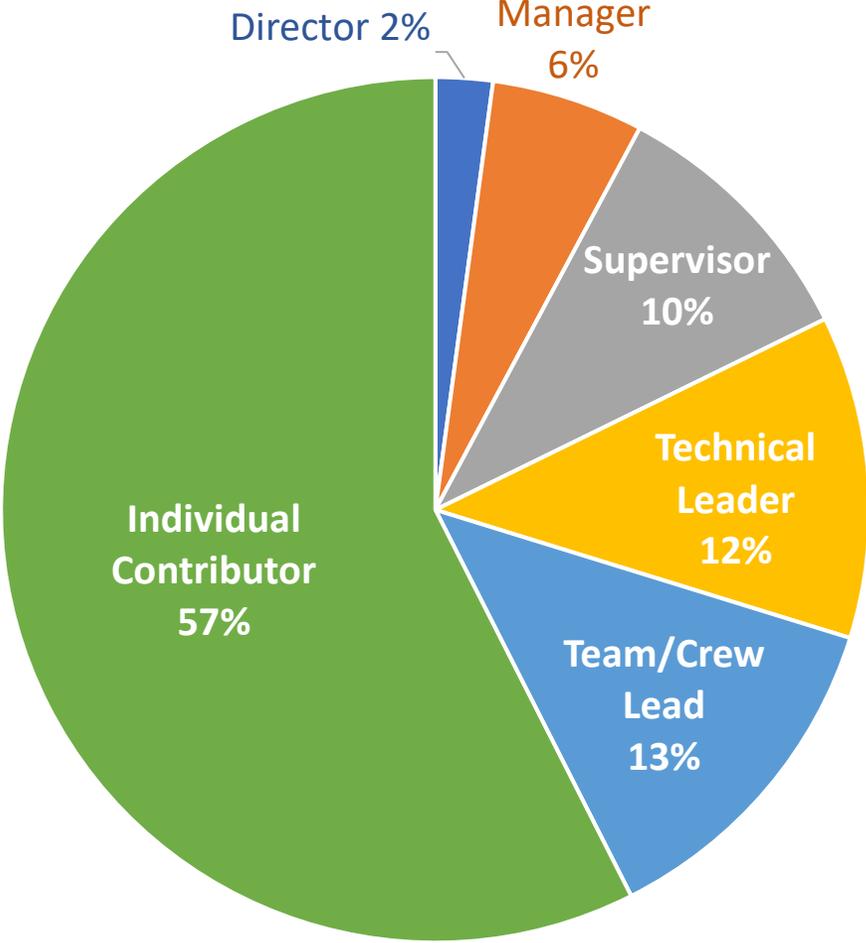
Total Number of Employees:	255
Responses:	144
Response Rate:	56%

The findings represent 95% of the total population, +/- 5%



Employee Information: Which best describes your CURRENT/PREFERRED role?

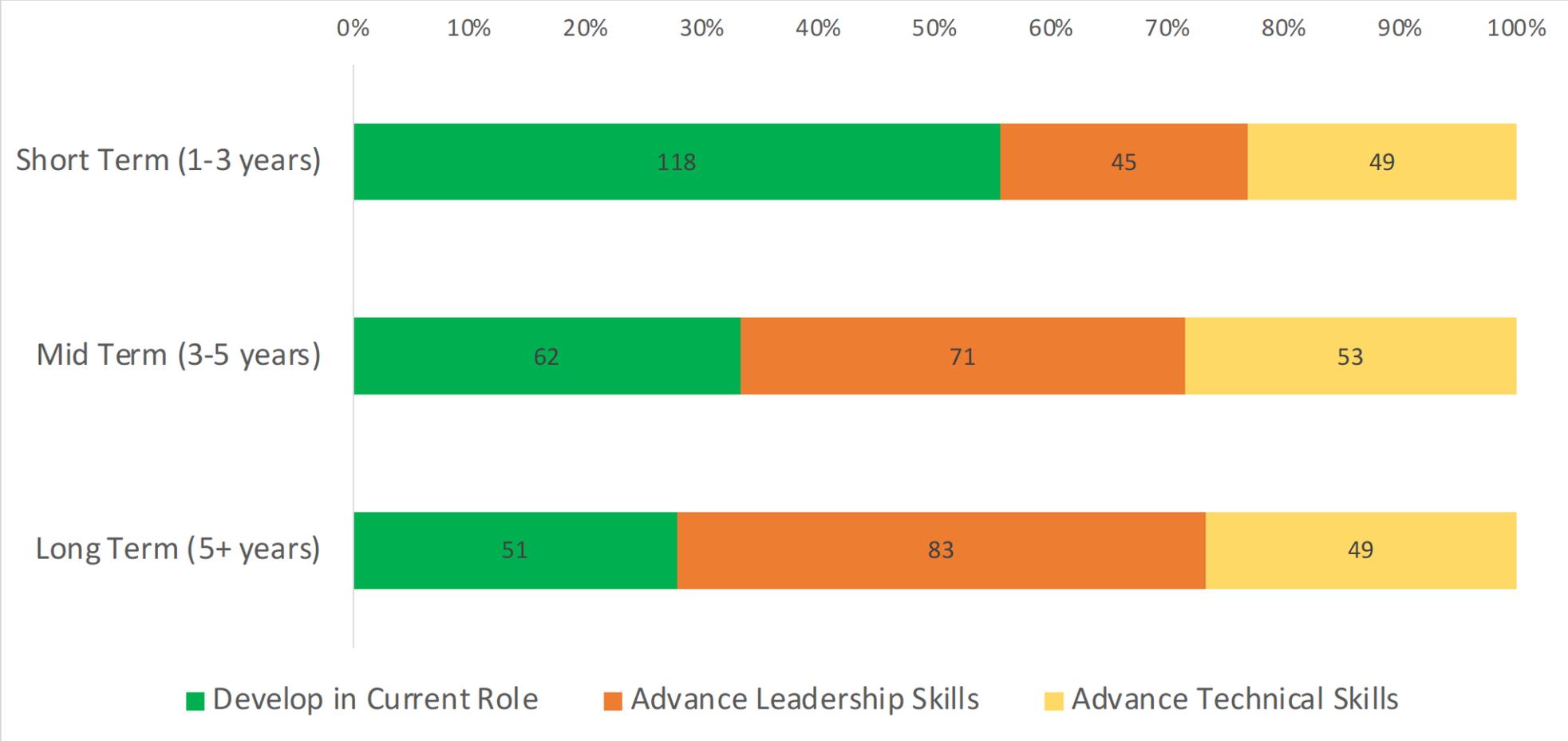
Of all Respondents, 56% seek advancement and 40% want to remain in current role



Current

Preferred

Identify Short – Mid – Long Term Career Targets



Desire a Career Path change: 5% within the short term 13% in the mid term 7% in the long term

Career Development



What we asked:

- What skills, knowledge or competencies need to be learned or acquired?
- What learning activities or experiences would enhance your performance or better prepare you?
- What job functions, positions, roles, and or activities are you interested in?

What was said:

“I would like to attend a WQTC conference by AWWA or another conference put on by AWWA.”

“I really just need some time to take some classes that I’m interested in.”

“Water conferences, training.”

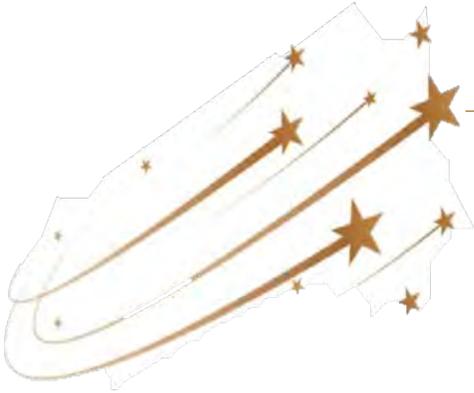
“I am interested in continuing to learn and develop in the current position. I am interested in becoming a well-rounded employee with experience in different areas...”

“I am interested in learning as much as I can about our distribution system.”

Insights gained:

- Industry or new technology conferences
- Certifications and professional development
- Professional collaboration

Aspirations & Capabilities



What we asked:

- Which of your talents would you like to use more?
- What work related opportunities would be meaningful and exciting to you?
- Are there any departments or functional areas that you want to understand better in order to do your job best?
- What results are you most proud of achieving?
- What roles or responsibilities do you prefer NOT to have and why?

What was said:

“One of my talents is troubleshooting and problem solving. Currently I still get to exercise both... as well as assisting co-workers in my previous position.”

“When my workload allows, I take the opportunity to get out in the field to actually see in person what I review on plans...”

“Anything I need would be technology related and I feel like my requests get addressed.”

“Never had to go back on any of the work I have done for repairs.”

“Working together to solve problems.”

Insights gained:

- Challenging projects
- Cross functional awareness and training
- Overall operational familiarity and system awareness

Engagement



What we asked:

- What motivates and energizes you?
- What do you enjoy most about working at TMWA?
- What do you need from a job and a company to remain engaged?
- What can we do to help you better understand our business?
- How can TMWA or your supervisor continue to support you?

What was said:

“It is hands down the best place I have ever worked, and I’ve had some pretty good jobs.”

“I’ve never had a job that encourages me as much as TMWA does to ask questions, shadow departments and has taken such an interest in my future.”

“The people at TMWA and providing a quality product that all of our customers can rely.”

“The opportunity to evolve and maybe move up.”

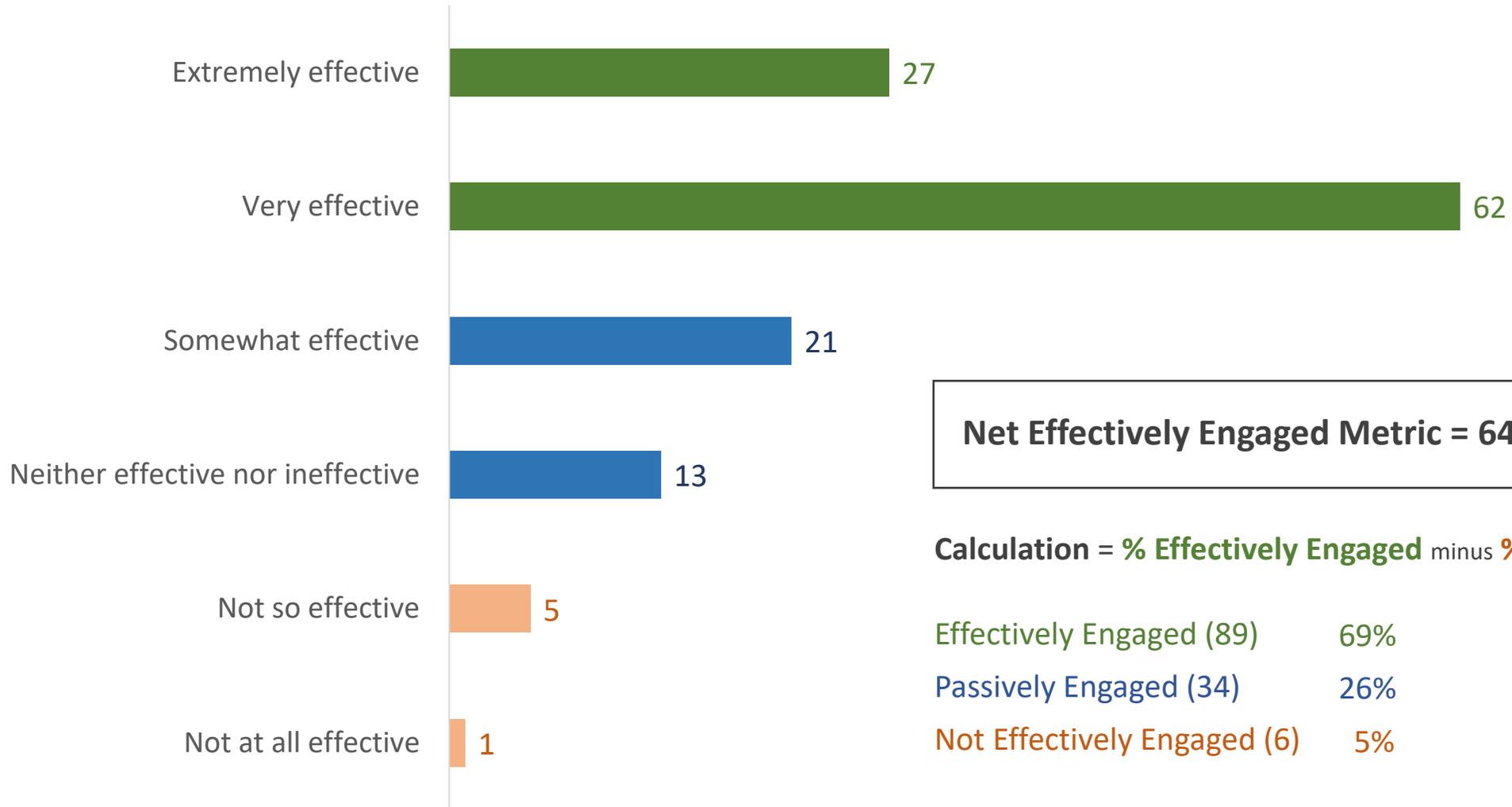
“Keep giving me jobs that challenge me.”

Insights gained:

- Work/Life Balance
- Opportunities to grow and develop
- Supervisor support and communication

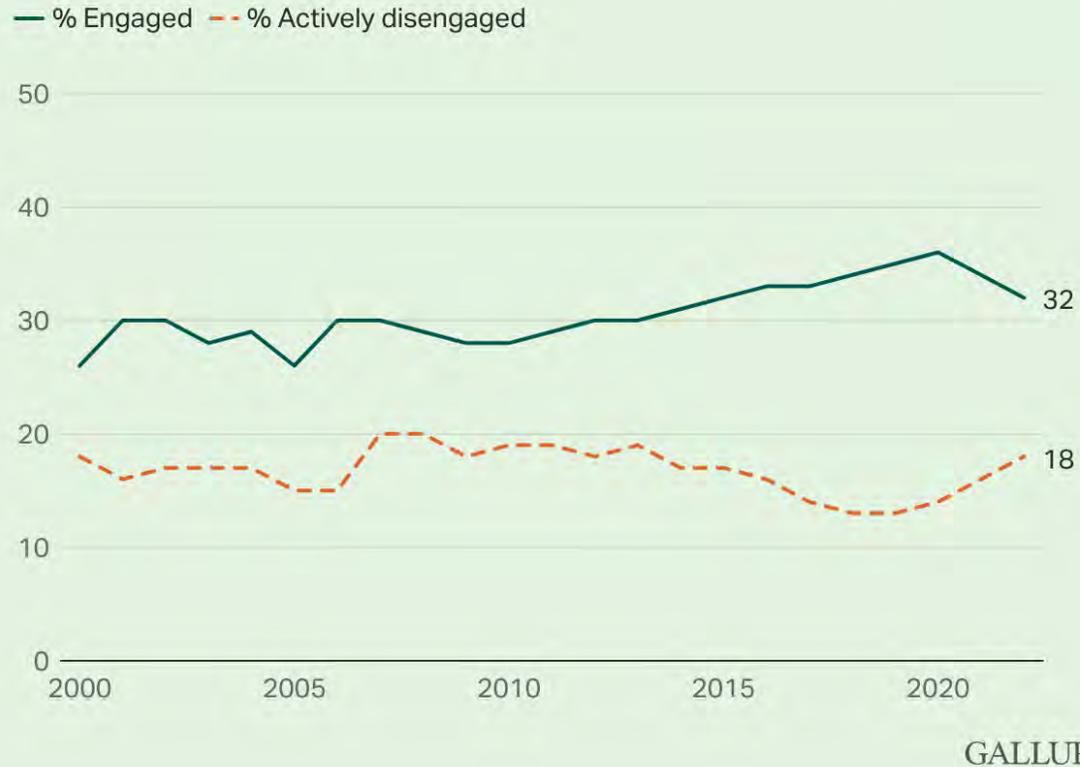
“What do you need from a job and company to remain engaged?”

“How effective is TMWA in meeting these needs?”



Engagement: Gallup 2022 Report and Industry Comparisons

U.S. Employee Engagement Trend, Annual Averages



TMWA 64

GALLUP Comparisons (proprietary calculation)

Energy	4
Education	16
Non-Profit	18

CULTURE AMP (eNPS calculation)

Government	5
Renewable Utility	37
Building Materials	-12

Gallup: The relationship between employee and direct supervisor/manager, accounts for 70% of what drives employee engagement.

Indicate order of importance using the following categories

Workplace Benefits By *Effective Engagement* Categories

IMPORTANT BENEFITS RANKING	ALL	Effectively Engaged	Passively Engaged	Not Effectively Engaged
Work/life balance	24%	#1	#1	#1
Gain a broader understanding of TMWA’s operations	15%	#4 (tie)	#2	#4
Training, certifications and acquisition of technical skills	15%	#3	#3 (tie)	#2
Opportunities for promotion and advancement	13%	#4 (tie)	#4	#5
Money and other forms of compensation	12%	#2	#6	#6
Flexible schedule	11%	#5	#3 (tie)	#7
Paid time off	9%	#6	#5	#3

Highest Priority (all)
Work/life balance

Next Priority
Effectively engaged (69% of staff):
2. Money, other compensation
3. Training/certification/skills

Passively engaged (26% of staff):
2. Broader understand of TMWA operations
3. Training/certification/skills; Flex schedule

Not effectively engaged (5% of staff):
2. Training/certification/skills
3. Paid time off

Next Steps

CONTINUE or REDEVELOP

- ✓ Employee communication channels
- ✓ Teambuilding opportunities
- ✓ Cross functional experiences
- ✓ Industry exposure
- ✓ Training and development



ESTABLISH

- ✓ Pathways to obtain a deeper level of understanding regarding TMWA's entire operation.
- ✓ Leadership mentoring programs
- ✓ Provide incentives to get higher-level certifications and increase overall knowledge of water utility operations
- ✓ Supplemental training outside of current job duties
- ✓ Opportunities for feedback before many process changes or policy shifts are made
- ✓ Forecast potential future job opportunities, give employees a glimpse of what TMWA may look like in the future.

To view the un-edited responses, click on the link below:

[Employee Survey Responses](#)

Thank you!



STAFF REPORT

TO: Chair and Board Members
FROM: John R. Zimmerman, General Manager
DATE: September 11, 2023
SUBJECT: General Manager’s report related to performance on goals adopted by the Board for contract year 2022-2023

RECOMMENDATION

The TMWA Board review the General Manager’s performance results for the past contract year.

DISCUSSION

In October 2022, the Board adopted the following specific objectives that the General Manager would be working to accomplish during the contract year and that the Board would use to evaluate the performance of the General Manager. The following is a summary of the results.

GENERAL OBJECTIVES		RESULTS
A	Direct the preparation of and propose financial plans, investment strategies, funding plans and adjustments to rates and charges that will continue to keep TMWA in long term financial stability; including preparation of budgets and Capital Improvement Plans and financial reporting that comply with Nevada Revised Statutes and the Securities and Exchange Commission (SEC).	Staff prepared and presented fiscal budgets, including the Capital Improvement Plan, to the Board for preliminary and final approval. Staff also regularly presented updates regarding TMWA’s financial status and investments. In June 2023 TMWA implemented the last of five scheduled rate increases, which were approved in 2017 and postponed in 2019 and 2020. Lastly, staff prepared the annual funding plan and recommended the necessary rate adjustments to keep TMWA on solid financial ground over the long-term while balancing water affordability.
B	Develop proactive communications plans to address upcoming issues (e.g., topics affecting water supply, drought planning, regional water issues, utility water system consolidation and rate changes) and to keep all stakeholders including the Board, the employees, and the customers informed through a variety of mediums. Respond to media inquiries and provide informational interviews.	Communications were delivered through multiple media including newsprint, a myriad of broadcast interviews, various presentations before local groups and legislative sub-committees, bill print messages, bill inserts, TMWA’s e-newsletter, workshops and special events booths. Focus this year was on water supply, conservation, and water quality. TMWA maintained communications around its operations, water quality, community outreach and employee safety.

GENERAL OBJECTIVES (continued)		RESULTS
C	Continue having and improve on a community presence for TMWA through the Water Leadership program and participation in community committees, boards, and networking organizations and by providing presentations and information to these groups; offer Truckee River, Chalk Bluff Plant and/or other informational tours to the community.	TMWA staff continues to participate in a multitude of organizations including Rotary, Reno-Sparks Chamber of Commerce, WaterStart, EDAWN, WIN, Nevada Water Innovation Institute (NWII), Desert Research Institute (DRI), and participated in multiple community events. Staff continued with both virtual and in person presentations to schools and organizations like Rotary, the Builders Association of Northern Nevada (BANN), Reno-Sparks Chamber of Commerce, and homeowner's associations (HOA's) and have touched on many topics including water supply and resources, drought planning, conservation, development/growth and more. TMWA held another successful Smart About Water (SAW) Day .
D	Continue to create a highly productive work environment and a highly motivated employee team by developing, training, retaining and recruiting the highest quality employees.	TMWA achieved a favorable rating of 84% in our annual third party administered Customer Satisfaction Survey – this outstanding result is a tribute to TMWA's talented and highly motivated employees. This is lower than our average 90% rating due to switching to an online portal. TMWA continues to maintain high certification levels for staff and provides and incentivizes both internal and external training opportunities.
E	Strive for continuous improvements in processes and operations targeting initiatives that will enhance revenues and/or reduce operating costs thus keeping customer rates as low as possible.	TMWA's Operating Margin (Operating Revenue minus Expenses) ended up \$4.9m lower than budget, while capital spend was approximately \$35.9m (43%) under budget (these numbers may change slightly following year-end adjustments for ACFR presentation). TMWA's leadership regularly reviews operating costs compared to budget to help develop cost-saving measures. During FY 2023, TMWA augmented the operating expense budget by approximately \$5.0m to account for higher electric power and water treatment chemical costs. Additionally, the cold and wet spring weather led to lower water consumption by TMWA customers resulting in an approximate \$6.0m revenue shortfall from budget during Q4 FY2023. Staff has developed a rate adjustment plan, which will allow for stable financial operations going forward. Despite inflation, TMWA staff continue to manage operating expenses to a level that provides excellent service.

ONGOING OPERATIONAL OBJECTIVES		RESULTS
a	Monitor federal legislation for opportunities to obtain funding for a variety of TMWA projects.	Staff worked with our federal lobbyists to meet with federal legislative staff to describe TMWA's priorities and to seek federal funding. TMWA was successful in receiving an earmark for \$3m dollars for the American Flat Project. Staff has also submitted several applications for various federal funding. Staff met with Senator Cortez Masto and members of her federal legislative staff along with staff from Senator Rosen and Congressman Amodei's offices during the American Water Works Association's water week on Capitol Hill. Staff also participated in the Western Urban Water Coalition meetings regarding federal legislation and funding.
b	Carefully analyze opportunities to acquire strategic water rights and resources in the market in consideration of current inventory and financial constraints. Ensure adequate resources are available through TMWA's Rule 7 as directed by the Board.	Staff had the opportunity to increase Rule 7 inventory by approximately 582 acre-feet. Staff has worked diligently and in collaboration with the Pyramid Lake Paiute Tribe on obtaining changes to water rights to satisfy the return flow requirements for current TMWRF treated effluent reuse and TRIGID reuse. Additionally, TMWA staff continue to aggressively pursuing water rights purchases.
c	Provide staff support to the SAC, the Truckee River Fund (TRF) Advisors, and One Truckee River and ensure communications regarding TRF projects.	This was done.
d	Manage and direct activities relative to legal issues, keeping the Board informed on all such matters.	This was done.
e	Update TMWA Administrative Instructions as required to ensure they are compliant with applicable laws and current practices. Deliver updates to the Board and employees, and implement the changes.	Complete. The Board approved revised Administrative Instructions (AIs) in January 2023.
f	Minimize cost impacts to customers by maximizing investment and hydroelectric income, pursuing revenue enhancement and collection opportunities, pursuing process improvements and projects that drive savings in TMWA expenses, and actively pursuing grant/low-interest loan funding for projects.	TMWA generated over \$2.9 million in hydroelectric revenue this fiscal year and plant availability was at 100%. TMWA meets regularly with investment managers to optimize investment returns while ensuring compliance with TMWA's investment policy. These items along with operating cost reviews by management will keep TMWA's rates as low as possible. In late fiscal year 2023, Staff began working with TMWA's Financial Advisor, PFM, on a potential debt restructuring strategy which could result in savings of more than \$5m. Staff continues to implement a program to increase the number of customers signing up for paperless billing. To date there are 41,805 customers signed up for paperless billing, which equates to an annual savings of \$ 326,079.

SPECIFIC OBJECTIVES		RESULTS
1	Develop customer communications plan for FY2023, including conservation communication, water supply planning, and detailed public/customer communications/outreach plan - present to the SAC for their recommendation and Board for approval no later than the April Board Meeting.	The communication plan was developed prior to the irrigation season and presented to the Board at their April meeting. After the epic snowpack year in 2023, the messaging for this summer was focused on standard water conservation protocols, as normal river flows are projected for the next two to three years. Drought reserves will not be necessary for the foreseeable future. Standard water conservation protocols were enforced this summer, the most important of which is assigned day watering. Through a variety of public outreach methods, this summer’s campaign reinforced the importance of only taking what you need, watering responsibly, not wasting water, and following your assigned day schedule. The region will go into this upcoming winter with as much upstream reservoir storage as legally allowed, as well as a healthy amount of drought reserves.
2	Continue working with city and county staff and WRWC regarding regional water issues (including wastewater, effluent management, stormwater, etc.), regional economic development initiatives, etc. including the OneWater Nevada initiative that includes advancing the American Flat Project, continued pilot testing and analysis related to infiltrating or injecting highly treated wastewater into the ground for later use, assistance with TMWRF return flow obligations, etc.	TMWA staff has continued to work extensively with the cities and Tahoe Reno Industrial General Improvement District (TRIGID), regarding the planned delivery of reclaimed water to the TRIGID system for industrial use, with a focus on water rights and the return flow management agreement. Staff has entered into a settlement agreement with the Pyramid Lake Paiute Tribe regarding the necessary water rights to make up instream flows from treated effluent reuse in the Truckee Meadows and has begun discussions with the Tribe on the necessary water rights to make up instream flows from treated effluent reused at TRIGID. TMWA continues in a leadership role along with OneWater Nevada and UNR to advance the design, funding and permitting of groundwater augmentation using Category A+ advanced purified water at American Flat. Assessments of the hydrogeologic feasibility and cost effectiveness of irrigating with recycled water and recharging potable water in Palomino Valley continues. TMWA staff continues to provide technical support to the Regional Effluent Management Team (made up of staff from Reno, Sparks, Washoe County, UNR and WRWC) in evaluating various effluent management strategies.
3	Continue analyzing water supply options related to fringe area development where private systems exist, make recommendations to Board and follow Board direction regarding same.	Staff engaged in ongoing coordination with Great Basin Water Company (GBWC) in Cold Springs and Spanish Springs Valley, including potential GBWC participation in a nitrate groundwater treatment facility in Spanish Springs. Staff continues to analyze water supply options related to fringe area development where private systems exist and will bring any recommendations to the Board when they arise.

SPECIFIC OBJECTIVES (continued)		RESULTS
4	Monitor and participate in Legislative activities during the 2023 Legislative Session, prepare and deliver presentations to Legislative Committees as requested, schedule meetings with staff, Board legislative committee members, lobbyists and legislators, keep the Board updated and informed regarding legislative matters, and pursue Board direction regarding Legislative issues. Facilitate open communications between legislators and the TMWA Board.	Staff monitored legislative activities and worked closely with TMWA legal counsel and lobbyists, to update TMWA's Legislative Subcommittee. TMWA staff and lobbyist met with legislators regarding TMWA's priorities, infrastructure funding, water supply, and watershed protection. Staff also was involved in the State Engineer proposed regulation regarding consideration of the best available science in making decisions and revising provisions in appropriating underground water and SNWA's conservation bill. TMWA continues to monitor regulatory actions and continues to meet with NDEP to address analyzing improvements to the Central Truckee Meadows Remediation District program and the review process with Washoe County Health District for water projects. Staff is working closely with the Nevada Division of Environmental Protection regarding the EPA's national lead and copper service line inventory rule and monitoring the proposed PFAS rule and assessing its impact to TMWA operations.
5	Update the 5-year Funding Plan and present to the SAC and the Board. Propose Board actions based on the results of the planning cycle updates. Implement Board direction with regard to funding plan outcomes.	This was done at the Board Strategic Planning Workshop in October 2022.
6	Analyze the need for any necessary rule changes, rate adjustments, water facility charge adjustments, etc. and report results of analysis to the SAC and Board of Directors and follow Board direction regarding same.	Phase 5 rate adjustment of 2.5% went into effect June 2023. During the fiscal year, Staff began work on a rate plan for fiscal years beyond FY 2023 and presented the recommended adjustments to the SAC and Board. The first of the proposed rate adjustments is recommended to occur in FY 2024.
7	Continue to develop/refine strategies to optimize conjunctive use of surface water and groundwater resources; further develop/refine drought supply operational strategies; and implement plans.	TMWA continues to recharge groundwater to support water quality and pumping goals. TMWA is continuously working on increasing active and passive recharge efforts through existing wells and the development of new wells as necessary and economically appropriate. Long-term ASR goals are to recharge up to 9,000 AFY where 3,000 AFY is recharged in the South Truckee Meadows, 2,000 AFY in the Central Truckee Meadows, 2,000 AFY in the Spanish Springs Valley, and 2,200 AFY in Lemmon Valley with American Flat Advanced Purified Water (APW). One additional production well in the Spanish Springs Valley was equipped and began recharging last year. Through conjunctive use, groundwater pumping was reduced by about 3,400 acre-feet between the Mt. Rose, Spanish Springs, Lemmon Valley and former STMGID areas, and 1,464 acre-feet was recharged system-wide during FY 2023.

SPECIFIC OBJECTIVES (continued)		RESULTS
8	Continue to develop, refine and implement strategies to mitigate pre-merger groundwater conditions on the Mt. Rose fan including integrating operation of the Mt. Rose Water Treatment Plant and expanding aquifer storage and recovery (ASR) in that area.	TMWA has continued to rest groundwater wells on the Mt. Rose fan in areas where other resources are available.. TMWA recharged three existing production wells on the Mt. Rose Fan, and water levels are continuing to respond favorably to these passive and active recharge efforts. This passive and active groundwater recharge will assist in the sustainable groundwater management for the Mt. Rose fan area. Natural Resources, Engineering, and Operations have been working very diligently to restart operations at the Mt. Rose Water Treatment plant after sedimentation from flood damage in the upper Whites Creek watershed made operation unfeasible. The plant was brought back online in September.
9	Update succession plan and continue to implement the succession/staffing plan to address and fill vacancies created by retirements. Continue staff development in support of TMWA's succession plan with a focus on leadership and critical position succession. Increase employee communication and input regarding succession planning, workforce development requirements and foster more collaboration.	TMWA has continued to spend time focusing on succession planning efforts. The management team has spent considerable time and effort increasing two-way communication with employees regarding succession planning, employee growth and development, and collaboration. TMWA management first spent time considering and describing the key operational objectives and issues TMWA faces in the short and long-term. These drivers were discussed with TMWA supervisors and presented to all employees. The management team presented to employees at three different locations to ensure that as many employees as possible were able to see the presentation. Those presentations described the drivers and informed employees of the reason for increased communication and collaboration and next steps with succession planning and employee development. Each department also presented an overview of their core business functions and roles within TMWA to all employees so that employees have greater awareness of the job duties of their fellow employees. TMWA management also requested employees complete a career map survey to better inform management about employees' career aspirations and needs. The results of the above process will be described at the September Board meeting along with the next steps in the process.
10	Continue working under the terms of the MOU with Carson City and Storey County, to determine surplus water availability to TMWA from the Marlette Lake Water System (MLWS).	Both Carson City and Storey County have updated their future water demand needs and are working towards their long-term wholesale agreements with the MLWS based on those demands. TMWA and the State are discussing options of purchasing water to be released from Marlette Lake to facilitate a planned dam rehabilitation project in 2025.
11	Begin the CMAR design phase for the Advanced Purified Water Project at American Flat. Continue working on operations plan and seeking grant monies to offset costs. Provide periodic updates to the Board at appropriate milestones.	TMWA hired RSCI as the CMAR in October 2022. AECOM completed the 30% design in July 2023. TMWA approved the final design PO with AECOM in May 2023. TMWA anticipates applying for the Bureau of Reclamation Title XVI grant in Fall 2023.

SPECIFIC OBJECTIVES (continued)		RESULTS
12	Continue working on collecting additional information based on the results from the feasibility study of Palomino Farms, and recommend whether or not to move forward with an option agreement involving Palomino Farms, Reno, Sparks and Washoe County.	The feasibility study was completed and presented to the Board. The feasibility study noted that additional work is required to address issues such as, return flow, interbasin transfer, permitting and cost sharing opportunities. Additional work has been completed on hydrogeologic water quality assessments and return flow. The Board directed staff to continue pursuing the additional required information.
13	Continue analyzing opportunities to increase water conservation for drought resiliency and mitigate impacts to the upstream watershed to protect water quality and reservoirs, use best available science to evaluate global climate change models applicable to this region, and advise the Board.	Staff is routinely monitoring for any changes in hydrological trends in the Truckee River Basin and stays current with the latest publications and peer-reviewed journal articles related to climate science, as well as any new developments in climate change modeling and/or ways to improve upon the scenario based methods utilized in the 2020-2040 water resource plan. In fiscal year 2024 staff will begin working to update the 2020-2040 water resources plan and incorporate any new data or developments that have occurred since the last revision. Staff has continued to work with stakeholders in the upper Truckee River watershed on fire mitigation strategies such as the Ladybug fuels reduction project near Stampede reservoir and will provide an update to the Board in December 2023. Staff has also continued to work with the Bureau of Reclamation and Federal Water Master's office regarding reservoir re-operation and presented an update to the Board in August 2023.
14	NEW: Complete negotiations on a labor contract with the International Brotherhood of Electrical Workers (IBEW) Local 1245 and present to Board for approval.	Contract was completed and approved by the Board in May 2023.
15	NEW: Work with Nevada Division of Environmental Protection and Central Truckee Meadows Remediation District to explore ways to optimize PCE remediation.	TMWA continues to work with the CTMRD and NDEP regarding an update to Plan of Remediation during 2023-2024. TMWA completed a basin scale PCE contaminant transport model for use in the Plan update.
16	NEW: Update Water Facility Plan and analyze the need for any necessary water facility charge adjustments, report results of analysis to the SAC and Board of Directors and follow Board direction regarding same.	Draft water facility plan will be presented to the Board at the October strategic planning meeting and staff will seek approval of its proposed public outreach process and implementation schedule.



STAFF REPORT

TO: Chairman and Board Members
FROM: John R. Zimmerman, General Manager
DATE: September 11, 2023
SUBJECT: Discussion and action on request for Board input and acceptance of General Manager performance objectives for contract year 2023-2024

RECOMMENDATION

The TMWA Board review the objectives proposed herein, provide input to the proposed objectives, and approve the objectives as amended by the Board discussion.

DISCUSSION

Under the Employment Agreement with the TMWA General Manager, the Board has an opportunity to discuss and approve specific objectives and criteria that the General Manager would be working to accomplish during the current fiscal year. These objectives and criteria would be used to evaluate the performance of the General Manager at the end of the contract year. Below are suggestions for the Board’s discussion and input.

2023-2024 GENERAL MANAGER	
GENERAL OBJECTIVES	
A	Direct the preparation of and propose financial plans, investment strategies, funding plans and adjustments to rates and charges that will continue to keep TMWA in long term financial stability; including preparation of budgets and Capital Improvement Plans and financial reporting that comply with Nevada Revised Statutes and the Securities and Exchange Commission (SEC).
B	Develop proactive communications plans to address upcoming issues (e.g., topics affecting water supply, drought planning, regional water issues, utility water system consolidation and rate changes) and to keep all stakeholders including the Board, the employees, and the customers informed through a variety of mediums. Respond to media inquiries and provide informational interviews.

2023-2024 GENERAL MANAGER

GENERAL OBJECTIVES (continued)

C	Continue having and improve on a community presence for TMWA through the Water Leadership program and participation in community committees, boards, and networking organizations and by providing presentations and information to these groups; offer Truckee River, Chalk Bluff Plant and/or other informational tours to the community.
D	Continue to create a highly productive work environment and a highly motivated employee team by developing, training, retaining and recruiting the highest quality employees.
E	Strive for continuous improvements in processes and operations targeting initiatives that will enhance revenues and/or reduce operating costs thus keeping customer rates as low as possible.

ONGOING OPERATIONAL OBJECTIVES

a	Monitor federal legislation for opportunities to obtain funding for a variety of TMWA projects.
b	Carefully analyze opportunities to acquire water rights and resources in the market in consideration of current inventory and financial constraints. Ensure adequate resources are available through TMWA's Rule 7 as directed by the Board.
c	Provide staff support to the SAC, the Truckee River Fund (TRF) Advisors, and One Truckee River and ensure communications regarding TRF projects.
d	Manage and direct activities relative to legal issues, keeping the Board informed on all such matters.
e	Update TMWA Administrative Instructions as required to ensure they are compliant with applicable laws and current practices. Deliver updates to the Board and employees, and implement the changes.
f	Minimize cost impacts to customers by maximizing investment and hydroelectric income, pursuing revenue enhancement and collection opportunities, pursuing process improvements and projects that drive savings in TMWA expenses, and actively pursuing grant/low-interest loan funding for projects.

SPECIFIC OBJECTIVES

1	Develop customer communications plan for 2024, including conservation communication, water supply planning, and detailed public/customer communications/outreach plan - present to the SAC for their recommendation and Board for approval no later than the April Board Meeting.
2	Continue working with city and county staff and WRWC regarding regional water issues (including wastewater, effluent management, stormwater, etc.), regional economic development initiatives, etc. including the OneWater Nevada initiative that includes advancing the American Flat Project, continued pilot testing and analysis related to infiltrating or injecting highly treated wastewater into the ground for later use, assistance with TMWRF return flow obligations, etc.
3	Continue analyzing water supply options related to fringe area development where private systems exist, make recommendations to Board and follow Board direction regarding same.

2023-2024 GENERAL MANAGER

SPECIFIC OBJECTIVES (continued)

4	Monitor and participate in Legislative activities during the 2024 Interim Legislative Session, prepare and deliver presentations to Legislative Committees as requested, schedule meetings with staff, Board legislative committee members, lobbyists and legislators, keep the Board updated and informed regarding legislative matters, and pursue Board direction regarding Legislative issues. Facilitate open communications between legislators and the TMWA Board.
5	Update the 5-year Funding Plan and present to the SAC and the Board. Propose Board actions based on the results of the planning cycle updates. Implement Board direction with regard to funding plan outcomes.
6	Analyze the need for any necessary rule changes, rate adjustments, water facility charge adjustments, etc. and report results of analysis to the SAC and Board of Directors and follow Board direction regarding same.
7	Continue to develop/refine strategies to optimize conjunctive use of surface water and groundwater resources; further develop/refine drought supply operational strategies; and implement plans.
8	Continue to develop, refine and implement strategies to mitigate pre-merger groundwater conditions on the Mt. Rose fan including integrating operation of the Mt. Rose Water Treatment Plant and expanding aquifer storage and recovery (ASR) in that area.
9	Update succession plan and continue to implement the succession/staffing plan to address and fill vacancies created by retirements. Continue staff development in support of TMWA's succession plan with a focus on leadership and critical position succession. Increase employee communication and input regarding succession planning, workforce development requirements and foster more collaboration.
10	Continue working under the terms of the MOU with Carson City and Storey County, to determine surplus water availability to TMWA from the Marlette Lake Water System.
11	Continue the CMAR design phase for the Advanced Purified Water Project at American Flat. Continue working on operations plan and seeking grant monies to offset costs. Provide periodic updates to the Board at appropriate milestones.
12	Continue working on collecting additional information based on the results from the feasibility study of Palomino Farms, and recommend whether or not to move forward with an option agreement involving Palomino Farms, Reno, Sparks and Washoe County.
13	Continue analyzing opportunities to increase water conservation for drought resiliency and mitigate impacts to the upstream watershed to protect water quality and reservoirs, use best available science to evaluate global climate change models applicable to this region, and advise the Board.
15	Continue working with Nevada Division of Environmental Protection and Central Truckee Meadows Remediation District to explore ways to optimize PCE remediation.
16	Finalize completion of the Water Facility Plan and present to the SAC and Board of Directors for approval.



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Jessica Atkinson, Human Resources Director
DATE: September 12, 2023
SUBJECT: **Discussion and possible direction from Board regarding the evaluation process for conducting the General Manager's performance evaluation**

Recommendation

The Board consider implementing the updated GM evaluation form/questionnaire (attached) and approve the process and timelines below and provide direction regarding the same.

Discussion

The GM contract between the Board and John Zimmerman is dated July 2022 and requires an annual performance evaluation. In August of 2021, the Board agreed on a formal evaluation questionnaire and process for the GM's annual performance evaluation.

The GM performance evaluation has 7 rating fields (categories). The categories for rating are:

- Organizational Leadership
- Relations with Board/Governance
- Communication Skills
- Relations with Community and Stakeholders
- Management of Staff
- Personal Effectiveness
- Overall Rating and General Comments

The rating scale for each category includes options for exceeds your expectations, meets your expectations, areas for growth or, not applicable. Each rating category is followed by an open comment field.

The proposed GM performance evaluation is the same as was what was approved in 2021 with the changes made only to the Management of Staff category. The proposed changes to this category are intended to capture Board feedback during Mr. Zimmerman's hiring process as well as performance goals set by the Board.

During the annual performance evaluation process, the evaluation questionnaire is sent to all Board members and senior leadership at TMWA via email with a link to the SurveyMonkey questionnaire. The survey results will be provided in the Board packet prior to the October Board meeting at which time the Board will evaluate Mr. Zimmerman.

Proposed 2023 GM Performance Evaluation timelines:

- 09/25/2023 – Distribute GM Performance Evaluation Questionnaire through SurveyMonkey.
- 10/11/2023 – Deadline to submit survey responses (17-day survey period).
- 10/18/2023 – Presentation of evaluation responses and Board performance evaluation of Mr. Zimmerman for the contract year 2022/2023.

Attachments

1. GM Evaluation Form for FY2023



General Manager Performance Evaluation for FY2023

Introduction

The General Manager's performance evaluation consists of an annual appraisal by the Board of Directors, as provided for in the General Manager's employment agreement.

The purpose of the evaluation process is to maintain a strong Board/Manager team by ensuring open and productive communication on an annual basis. During this formal review process, there is an opportunity to identify areas of satisfaction and areas for growth or needing change as identified by the Board.

The evaluation will be completed by each member of the Board.

The Executive Team and Department Heads reporting to the General Manager have been invited to participate in this performance review process.

The Human Resources Director is the facilitator for this process, and will gather input from the confidential survey completed by each of the above-referenced individuals. A staff report and the summary results from the evaluation survey will be provided as supporting materials for the public meeting at which the TMWA Board reviews the annual performance of the General Manager.

Rating Criteria:

For each performance criteria, please use the following rating scale:

E – Exceeds your expectations

M – Meets your expectations

AG - Areas for growth

NA – Not applicable



General Manager Performance Evaluation for FY2023

Organizational Leadership

Consider the following when assessing the General Manager's organizational leadership performance:

- Anticipates and clearly communicates risks and changes in market conditions and other factors affecting TMWA's fulfillment of its Vision and Business Objectives;
- Participates with Board and Staff in strategic planning;
- Clearly articulates and advances the strategic priorities to be addressed over the next 3-5 years;
- Sets and communicates clear operational priorities for the organization;
- Implements new programs and services growing out of the strategic planning process;
- Creates and maintains a high performing culture in the organization including strong employee morale, accountability, and cohesiveness;
- Performs as the leading role model, setting high professional work standards and pursues goals with honesty, respect, determination, and initiative;
- Handles emergencies and crisis situations in an effective, efficient, and professional manner;
- Directs the utilization of TMWA resources effectively.

1. **Organizational Leadership - Evaluation Rating:**

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Relations with Board/Governance

Consider the following when assessing the General Manager's relations with the Board:

- Communicates necessary information openly and honestly in a timely and organized fashion;
- Establishes and maintains positive and effective working relationships with each member of the Board;
- Has been consistently available to individual Board members whenever necessary;
- Conforms to Board policies and directives;
- Demonstrates a respectful understanding of the Board's governance role and has supported the Board in its oversight of the organization;
- Contributes significant information and important agenda topics for discussion at Board level;
- Synthesizes information and frames issues and questions in a manner for the Board to make appropriate decisions;
- Makes periodic reports to the Board regarding important aspects of TMWA's functions and operations, highlighting both achievements and areas of concern;

2. Relations with Board/Governance- Evaluation Rating:

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Communication Skills

Consider the following when assessing the General Manager's Communication skills:

- Negotiates effectively and is able to handle difficult situations;
- Is concise and persuasive orally and in writing;
- Listens to what is said and is sensitive to the impact on others;
- Demonstrates empathy regarding others and exhibits concern for everyone as individuals;
- Exercises good judgement in dealing with sensitive issues between individuals or between groups;
- Effectively delivers presentations and engages with the media;
- Communicates effectively with Board Leadership and Board Members;

3. **Communication Skills- Evaluation Rating:**

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Relations with Community and Stakeholders

Consider the following when assessing the General Manager's relations within the community and with stakeholders:

- Ability to relate well to others and to make people feel at ease, even in difficult situations;
- Ability to gain the trust and confidence of the public;
- Fosters contact and cooperation among citizens, community organizations and other government agencies;
- Understands and embraces the concept of inter-local cooperation when appropriate;
- Fosters cooperative communications and working relationships within the community to ensure that TMWA remains a significant partner within the community;
- Maintains affiliation with professional associations relevant and beneficial to the successful operation of TMWA.

4. Relations with Community/Stakeholders- Evaluation Rating:

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Management of Staff

Consider the following when assessing the General Manager's performance in management of staff:

- Sets organizational tone that attracts, retains, motivates and develops highly skilled employees;
- Establishes and maintains open and collaborative relationships throughout the organization;
- Models behaviors and attitudes which promote individual responsibility, programmatic and professional excellence and creative initiative;
- Ensures the development and implementation of succession plans and professional development programs;
- Encourages innovative thinking and solutions and effectively incorporates the ideas and contributions of others;
- Nurtures a culture of engagement and collaboration that focuses on fulfilling TMWA's vision and business objectives;
- Appropriately delegates authority, granting proper authority at proper times;
- Is open and responsive to employee feedback;
- Encourages and rewards initiative;
- Recruits and develops a cohesive leadership team to implement organizational goals and objectives.

5. Management of Staff- Evaluation Rating:

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Personal Effectiveness

Consider the following when assessing the General Manager's personal effectiveness:

- Maintains a professional image that reflects positively on the organization and builds trust and support from all stakeholders;
- Demonstrates empathy regarding others and exhibits concern for everyone as individuals;
- Skillfully analyzes and addresses problems, challenges and conflicts while comfortably navigating ambiguity and complexity;
- Adapts quickly and is flexible to new demands and changes;
- Performs at a very high standard of ethics and integrity;
- Ensures that the organization, its staff and its programs operate in compliance with all applicable local, state, and federal laws and regulations;
- Pursued professional development resulting in increased capabilities and potential;

6. **Personal Effectiveness - Evaluation Rating:**

- Exceeds your expectations Area for growth
- Meets your expectations Not Applicable

Use the space below to provide any additional comments you may have for this rating category.



General Manager Performance Evaluation for FY2023

Overall Rating and General Comments

7. Overall, and keeping unanticipated challenges and timeframes in mind, the General Manager has achieved the goals and business objectives outlined for this appraisal period.

- Exceeds your expectations
- Meets your expectations
- Area for growth
- Not Applicable

Any additional comments?

8. Please identify any future performance objectives you may have for the General Manager.



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Sonia Folsom, Executive Assistant
 Kara Steeland, Senior Hydrologist and Watershed Coordinator
 Brian Bonnenfant, Chair, Truckee River Fund Advisory Committee
DATE: September 11, 2023
SUBJECT: **Discussion and action on Resolution No. 320: A Resolution to approve funding for the projects recommended by the Truckee River Fund Advisory Committee and an authorization for the Community Foundation to fund such projects from Fund proceeds (Resolution may reflect action taken in one or more votes on recommended projects)**

Recommendation

The Truckee River Fund (the “Fund”) Advisors recommend that the TMWA Board authorize by resolution the funding of the following projects from the Fund. This recommendation stems from a Fund Advisors’ meeting held on August 18, 2023 where four grant proposals from the fall request for proposals (RFP) were reviewed and discussed. Please refer to the table below to review the amount of funding available and descriptions of the RFP’s submitted and recommended for funding.

Description	Funding Requested	Funding Approved	TRF Budget
Available Funds			\$956,931.00
4 Requested Projects	\$293,263.32		
4 Projects for Approval		\$293,263.32	
Funds Remaining			\$663,667.68

Request for Proposals Submitted for Consideration

Project #	Grantee	Description	Proposal Amount	Amount Recommended	Monetary Match	In-Kind Match	Match Total
280	Sierra Nevada Journeys	Watershed Education Initiative	\$35,933	\$35,933	\$11,978	\$-	\$11,978
281	City of Reno	Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)	\$30,832	\$30,832	\$-	\$16,916.00	\$16,916
282	Keep Truckee Meadows Beautiful	2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program	\$91,360	\$91,360	\$111,920	\$137,274.00	\$249,194
283	One Truckee River	Watershed Coalition Building	\$135,138	\$135,138	\$45,052	\$-	\$45,052
Amount Totals:			\$293,263.32	\$293,263.32			\$323,140.00

PROJECTS RECOMMENDED FOR FUNDING

Project #280: Watershed Education Initiative

Organization: Sierra Nevada Journeys (SNJ)

Project Description:

Sierra Nevada Journeys' Watershed Education Initiative is a dynamic education program intentionally designed to build understanding of student's local watershed, including human impacts on the watershed, water quality, and issues surrounding watershed protection. Conducted over a four-week period, The program begins with an orientation for new participating teachers to give an overview of the content and format of the program. after the teacher orientation, our educators go into classrooms and teach two lessons. Each lesson fosters students' interest in science by using hands-on activities like creating a watershed model.

The program culminates with a 3-hour field study at a local nature site to apply what they've learned in a real-world context. For the Watershed Education Initiative, field sites include Oxbow Nature Study Area, Galena Creek Regional Park or the Nature Conservancy's McCarran Ranch Preserve. Students explore, assess, and collect data about the health of the Truckee River Watershed by observing the river, collecting macroinvertebrate species for study, and discussing how we can use the data to make a determination of health. The program also embeds opportunities to build critical thinking skills and social emotional learning.

While in-class and field-based lessons reach students, WEI's additional outreach components serve to support teachers, engage families and reach community volunteers. Through extension lessons, Sierra Nevada Journeys supports teachers in getting their students back on track after distance learning and extending watershed learning beyond the Sierra Nevada Journeys-led learning experiences. Classroom teachers receive additional materials covering watershed exploration and our instructors work one-on-one with classroom teachers during orientation to identify strategies that deepen student learning. We also engage families through a follow-up email that includes questions for guardians to discuss with their students, a link to photos from their field day, and information about the field site so they can visit together. We also engage parents as chaperones during our programs field trips to support student learning and bolster family engagement and excitement about learning objectives.

Sierra Nevada Journeys believes that science and nature are for everyone. We prioritize partnerships with schools that primarily serve youth who have historically been denied access to high-quality science education and outdoor learning experiences. With this funding, Sierra Nevada Journeys will serve 700 students in approximately 26 classrooms in the Truckee River Watershed. Students served with this grant will be those who have the highest financial and learning needs, ensuring we address the science and outdoor equity gap.

In Summary, the Watershed Education Initiative includes:

- The school-based component includes two in-class lessons (three) hours of in class instruction. Students participate in hands-on lessons that incorporate the Truckee River watershed, point and non-point source pollution, invasive species, sources and impacts of erosion, water conservation and stewardship.
- The field-based component includes approximately one day of outdoor science education as students hike along the Truckee River Watershed. Students seek clues related to the health of the watershed and determine water quality by collecting and identifying macro-invertebrates or

conducting chemical tests such as pH, dissolved oxygen, or turbidity. Students use evidence to make a conclusion about the health of the Truckee River Watershed.

- SNJ provides five ready-to-use classroom extension lessons for teachers that help students prepare for and review learning objectives, as well as extend and reinforce each SNJ-directed lesson.
- To encourage family engagement, SNJ provides teachers with a template to email parents with a summary and pictures of their child's experience after each unit along with information for family-based discussion of the curriculum.
- The volunteer component of the program builds our capacity to involve the local community and broadens accessibility to our programming for low-income schools by helping to keep costs low.

TMWA Benefit:

WEI is an education program that addresses water, water quality and watershed protection for K-8th grade students, directly aligning with grant priority VI: Stewardship and Environmental Awareness. Students gain first-hand experience determining water quality, explore human impacts on their water source, and obtain skills, knowledge and a field experience to connect them to their local river. The overall long-term program impacts include:

- Students understand important science concepts related to the Truckee River watershed and can articulate how their actions affect the Truckee River watershed and local ecosystems.
- Teachers use extension lessons and implement more hands-on exploration of the watershed. Parents and community members engage in watershed education directly through WEI volunteer.
- Health of the Truckee River watershed and local ecosystems improves as students and their families adopt environmental stewardship practices that help reduce water pollution and human impacts.

Project #281: Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)

Organization: City of Reno

Project Description:

The City of Reno (City) proposes a collaborative Lake Park Watershed Project (Project) with One Truckee River (OTR), Friends of Lake Park, and Truckee Meadows Park Foundation. A natural resource initiative, this Project would use advanced wetland solutions and science, technology, engineering, and math (STEM)-based education to support a healthy watershed at Lake Park's central pond, which flows intermittently into the Truckee River. Specifically, Project objectives are to: 1) place three 10'x12' floating vegetated wetland islands within the pond; 2) plant around the entire pond shoreline (wetland and natives) and in barren park areas; and 3) design and install two STEM-based signs. The Project will combine with OTR's River-Friendly demonstration garden (funded by a 319(h) Grant) and complement Friends of Lake Park's public art project; both funded and planned for installation in Fall 2023.

Lake Park has undiversified landscaping, consisting primarily of grass lawn, a few common tree species, invasive weeds surrounding the pond, and a few individual riparian plants. Patches of invasive weeds include bindweed, thistle, pigweed, and horseweed, and the pond edge is usually overgrown with a monoculture of Curlytop Knotweed, with a few milkweed plants interspersed. The pond receives inflow from the Highland Canal during the spring and summer months, and while it has a recirculation and

aeration system, the pond is otherwise stagnant and has ongoing water quality issues related to water clarity, odor, and nutrient/bacteria concentrations, primarily due to the high population of ducks (summer) and geese (winter) that utilize the pond. Pond water routinely overflows into storm drains, causing the impaired water travels to the Truckee River.

TMWA Benefit:

Lake Park Watershed Project meets several grant priorities, specifically numbers VI – Stewardship and Environmental Awareness, II – Watershed Improvements, VII – Multiple Objectives, and VIII – Leverage Stakeholder Assets and Participation.

Priority VII is met through priorities II and VI. For priority II - Watershed Improvements, revegetating barren sections of the pond shoreline with various pollinator-friendly shrubs will reduce sediment erosion into the pond by keeping soil protected from rainfall and foot traffic. In addition, referencing Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year) from the attached research report, the floating wetlands have the capacity to remove up to 1,800 lbs/year of Total Suspended Solids (TSS), as well as excess nutrients and BOD (Biological Oxygen Demand).

Priority VI – Stewardship and Environmental Awareness is met through the implementation of professionally designed STEM-based signage around the lake that allows the public to easily understand the function of wetlands in improving water quality, watersheds, and the general ecosystem. Several Washoe County School District schools, and a large preschool, are within walking distance to Lake Park, and will be notified about the STEM-based education at Lake Park via mailers that will encourage field trips to the park.

The project meets Priority VIII – Leverage Stakeholder Assets and Participation as it engages several agencies to collaborate and contribute to the project, including the City of Reno Utility Services Department, Parks and Recreation Department, the Friends of the Lake Park, The Truckee Meadows Park Foundation, and One Truckee River (OTR). Utility Services will provide in-kind (time and labor) project management services including project coordination, planning, and construction management. Parks and Recreation will provide in-kind services for landscape design, plant purchasing, plant cultivation in greenhouses (wetlands plants will need to be grown for 3-6 months prior to planting into the wetland island), and wetland installation support. The Truckee Meadows Park Foundation has also been engaged and will volunteer the labor of several skilled wetlands restoration technicians to perform the majority of the bank plantings, over several days.

Project #282: 2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program

Organization: Keep Truckee Meadows Beautiful (KTMB)

Project Description:

KTMB supports a sustainable and beautiful community by educating residents and visitors about the importance of protecting the health of our watershed and improving water quality by mitigating nonpoint source pollution and invasive and noxious weeds. Local park staff report to KTMB that weed removal is often the most challenging aspect of their job. With current staff shortages, the incorporation of weed removal projects prior to weed seeding in the spring is vital and complements the timing of

KTMB's Great Community Clean-Up. KTMB's Truckee River Clean-Up and Adopt-A-River clean-ups educate and engage the community about the presence of weeds and litter in our watershed and their underlying causes and effects. According to Keep America Beautiful, "About 85% of littering is the result of people's attitudes...changing individual behaviors is the key to preventing litter — and environmental cues can make a difference." By engaging volunteers and community partners in this effort, and by having consistent outreach and messaging to support behavior change, KTMB educates and empowers residents and visitors to protect the Truckee River as the lifeline of our community.

KTMB's Annual Great Community Clean-Up and Truckee River Clean-Up will:

- Work with partners like OTR and WSCD to monitor river hotspots for invasive weeds;
- Engage volunteers to remove nonpoint source pollution and invasive and noxious weeds at several hotspots along the Truckee River and its tributaries, as identified by KTMB's Litter Index Survey, WSCD weed experts, and municipal partners;
- Provide educational outreach and public service announcements in the community about environmental threats to the Truckee River and responsible river recreation and usage, and enhance marketing to increase volunteer participation.
- Survey event participants and compile analyzed results to determine the success and impact of the event.

KTMB's Adopt-A-River program will:

- Recruit new volunteers and manage existing volunteers to conduct clean-ups along the Truckee River;
- Continue to conduct an annual Litter Index Survey to evaluate current river corridor cleanliness;

KTMB's Community Education program will:

- Continue community outreach through traditional and social media outlets with messaging about the health of the river and individual stewardship opportunities to improve water quality;
- Coordinate service learning events, community/educational presentations, and host community workshops to educate and empower the public to protect the Truckee River Watershed by reducing non-point source pollution and invasive and noxious weeds.

TMWA Benefit:

KTMB will support the following TRF Grant Priorities: V, VI, VII, VIII.

V: Support to Rehabilitation of Local Tributary Creeks and Drainage Courses - KTMB will support water quality improvement of local tributaries and drainages through the GCC, TRC, and Adopt-A-River clean-up programs. These events will engage hundreds of volunteers to remove tons of litter, invasive weeds, and green waste from multiple locations along the Truckee River Corridor and greater watershed.

VI: Stewardship and Environmental Awareness - This project will communicate and raise environmental awareness about water, water quality, and watershed protection by utilizing digital media and educational/community presentations and service learning events to educate residents and visitors about the importance of maintaining a healthy river; how noxious weeds negatively affect native plant communities; and how litter and pollution are harmful to humans, wildlife, plants, and the local environment, economy, and esthetics.

VII: Meet Multiple Objectives - This project meets multiple TRF objectives because it will remove nonpoint source pollution and invasive and noxious weeds from our water through clean-ups and beautification projects, increase the community's ecological literacy about water quality and conservation through messaging and education, and promote volunteerism to increase watershed stewardship.

VIII: Leverage Stakeholder Assets and Participation - KTMB will collaborate with numerous municipalities, businesses, community groups, and partners to complete the clean-up and education projects proposed. Project sites and activities along the river will be identified by KTMB and local experts and completed with planning and day-of support from partners to ensure effective programming.

KTMB's 2024 Great Community Clean-Up, Truckee River Clean-Up, and Adopt-A-River program will also support the following One Truckee River Management Plan objectives (see attached document for description): 2.1.b, 2.3.j, 2.5.b, 3.3.h, 3.4.b, 3.4.c, 3.4.e, 3.4.f.

KTMB's Community Education efforts will also support the following One Truckee River Management Plan objectives (see attached document for description): 1.3.b, 2.1.j, 3.2.d, 3.2.f, 3.3.b, 3.3.e, 3.3.h.

Project #283: Watershed Coalition Building

Organization: One Truckee River (OTR)

Project Description:

OTR will lead, coordinate, and fundraise for the OTR partnership by engaging the OTR Partnership Council, Oversight Committee and Goal Groups as well as other partners and the public, and increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners. Some current OTR projects developed, funded, and underway due to our Watershed Coalition efforts include OTR's River-Friendly Living demonstration garden at Lake Park in Reno, OTR's Water Trail work to install a third Portland Loo at Reno's City Plaza in spring of 2024, and OTR's Urban Restoration effort leading – in collaboration with Nevada Land Trust – a Technical Working Group focused on regional coordinated vegetation management and future restoration projects along the Truckee River in the Reno/Sparks urban core.

TMWA Benefit:

OTR's proposed Project supports Truckee River Fund's Grant Priorities: IV. Local Stormwater Improvements, VII. Stewardship and Environmental Awareness, and IX. Leverage Stakeholder Assets and Participation.

Local Stormwater Improvements: OTR's Watershed Coalition Building efforts develop project concepts, partners, and fundraises to implement projects developed under OTR's Watershed Coalition efforts to mitigate stormwater runoff to the Truckee River in the Reno/Sparks urban core.

Stewardship and Environmental Awareness: OTR's Watershed Coalition Building efforts include online education targeting adults in the Truckee Meadows to increase their understanding of the importance of the Truckee River and actions each resident can make to support watershed protection through OTR's River-Friendly Living online material and social media posts.

Leverage Stakeholder Assets and Participation: OTR's foundational strategy is to assess various stakeholder interests related to protecting the Truckee River and work to leverage interests and funding to further the implementation of the OTR Management Plan. OTR is a collaboration of public and private partners focused on the implementation of the OTR Management Plan that was unanimously adopted by Washoe County, City of Reno, City of Sparks, and Western Regional Water Commission.

TRUCKEE MEADOWS WATER AUTHORITY
(TMWA)

RESOLUTION NO. 320

**A RESOLUTION APPROVING PROJECTS
FOR FUNDING UNDER THE TRUCKEE RIVER FUND**

WHEREAS, the Truckee Meadows Water Authority and the Community Foundation of Western Nevada (the "Community Foundation"), a Nevada non-profit corporation, have entered into an agreement creating The Truckee River Fund (the "Fund") to foster projects that protect and enhance water quality or water resources of the Truckee River, or its watershed;

WHEREAS, pursuant to the Fund Agreement, an Advisory Committee has solicited proposals from prospective beneficiaries of the Fund;

WHEREAS, the Advisory Committee has recommended projects for funding, as listed on Exhibit A, attached hereto;

WHEREAS, the Advisory Committee has the responsibility of securing preliminary approval for projects from the TMWA Board, which may disapprove projects for any reason, or may approve projects by resolution, subject to Community Foundation Board approval;

WHEREAS, the Community Foundation has advised the Advisory Committee that the projects' applicants are eligible beneficiaries of the Fund;

WHEREAS, the Board has reviewed the recommendation of the Advisory Committee and has found that the projects as listed on Exhibit A are consistent with the purposes of the Fund and merit funding; and

NOW THEREFORE, BE IT RESOLVED by the Board of Directors of the Truckee Meadows Water Authority:

The projects set forth on **Exhibit A** are approved for funding under the Truckee River Fund in the amount set forth in such Exhibit, subject to final authorization by the Community Foundation Board, and subject to the provisions of the Fund Agreement, including without limitation the requirements set forth in Article VC.

Truckee Meadows Water Authority
Resolution No. 320 (continued)

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Truckee Meadows Water Authority,

Upon motion of _____ seconded by _____, the foregoing Resolution was passed and adopted on September 20, 2023 by the following vote of the Board:

Ayes: _____

Nays: _____

Abstain: _____ Absent: _____

Approved September 20, 2023

Kristopher Dahir, Chair

EXHIBIT A

PROJECTS RECOMMENDED FOR FUNDING

Project #	Grantee	Description	Proposal Amount	Amount Recommended	Monetary Match	In-Kind Match	Match Total
280	Sierra Nevada Journeys	Watershed Education Initiative	\$35,933	\$35,933	\$11,978	\$-	\$11,978
281	City of Reno	Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)	\$30,832	\$30,832	\$-	\$16,916.00	\$16,916
282	Keep Truckee Meadows Beautiful	2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program	\$91,360	\$91,360	\$111,920	\$137,274.00	\$249,194
283	One Truckee River	Watershed Coalition Building	\$135,138	\$135,138	\$45,052	\$-	\$45,052
Amount Totals:			\$293,263.32	\$293,263.32			\$323,140.00

Truckee Meadows Water Authority
Resolution No. 320 (continued)

Project #280: Watershed Education Initiative

Organization: Sierra Nevada Journeys (SNJ)

Project Description:

Sierra Nevada Journeys' Watershed Education Initiative is a dynamic education program intentionally designed to build understanding of student's local watershed, including human impacts on the watershed, water quality, and issues surrounding watershed protection. Conducted over a four-week period, The program begins with an orientation for new participating teachers to give an overview of the content and format of the program. after the teacher orientation, our educators go into classrooms and teach two lessons. Each lesson fosters students' interest in science by using hands-on activities like creating a watershed model.

The program culminates with a 3-hour field study at a local nature site to apply what they've learned in a real-world context. For the Watershed Education Initiative, field sites include Oxbow Nature Study Area, Galena Creek Regional Park or the Nature Conservancy's McCarran Ranch Preserve. Students explore, assess, and collect data about the health of the Truckee River Watershed by observing the river, collecting macroinvertebrate species for study, and discussing how we can use the data to make a determination of health. The program also embeds opportunities to build critical thinking skills and social emotional learning.

While in-class and field-based lessons reach students, WEI's additional outreach components serve to support teachers, engage families and reach community volunteers. Through extension lessons, Sierra Nevada Journeys supports teachers in getting their students back on track after distance learning and extending watershed learning beyond the Sierra Nevada Journeys-led learning experiences. Classroom teachers receive additional materials covering watershed exploration and our instructors work one-on-one with classroom teachers during orientation to identify strategies that deepen student learning. We also engage families through a follow-up email that includes questions for guardians to discuss with their students, a link to photos from their field day, and information about the field site so they can visit together. We also engage parents as chaperones during our programs field trips to support student learning and bolster family engagement and excitement about learning objectives.

Sierra Nevada Journeys believes that science and nature are for everyone. We prioritize partnerships with schools that primarily serve youth who have historically been denied access to high-quality science education and outdoor learning experiences. With this funding, Sierra Nevada Journeys will serve 700 students in approximately 26 classrooms in the Truckee River Watershed. Students served with this grant will be those who have the highest financial and learning needs, ensuring we address the science and outdoor equity gap.

In Summary, the Watershed Education Initiative includes:

- The school-based component includes two in-class lessons (three) hours of in class instruction. Students participate in hands-on lessons that incorporate the Truckee River watershed, point and non-point source pollution, invasive species, sources and impacts of erosion, water conservation and stewardship.
- The field-based component includes approximately one day of outdoor science education as students hike along the Truckee River Watershed. Students seek clues related to the health of the watershed and determine water quality by collecting and identifying macro-invertebrates or conducting chemical tests such as pH, dissolved oxygen, or turbidity. Students use evidence to make a conclusion about the health of the Truckee River Watershed.

Truckee Meadows Water Authority
Resolution No. 320 (continued)

- SNJ provides five ready-to-use classroom extension lessons for teachers that help students prepare for and review learning objectives, as well as extend and reinforce each SNJ-directed lesson.
- To encourage family engagement, SNJ provides teachers with a template to email parents with a summary and pictures of their child's experience after each unit along with information for family-based discussion of the curriculum.
- The volunteer component of the program builds our capacity to involve the local community and broadens accessibility to our programming for low-income schools by helping to keep costs low.

TMWA Benefit:

WEI is an education program that addresses water, water quality and watershed protection for K-8th grade students, directly aligning with grant priority VI: Stewardship and Environmental Awareness. Students gain first-hand experience determining water quality, explore human impacts on their water source, and obtain skills, knowledge and a field experience to connect them to their local river. The overall long-term program impacts include:

- Students understand important science concepts related to the Truckee River watershed and can articulate how their actions affect the Truckee River watershed and local ecosystems.
- Teachers use extension lessons and implement more hands-on exploration of the watershed. Parents and community members engage in watershed education directly through WEI volunteer.
- Health of the Truckee River watershed and local ecosystems improves as students and their families adopt environmental stewardship practices that help reduce water pollution and human impacts.

Project #281: Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)

Organization: City of Reno

Project Description:

The City of Reno (City) proposes a collaborative Lake Park Watershed Project (Project) with One Truckee River (OTR), Friends of Lake Park, and Truckee Meadows Park Foundation. A natural resource initiative, this Project would use advanced wetland solutions and science, technology, engineering, and math (STEM)-based education to support a healthy watershed at Lake Park's central pond, which flows intermittently into the Truckee River. Specifically, Project objectives are to: 1) place three 10'x12' floating vegetated wetland islands within the pond; 2) plant around the entire pond shoreline (wetland and natives) and in barren park areas; and 3) design and install two STEM-based signs. The Project will combine with OTR's River-Friendly demonstration garden (funded by a 319(h) Grant) and complement Friends of Lake Park's public art project; both funded and planned for installation in Fall 2023.

Lake Park has undiversified landscaping, consisting primarily of grass lawn, a few common tree species, invasive weeds surrounding the pond, and a few individual riparian plants. Patches of invasive weeds include bindweed, thistle, pigweed, and horseweed, and the pond edge is usually overgrown with a monoculture of Curlytop Knotweed, with a few milkweed plants interspersed. The pond receives inflow from the Highland Canal during the spring and summer months, and while it has a recirculation and aeration system, the pond is otherwise stagnant and has ongoing water quality issues related to water clarity, odor, and nutrient/bacteria concentrations, primarily due to the high population of ducks (summer) and geese (winter) that utilize the pond. Pond water routinely overflows into storm drains, causing the impaired water travels to the Truckee River.

Truckee Meadows Water Authority
Resolution No. 320 (continued)

TMWA Benefit:

Lake Park Watershed Project meets several grant priorities, specifically numbers VI – Stewardship and Environmental Awareness, II – Watershed Improvements, VII – Multiple Objectives, and VIII – Leverage Stakeholder Assets and Participation.

Priority VII is met through priorities II and VI. For priority II - Watershed Improvements, revegetating barren sections of the pond shoreline with various pollinator-friendly shrubs will reduce sediment erosion into the pond by keeping soil protected from rainfall and foot traffic. In addition, referencing Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year) from the attached research report, the floating wetlands have the capacity to remove up to 1,800 lbs/year of Total Suspended Solids (TSS), as well as excess nutrients and BOD (Biological Oxygen Demand).

Priority VI – Stewardship and Environmental Awareness is met through the implementation of professionally designed STEM-based signage around the lake that allows the public to easily understand the function of wetlands in improving water quality, watersheds, and the general ecosystem. Several Washoe County School District schools, and a large preschool, are within walking distance to Lake Park, and will be notified about the STEM-based education at Lake Park via mailers that will encourage field trips to the park.

The project meets Priority VIII – Leverage Stakeholder Assets and Participation as it engages several agencies to collaborate and contribute to the project, including the City of Reno Utility Services Department, Parks and Recreation Department, the Friends of the Lake Park, The Truckee Meadows Park Foundation, and One Truckee River (OTR). Utility Services will provide in-kind (time and labor) project management services including project coordination, planning, and construction management. Parks and Recreation will provide in-kind services for landscape design, plant purchasing, plant cultivation in greenhouses (wetlands plants will need to be grown for 3-6 months prior to planting into the wetland island), and wetland installation support. The Truckee Meadows Park Foundation has also been engaged and will volunteer the labor of several skilled wetlands restoration technicians to perform the majority of the bank plantings, over several days.

Project #282: 2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program

Organization: Keep Truckee Meadows Beautiful (KTMB)

Project Description:

KTMB supports a sustainable and beautiful community by educating residents and visitors about the importance of protecting the health of our watershed and improving water quality by mitigating nonpoint source pollution and invasive and noxious weeds. Local park staff report to KTMB that weed removal is often the most challenging aspect of their job. With current staff shortages, the incorporation of weed removal projects prior to weed seeding in the spring is vital and complements the timing of KTMB’s Great Community Clean-Up. KTMB’s Truckee River Clean-Up and Adopt-A-River clean-ups educate and engage the community about the presence of weeds and litter in our watershed and their underlying causes and effects. According to Keep America Beautiful, “About 85% of littering is the result of people’s attitudes...changing individual behaviors is the key to preventing litter — and environmental cues can make a difference.” By engaging volunteers and community partners in this

Truckee Meadows Water Authority
Resolution No. 320 (continued)

effort, and by having consistent outreach and messaging to support behavior change, KTMB educates and empowers residents and visitors to protect the Truckee River as the lifeline of our community.

KTMB's Annual Great Community Clean-Up and Truckee River Clean-Up will:

- Work with partners like OTR and WSCD to monitor river hotspots for invasive weeds;
- Engage volunteers to remove nonpoint source pollution and invasive and noxious weeds at several hotspots along the Truckee River and its tributaries, as identified by KTMB's Litter Index Survey, WSCD weed experts, and municipal partners;
- Provide educational outreach and public service announcements in the community about environmental threats to the Truckee River and responsible river recreation and usage, and enhance marketing to increase volunteer participation.
- Survey event participants and compile analyzed results to determine the success and impact of the event.

KTMB's Adopt-A-River program will:

- Recruit new volunteers and manage existing volunteers to conduct clean-ups along the Truckee River;
- Continue to conduct an annual Litter Index Survey to evaluate current river corridor cleanliness;

KTMB's Community Education program will:

- Continue community outreach through traditional and social media outlets with messaging about the health of the river and individual stewardship opportunities to improve water quality;
- Coordinate service learning events, community/educational presentations, and host community workshops to educate and empower the public to protect the Truckee River Watershed by reducing non-point source pollution and invasive and noxious weeds.

TMWA Benefit:

KTMB will support the following TRF Grant Priorities: V, VI, VII, VIII.

V: Support to Rehabilitation of Local Tributary Creeks and Drainage Courses - KTMB will support water quality improvement of local tributaries and drainages through the GCC, TRC, and Adopt-A-River clean-up programs. These events will engage hundreds of volunteers to remove tons of litter, invasive weeds, and green waste from multiple locations along the Truckee River Corridor and greater watershed.

VI: Stewardship and Environmental Awareness - This project will communicate and raise environmental awareness about water, water quality, and watershed protection by utilizing digital media and educational/community presentations and service learning events to educate residents and visitors about the importance of maintaining a healthy river; how noxious weeds negatively affect native plant communities; and how litter and pollution are harmful to humans, wildlife, plants, and the local environment, economy, and esthetics.

VII: Meet Multiple Objectives - This project meets multiple TRF objectives because it will remove nonpoint source pollution and invasive and noxious weeds from our water through clean-ups and beautification projects, increase the community's ecological literacy about water quality and conservation through messaging and education, and promote volunteerism to increase watershed stewardship.

Truckee Meadows Water Authority
Resolution No. 320 (continued)

VIII: Leverage Stakeholder Assets and Participation - KTMB will collaborate with numerous municipalities, businesses, community groups, and partners to complete the clean-up and education projects proposed. Project sites and activities along the river will be identified by KTMB and local experts and completed with planning and day-of support from partners to ensure effective programming.

KTMB's 2024 Great Community Clean-Up, Truckee River Clean-Up, and Adopt-A-River program will also support the following One Truckee River Management Plan objectives (see attached document for description): 2.1.b, 2.3.j, 2.5.b, 3.3.h, 3.4.b, 3.4.c, 3.4.e, 3.4.f.

KTMB's Community Education efforts will also support the following One Truckee River Management Plan objectives (see attached document for description): 1.3.b, 2.1.j, 3.2.d, 3.2.f, 3.3.b, 3.3.e, 3.3.h.

Project #283: Watershed Coalition Building

Organization: One Truckee River (OTR)

Project Description:

OTR will lead, coordinate, and fundraise for the OTR partnership by engaging the OTR Partnership Council, Oversight Committee and Goal Groups as well as other partners and the public, and increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners. Some current OTR projects developed, funded, and underway due to our Watershed Coalition efforts include OTR's River-Friendly Living demonstration garden at Lake Park in Reno, OTR's Water Trail work to install a third Portland Loo at Reno's City Plaza in spring of 2024, and OTR's Urban Restoration effort leading – in collaboration with Nevada Land Trust – a Technical Working Group focused on regional coordinated vegetation management and future restoration projects along the Truckee River in the Reno/Sparks urban core.

TMWA Benefit:

OTR's proposed Project supports Truckee River Fund's Grant Priorities: IV. Local Stormwater Improvements, VII. Stewardship and Environmental Awareness, and IX. Leverage Stakeholder Assets and Participation.

Local Stormwater Improvements: OTR's Watershed Coalition Building efforts develop project concepts, partners, and fundraises to implement projects developed under OTR's Watershed Coalition efforts to mitigate stormwater runoff to the Truckee River in the Reno/Sparks urban core.

Stewardship and Environmental Awareness: OTR's Watershed Coalition Building efforts include online education targeting adults in the Truckee Meadows to increase their understanding of the importance of the Truckee River and actions each resident can make to support watershed protection through OTR's River-Friendly Living online material and social media posts.

Leverage Stakeholder Assets and Participation: OTR's foundational strategy is to assess various stakeholder interests related to protecting the Truckee River and work to leverage interests and funding to further the implementation of the OTR Management Plan. OTR is a collaboration of public and private partners focused on the implementation of the OTR Management Plan that was unanimously adopted by Washoe County, City of Reno, City of Sparks, and Western Regional Water Commission.

Watershed Education Initiative

Truckee River Fund- Fall 2023

Sierra Nevada Journeys

Eaton Dunkelberger
190 E. Liberty St.
Reno, NV 89501

O: 775-355-1688

Audrey Bergmann

190 E. Liberty St.
190 E. Liberty St.
Reno, NV 89501

audreyb@sierranevadajourneys.org
O: 775-355-1688

Application Form

Grant Priorities

TMWA recommends that the Advisors give preference to well-prepared and thought out grant requests for projects and programs that mitigate substantial threats to water quality and the watershed, particularly those threats upstream or nearby treatment and hydroelectric plant intakes:

- I. **Aquatic Invasive Species (AIS):** Projects/Programs that support the prevention or control of aquatic invasive species in the main stream Truckee River, Lake Tahoe, other tributaries and water bodies in the Truckee River system.
- II. **Watershed Improvements:** Projects that reduce erosion or sediment, suspended solids, or TDS discharges to the River. Projects or programs that are located within 303d (impaired waters) sections of the River should be considered, both in California and Nevada. Innovative techniques should be encouraged.
- III. **Local Stormwater Improvements:** Projects that are well designed which mitigate storm water run-off due to urbanization of the local watershed. Priority should be given to those improvement projects in close proximity to TMWA's water supply intakes and canals and which will improve the reliability and protect the quality of the community's municipal water supply.
- IV. **Re-Forestation and Re-Vegetation Projects:** Projects to restore forest and upland areas damaged by fire and historical logging operations, and to improve watershed resiliency in drought situations. Projects/programs in this category should be given a high priority due to urbanization of the watershed and increased susceptibility of the urban and suburban watershed to wildfire.
- V. **Support to Rehabilitation of Local Tributary Creeks and Drainage Courses:** Practical projects to support water quality improvement in Gray Creek, Bronco Creek, Mogul Creek, Chalk Creek, Steamboat Creek and the North Truckee Drain.
- VI. **Stewardship and Environmental Awareness:** Support to Clean-Up programs and the development and implementation of educational programs relative to water, water quality and watershed protection.
- VII. **Meet Multiple Objectives:** Projects/Programs should identify opportunities to meet multiple water quality and watershed objectives as outlined above with preference given to those achieving multiple benefits.
- VIII. **Leverage Stakeholder Assets and Participation:** Projects/Program selection should include an assessment of various stakeholder interests in all aspects of river water quality, watershed protection, source water protection and species enhancement thereby leveraging available funds and other assets.

Note: For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria at lrenda@nevadafund.org

Organization Information

Organization Name*

Sierra Nevada Journeys

Organization Type*

501(c)(3) Nonprofit

EIN

If the organization is a 501c3, please include the EIN#.

01-0881587

Director of Organization*

Sean Hill

Project Contact Name*

Audrey Bergmann

Project Contact Postion/Title*

Advancement Manager

Project Contact Email*

audreyb@sierranevadajourneys.org

Project Contact Phone Number*

925 858 7105

Organization Mission*

Our mission is to deliver innovative outdoor, science-based education programs for youth to develop critical thinking skills and to inspire natural resource stewardship.

Project Information

Project Title*

Name of Project.

Watershed Education Initiative

Amount Requested*

\$35,933.00

Project Start Date*

09/01/2023

Project End Date*

12/22/2023

This funding will be used to:*

Complete this sentence with a max of 2 sentences.

We will provide watershed education to 700 students in the Reno area with our Classrooms Unleashed curriculum. This will include two classroom lessons, one field day at a site with access to the local watershed, and additional teacher resources and extension lessons.

This project is on:*

Check all that apply

Public land

Are government permits or decision documents needed for the project?*

No

If so, are those permits and decision documents already secured?

If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements provide a list of permits and documents needed and a schedule for securing them.

Previous Funding from Truckee River Fund

Has your organization received other grants from the Truckee River Fund?*

Yes

If yes, please include the following information for all previously funded projects:

- *Date awarded*
- *Project # and Title*
- *Amount of award*

Please attach additional pages as needed to list ALL previously funded projects.

03/22/2023, TRF #271 Watershed Education Initiative, \$32,891

09/26/2022, TRF #267 Watershed Education Initiative for the Urban Truckee River Corridor, \$30,542

03/22/2022, TRF #258 Watershed Education Initiative, \$30,055

09/16/2021, TRF #251 Watershed Education Initiative, \$30,055

03/17/2021, TRF #245 Watershed Education Initiative for the Urban Truckee River Corridor, \$31,035

09/18/2020, TRF #236 Watershed Education Initiative for the Urban Truckee River Corridor, \$32,041

04/13/2020, TRF #230 Watershed Education Initiative for the Urban Truckee River Corridor, \$30,912

10/02/2019, TRF #223 Watershed Education Initiative, \$37,200

03/26/2019, TRF #214 Watershed Education Initiative, \$36,207

10/04/2018, TRF #205 Watershed Education Initiative, \$36,207

03/30/2018, TRF #195 Watershed Education Initiative, \$46,376

10/03/2017, TRF #190 Watershed Education Initiative, \$35,065

03/16/2017, TRF #184 Watershed Education Initiative, \$32,998

09/23/2016, TRF #179 Watershed Education Initiative, \$28,446

04/19/2016, TRF #167 Watershed Education Initiative, \$33,041

10/22/2015, TRF #158 Watershed Education Initiative, \$28,484

09/05/2014, TRF #145 Watershed Education Initiative, \$23,900

03/21/2014, TRF #140 Sierra Nevada Journeys' Watershed Education Initiative, \$23,750

Fall 2013, TRF #??? Sierra Nevada Journeys' Watershed Education Initiative, \$24,200

Spring 2013, TRF#??? Sierra Nevada Journeys' Watershed Education Initiative, \$16,050

* It is possible that this list is incomplete. I have answered this question to the best of my ability based on the records our development team kept at the time.

Description of Project Under Consideration

Indicate the description that best fits the project you are proposing*

Mark no more than three categories.

- A. Projects that improve bank or channel stabilization and decrease erosion.
 - B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
 - C. Projects that remove pollution from the Truckee River.
 - D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.
 - E. Other projects that meet the evaluation criteria.
- E.)

Narrative Requirements

1.) Specific project goals and measurable outcomes and how you will measure and report them.*

All projects are required to have measurable outcomes.

Sierra Nevada Journeys (SNJ) proposes an innovative, culturally relevant program for Washoe County area youth that includes a comprehensive approach to watershed education through the Watershed Education Initiative (WEI). The WEI had been an ongoing component of our programs since 2011, made possible thanks to the generous and ongoing support of the Truckee River Fund.

Through WEI, students are able to touch, feel and experience their watershed, providing a foundation of interest and understanding as they continue their education journey and their lives. WEI will successfully meet the following objectives:

Outputs:

- Deliver WEI to 700 K-8th grade students within the Truckee River Watershed
- All students receive first-hand experience with the local watershed through a field-study on the Truckee River or one of its tributaries, or, in the case of a distance learning model, a virtual field trip or case study of the Truckee River.
- Provide 26 teachers with WEI extension lessons

Outcomes:

- 100% of students participating in "Hands in the River" will be able to draw and describe the Truckee River Watershed
- 100% of students participating in "Hands in the River" curriculum will complete water quality testing at/on the Truckee River to assess the health of their local watershed
- 90% of students participating in "Hands in the River" will be able to identify the function of storm drains and name three ways they can help reduce the amount of pollution entering the storm drain.
- 80% of students participating in "Hands in the River" will feel comfortable in nature following their field study.

- 95% of teachers will report that the program is helping to build critical thinking skills among their students.

Methods to measure outcomes: To accurately measure program success and content proficiency, Sierra Nevada Journeys instructors administer pre- and post-assessments to all students. This method of measurement models end-of-year state testing for schools, used to measure national expectations for learning. In addition to student pre- and post-assessments, classrooms teachers are given surveys.

Methods to measure outputs: Sierra Nevada Journeys' Education Team manages an internal database that tracks details on participating students, schools, parents and volunteers.

2.) Describe the project location.*

The classrooms component of WEI will take place at schools within the Washoe County School District. The program's field sites are located within and downstream of the urban corridor of the Truckee River like Oxbow Nature Study Area, Galena Creek Regional Park and the McCarran Ranch Preserve. Field site locations are convenient and close to home for local students, increasing their sense of ownership, place, awareness and comfort in these nature areas. The program highlights regions along the Truckee River that are impacted by urban growth and development.

3.) Project Description*

Include site map and aerial photos if applicable/possible as an attachment.

Sierra Nevada Journeys' Watershed Education Initiative is a dynamic education program intentionally designed to build understanding of student's local watershed, including human impacts on the watershed, water quality, and issues surrounding watershed protection. Conducted over a four-week period, The program begins with an orientation for new participating teachers to give an overview of the content and format of the program. After the teacher orientation, our educators go into classrooms and teach two lessons. Each lesson fosters students' interest in science by using hands-on activities like creating a watershed model.

The program culminates with a 3-hour field study at a local nature site to apply what they've learned in a real-world context. For the Watershed Education Initiative, field sites include Oxbow Nature Study Area, Galena Creek Regional Park or the Nature Conservancy's McCarran Ranch Preserve. Students explore, assess, and collect data about the health of the Truckee River Watershed by observing the river, collecting macroinvertebrate species for study, and discussing how we can use the data to make a determination of health. The program also embeds opportunities to build critical thinking skills and social emotional learning.

While in-class and field-based lessons reach students, WEI's additional outreach components serve to support teachers, engage families and reach community volunteers. Through extension lessons, Sierra Nevada Journeys supports teachers in getting their students back on track after distance learning and extending watershed learning beyond the Sierra Nevada Journeys-led learning experiences. Classroom teachers receive additional materials covering watershed exploration and our instructors work one-on-one with classroom teachers during orientation to identify strategies that deepen student learning. We also engage families through a follow-up email that includes questions for guardians to discuss with their students, a link to photos from their field day, and information about the field site so they can visit together. We also engage parents as chaperones during our programs field trips to support student learning and bolster family engagement and excitement about learning objectives.

Sierra Nevada Journeys believes that science and nature are for everyone. We prioritize partnerships with schools that primarily serve youth who have historically been denied access to high-quality science education

and outdoor learning experiences. With this funding, Sierra Nevada Journeys will serve 700 students in approximately 26 classrooms in the Truckee River Watershed. Students served with this grant will be those who have the highest financial and learning needs, ensuring we address the science and outdoor equity gap.

In Summary, the Watershed Education Initiative includes:

- The school-based component includes two in-class lessons (three) hours of in class instruction. Students participate in hands-on lessons that incorporate the Truckee River watershed, point and non-point source pollution, invasive species, sources and impacts of erosion, water conservation and stewardship.
- The field-based component includes one day of outdoor science education as students hike along the Truckee River Watershed. Students seek clues related to the health of the watershed and determine water quality by collecting and identifying macro-invertebrates or conducting chemical tests such as pH, dissolved oxygen, or turbidity. Students use evidence to make a conclusion about the health of the Truckee River Watershed.
- SNJ provides five ready-to-use classroom extension lessons for teachers that help students prepare for and review learning objectives, as well as extend and reinforce each SNJ-directed lesson.
- To encourage family engagement, SNJ provides teachers with a template to email parents with a summary and pictures of their child's experience after each unit along with information for family-based discussion of the curriculum
- The volunteer component of the program builds our capacity to involve the local community and broadens accessibility to our programming for low-income schools by helping to keep costs low.

4.) Grant priorities*

Explain how the proposed project advances the TRF's specific grant priorities.

WEI is an education program that addresses water, water quality and watershed protection for K-8th grade students, directly aligning with grant priority VI: Stewardship and Environmental Awareness. Students gain first-hand experience determining water quality, explore human impacts on their water source, and obtain skills, knowledge and a field experience to connect them to their local river. The overall long-term program impacts include:

- Students understand important science concepts related to the Truckee River watershed and can articulate how their actions affect the Truckee River watershed and local ecosystems.
- Teachers use extension lessons and implement more hands-on exploration of the watershed. Parents and community members engage in watershed education directly through WEI volunteer.
- Health of the Truckee River watershed and local ecosystems improves as students and their families adopt environmental stewardship practices that help reduce water pollution and human impacts.

5.) Permitting*

Provide a permitting schedule for your project along with your plan for getting the required permits and decision documents. Be sure to include the cost of permitting/decision documents as a line item in your budget.

N/A

6.) Future Land Use*

List any known or foreseeable zoning, land use, or development plans that may affect your proposed project.

N/A

7.) If future phases of the project will be needed, identify anticipated sources of funding.*

N/A

8.) Identify the principals involved in leading or coordinating the project or activity.*

Credentialed science educators on the SNJ staff will be directly responsible for coordination and delivery of watershed education programs. Olive Schillo, Program Director and Project Contact, is a former Montessori preschool director and holds a Bachelor of Science in Parks, Recreation and Tourism with a concentration in Adventure and Outdoor programs from the University of Salt Lake City, UT.

9.) Number of staff positions involved in project.*

Identify how many staff will be full-time and how many will be part-time.

“Fulltime” means 100% of their staff position will be dedicated to this project; “part-time” means only a portion of their staff position will be dedicated to this project.

Fulltime: 5, Part-time: 4

10.) Number of volunteers involved in project and an estimated number of volunteer hours.*

Approximately 50 volunteers (including parent volunteers), and an estimated 250 hours of volunteer time.

11.) Timeline of Project*

List key dates and include project milestones. Note: Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.

***Note: Funding will not be provided for work performed prior to grant approval.*

Recruitment/Scheduling: SNJ outreach efforts are continuous. Outreach is now underway for the fall semester. SNJ targets schools that participated in watershed programming in the past and new schools that have not received WEI.

Program Delivery: SNJ instructors will deliver engaging watershed education lessons to 700 students through school-based and field-based programs beginning in late August and running through mid-December.

Evaluation: SNJ staff will compile student assessment data throughout the grant period. These results will inform any changes to the curriculum to ensure effective programming in the future. Evaluations will begin in late August and data will be compiled in early January.

Final Report: Submit the final report to the Community Foundation of Western Nevada. This report will include a summary of the work completed, student assessment data, and a budget update. A final report will be drafted in January 2024 and ready to submit by the deadline.

12.) What factors will indicate a successful project?*

Success will be found through the delivery of the Watershed Education Initiative to 700 students in grades K-8th. All students receive first-hand experience with the local watershed through a field-study on the Truckee River or one of its tributaries. Provide 26 teachers with WEI extension lessons. Through the Watershed Education Initiative, students will:

- Be able to draw and describe the Truckee River Watershed;
- Complete water quality testing at/on the Truckee River to assess the health of their local watershed;
- Be able to identify the function of storm drains and name three ways they can help reduce the amount of pollution entering the storm drain;
- Feel more comfortable in nature following their field study; and
- Report that the program is helping to build critical thinking skills among their students.

13.) Collaboration*

List partnerships or collaborations with other entities in relation to your proposal, if any.

We routinely share ideas and partner with organizations for curriculum and program development. We collaborate with Better Environmental Education, Teaching, Learning & Expertise Sharing (BEETLES) methodology through the Lawrence Hall of Science at UC Berkeley, for training in outdoor science education best practices. We also partner with Project Learning Tree, Project WET, NatureBridge, and the Mountain Maidu Tribe for curriculum and program development, and we collaboratively share ideas with the Desert Research Institute, and the University of Nevada, Nevada Teach program.

Additionally, several other partner agencies make our field experiences possible like The Nature Conservancy, Washoe County Regional Parks and Open Space, the City of Reno, and the Nevada Department of Wildlife

Grant Match

All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. For larger grant requests, priority will be given to projects that significantly leverage the grant with funding from other sources.

Total grant match to be provided.*

\$11,978.00

Cash

\$11,978.00

For the cash portion, is the funding already being held by the applicant for this project?

No

In-kind

****Note:** Provide an itemized breakdown of volunteer match in your budget with rationale.

\$0.00

Description of matching funds/in-kind donations.*

\$11,978 from the Nevada Division of Environmental Protection

Attachments

Nonprofits must submit:

- Last audited financial statements if your organization has been audited
- List of Board of Directors
- Copy of agency's IRS 501(c)(3) Tax Determination Letter
- Copy of the agency's most recent IRS Form 990

****Please submit as one PDF document**

SNJ Combined Attachements.pdf

Governmental entities must submit:

- Departmental budget in lieu of audited financial statements

Project Budget*

*Provide detail on line-item expenditures and show which costs are to be paid for by the Truckee River Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services. Other sources of funding should be provided. **A sample budget template is provided below.***

****Note:** Indirect/overhead expenses cannot exceed 25 percent; TRF may fund indirect/overhead up to 25% based on availability of funds. Applicants should be prepared to provide reduced budgets during the review of applications by the TRF Board when funds are limited.

Grants from the Truckee River Fund are paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

TRF Program Budget.docx

Sample Budget Template

ORIGINAL PROJECT BUDGET					REIMBURSEMENT REPORT	
Budget Item	Description* TRF \$	Other Funding Name**	Match \$	Total	Expenditures to date TRF	Expenditures to date (other sources)
Design/Engineering	\$xx,xxx	Agency X	-	\$xx,xxx	\$xx,xxx	
Permitting	\$xx,xxx	Agency X	\$x,xxx	\$x,xxx		\$x,xxx
Labor--paid	\$x,xxx	Agency X	\$x,xxx	\$x,xxx	\$x,xxx	
Labor--volunteer (\$20/hr)		Own people	\$xx,xxx	\$xx,xxx	\$x,xxx	
Construction	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Materials	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Other (be specific)	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Overhead (max. 25%)	\$xx,xxx	Own agency	\$xx,xxx	\$xx,xxx		
TOTAL	\$xxx,xxx		\$x,xxx	\$xxx,xxx	\$xx,xxx	\$x,xxx

**Explain status of other funding if not in hand.

*These are sample descriptions.

If project is to be implemented in phases, please separate budget into each phase.
Indirect costs may not be counted as match.

Grantee Requirements & Project Evaluation Criteria

GRANTEE REQUIREMENTS

To be eligible for funding, grantees must adhere to the following requirements:

- Funds are to be used and/or disbursed exclusively for the charitable uses and purposes.
- The Fund shall be used exclusively for projects that protect and enhance water quality or water resources of the Truckee River, or its watershed.
- The Charitable Beneficiaries may include 501(c)(3) organizations and governmental entities. Any grants to governmental entities must be made exclusively for public benefit purposes.
- All grantees will be required to sign a grant agreement stipulating their agreement with all of the terms, conditions, and reporting requirements.
- Organizations or entities sponsoring proposals are prohibited from ex parte communications regarding such proposals with members of the Truckee River Fund Advisory Committee while such proposals are pending before the Committee, and such communications may be grounds for rejecting a proposal.

- To maintain eligibility to receive grant funds, each Charitable Beneficiary must comply at all times with the following requirements:
 1. Charitable Beneficiaries must be exempt from federal income taxation under Section 501(c)(3) of the Code;

Charitable Beneficiaries shall use all Fund distributions toward projects that are appropriate and legal public expenditures;

Charitable Beneficiaries must provide financial details and/or reports of their organizations upon request;

Charitable Beneficiaries must not use any Fund distributions for political contributions or political advocacy;

Charitable Beneficiaries must either implement the projects, activities, and/or programs for which they received Fund distributions within six months of the date in which such distributions are received or by date(s) as agreed upon in the grant acceptance agreement, or must return all such distributions to the Community Foundation forthwith;

Charitable Beneficiaries must provide the Community Foundation a report detailing the completion of their projects, activities, and/or programs; and

Charitable Beneficiaries must sign an agreement regarding their compliance with the qualifications hereof.

PROJECT EVALUATION

Each proposal will be evaluated on criteria that include but are not limited to:

- Measurable outcomes in accordance with stated grant priorities.
- Readiness of sponsoring organization to undertake and complete project.
- Consistency with established Truckee River operations.
- Impact on other River stakeholders.
- Absence of negative or unintended consequences.
- Solutions to known problems as identified through past research.
- Prior performance on grants from the Truckee River Fund.

The Nature Conservancy & Truckee River Watershed Council have conducted assessments of Truckee River and Donner Lake watersheds and have presented their findings to the Truckee River Fund advisory committee. The results may influence the advisors' decision-making during proposal review. Copies of the assessments are available at www.truckeeriverfund.org.

File Attachment Summary

Applicant File Uploads

- SNJ Combined Attachements.pdf
- TRF Program Budget.docx

Sierra Nevada Journeys' Board of Trustees

Our dedicated board supports Sierra Nevada Journeys' mission in a multitude of ways. In addition to their time, knowledge and expertise, we are very proud to be a recognized 100 percent board giving organization.

If you are interested in serving on our board, please contact Board Trustee and Nominee Chair, Malena Raymond (<mailto:boardinquiry@sierranevadajourneys.org>).



LEARN MORE ABOUT SERVING ON OUR BOARD
(/SERVING-ON-OUR-BOARD)

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Dan Klaich, Immediate Past Chair

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English

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Estela Gutierrez, Trustee
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Interested in learning more about Sierra Nevada Journeys and partnering to support our programs?

Schedule a call or meeting with our CEO, Sean Hill (</contact-ceo>).

[Home](#) [About](#) [Partners](#) [Jobs](#) [Contact](#) [FAQ](#)

MAILING ADDRESS

English

Program Budget for Classrooms Unleashed – Watershed Education Initiative

Item	Description	Per Student Expense	Total Expense	SNJ Match 25%	Total Request
Compensation & Related Expenses	Includes Education Personnel like Instructors, Program Directors and Coordinators	\$53.74	\$37,618	\$9,405	\$28,214
Program Costs	Direct program expenses, such as: magnifying glasses, water containers, field day health supplies, printing and paper, uniforms, etc.	\$6.28	\$4,396	\$1,099	\$3,297
Outside Contract Services	External evaluation services, DEI consultant, etc.	\$1.80	\$1,260	\$315	\$945
Occupancy Expenses	Rent and utilities	\$2.73	\$1,911	\$478	\$1,433
Operating Expenses	Such as office supplies, postage/shipping, telephone, internet, equipment rental and maint., licenses and membership dues	\$3.15	\$2,205	\$551	\$1,654
Other Misc Expenses	Staff recruitment, advertising/marketing expense, banking fees, merchant proc. fees	\$0.74	\$518	\$129.50	\$389
Total Expenses		\$68.44	\$47,945	\$11,978	\$35,933

Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)

Truckee River Fund- Fall 2023

City of Reno

Trina Magoon
1 E First St
Reno, NV 89501

O: 775-560-5363

Daniel Moss

1307 King James Ct
Reno, NV 89503

mossd@reno.gov
O: 775-560-5363

Application Form

Grant Priorities

TMWA recommends that the Advisors give preference to well-prepared and thought out grant requests for projects and programs that mitigate substantial threats to water quality and the watershed, particularly those threats upstream or nearby treatment and hydroelectric plant intakes:

- I. **Aquatic Invasive Species (AIS):** Projects/Programs that support the prevention or control of aquatic invasive species in the main stream Truckee River, Lake Tahoe, other tributaries and water bodies in the Truckee River system.
- II. **Watershed Improvements:** Projects that reduce erosion or sediment, suspended solids, or TDS discharges to the River. Projects or programs that are located within 303d (impaired waters) sections of the River should be considered, both in California and Nevada. Innovative techniques should be encouraged.
- III. **Local Stormwater Improvements:** Projects that are well designed which mitigate storm water run-off due to urbanization of the local watershed. Priority should be given to those improvement projects in close proximity to TMWA's water supply intakes and canals and which will improve the reliability and protect the quality of the community's municipal water supply.
- IV. **Re-Forestation and Re-Vegetation Projects:** Projects to restore forest and upland areas damaged by fire and historical logging operations, and to improve watershed resiliency in drought situations. Projects/programs in this category should be given a high priority due to urbanization of the watershed and increased susceptibility of the urban and suburban watershed to wildfire.
- V. **Support to Rehabilitation of Local Tributary Creeks and Drainage Courses:** Practical projects to support water quality improvement in Gray Creek, Bronco Creek, Mogul Creek, Chalk Creek, Steamboat Creek and the North Truckee Drain.
- VI. **Stewardship and Environmental Awareness:** Support to Clean-Up programs and the development and implementation of educational programs relative to water, water quality and watershed protection.
- VII. **Meet Multiple Objectives:** Projects/Programs should identify opportunities to meet multiple water quality and watershed objectives as outlined above with preference given to those achieving multiple benefits.
- VIII. **Leverage Stakeholder Assets and Participation:** Projects/Program selection should include an assessment of various stakeholder interests in all aspects of river water quality, watershed protection, source water protection and species enhancement thereby leveraging available funds and other assets.

Note: For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria at lrenda@nevadafund.org

Organization Information

Organization Name*

City of Reno

Organization Type*

Governmental Entity

EIN

If the organization is a 501c3, please include the EIN#.

Director of Organization*

Trina Magoon, Director of Utility Services Department

Project Contact Name*

Daniel Moss, PE

Project Contact Postion/Title*

Project Coordinator

Project Contact Email*

mossd@reno.gov

Project Contact Phone Number*

7755605363

Organization Mission*

From the City of Reno Website:

Vision

We are a thriving urban center known for our world-class colleges, vibrant culture, diverse outdoor activities, and innovative industries.

Mission

Creating a community that people are proud to call home.

Strategic Priorities and Goals

The City Council established six overarching goals for the City of Reno.

1. Fiscal Sustainability
2. Public Safety
3. Economic Opportunity, Homelessness, and Affordable Housing
4. Economic and Community Development

- 5. Infrastructure, Climate Change, and Environmental Sustainability
- 6. Arts, Parks, and Historical Resources

Project Information

Project Title*

Name of Project.

Lake Park Watershed Project (Floating Wetlands and Pollinator Revegetation Project)

Amount Requested*

\$30,832.00

Project Start Date*

10/15/2023

Project End Date*

10/15/2024

This funding will be used to:*

Complete this sentence with a max of 2 sentences.

Funding is for installing three landscaped floating wetlands to improve water quality at Lake Park pond, revegetate the shoreline with native pollinator plants to improve plant diversity, and design and install permanent educational STEM signage for schools and the public to learn how wetlands benefit plant and animal ecosystems and water quality.

This project is on:*

Check all that apply

Public land

Are government permits or decision documents needed for the project?*

No

If so, are those permits and decision documents already secured?

If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements provide a list of permits and documents needed and a schedule for securing them.

Yes

Previous Funding from Truckee River Fund

Has your organization received other grants from the Truckee River Fund?*

Yes

If yes, please include the following information for all previously funded projects:

- *Date awarded*
- *Project # and Title*
- *Amount of award*

Please attach additional pages as needed to list ALL previously funded projects.

The City has received numerous TRF grants over the years, providing funding for several Departments:

Grant #207

Second Truckee River Cleanup Crew. (\$23,472) - City of Reno, 2018

Grant #183

Truckee River Cleanup Crew – Year 3. (\$28,694) - City of Reno, 2017

Grant #169

Truckee River Cleanup Crew – Year 2. (\$47,787) - City of Reno, 2016

Grant #166

Virginia Lake Water Quality Improvements. (\$100,000) - City of Reno, 2015

Grant #164

Cemetery Drain Water Quality, Erosion Control and Drainage Project. (\$77,500) - City of Reno, 2015

Grant #157

Truckee River Cleanup Crew. (\$104,235) - City of Reno, 2015

Grant #151

Virginia Lake Water Quality Improvement Project Monitoring and Public Education. (\$18,820) - City of Reno

Public Works, 2014

Grant #144

Reducing Non-Point Source Pollution to TMWA's Highland Canal. (\$329,000) - City of Reno Public Works, 2014

Grant #134

Reducing Non-Point Source Pollution to the Highland Canal. (\$400,000) - City of Reno, 2013

Grant #120

Truckee River Bank Stabilization at Crooked Mile. (\$30,615) - City of Reno, 2013

Grant #119

Hazardous Tree Removal at Oxbow Park. (\$32,250) - City of Reno, 2013

Grant #83

Livestock Event Center Treatment System-Phase 2. (\$97,500) - City of Reno Public Works, 2011

Grant #73

Livestock Events Center Drainage Treatment System. (\$75,000) - City of Reno, 2009

Grant #60

McKinley Arts and Cultural Center/ LID Demonstration Project. (\$115,500) - City of Reno Public Works, 2008

Grant #59

Chalk Creek Watershed TDS/Sulfate Reducing Wetland Pilot Project. (\$163,000) - City of Reno Public Works, 2008

Grant #52

Truckee River Bank Stabilization at Oxbow Park. (\$207,750) - City of Reno, 2008

Grant #48

Truckee River Watershed Map Web Tool. (\$80,000) - City of Reno Public Works, 2008

Grant #30

Downtown Eco-Channel Construction. (\$370,000) - City of Reno Public Works and Sanitary Engineering, 2007

Grant #29

Chalk Creek Watershed Management for Water Quality to Minimize Non-Point Source Pollution from Reaching the Truckee River. (\$250,000) - City of Reno Public Works, 2007

Grant #28

Restoration of Riparian Vegetation in a Channel at Sapphire Ridge in Chalk Creek Watershed. (\$18,375) - City of Reno Public Works, 2007

Grant #13

Urban Storm Water Quality Improvements. (\$66,000) - City of Reno, 2006

Grant #11

Lower Steamboat Creek Restoration. (\$86,000) - City of Reno, 2006

Grant #10

Watershed protection for the drinking water source of the Chalk Bluff Water Treatment Plant. (\$211,000) - City of Reno, 2006

Grant #2

Chalk Creek TDS Loading to Truckee River Study: Possible TDS mitigation and pollution trade for TMWRF on Truckee River TMDL. (\$25,000) - City of Reno, 2005

Description of Project Under Consideration

Indicate the description that best fits the project you are proposing*

Mark no more than three categories.

- A. Projects that improve bank or channel stabilization and decrease erosion.
- B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- C. Projects that remove pollution from the Truckee River.
- D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.
- E. Other projects that meet the evaluation criteria.

A.)

B.)

C.)

Narrative Requirements

1.) Specific project goals and measurable outcomes and how you will measure and report them.*

All projects are required to have measurable outcomes.

Goal 1: Improve the Lake Park ecosystem (habitat and water quality), reduce erosion, and downstream drainages. The Project will improve habitat for birds, pollinator insects, other wetland wildlife, and water quality, which will improve the overall ecosystem of Lake Park and its pond. The pond water routinely overflows into the storm drain system, which leads to the Truckee River, so any water quality improvements in Lake Park also improve the Truckee River.

Metrics to evaluate impact of Goal 1 will include City of Reno coordinating staff and Friends of Lake Park volunteers to count the number of birds that actively utilize the current shoreline vegetation at a certain time of day, for 5 total days during the month of May. They will also conduct an insect survey to count an approximate number of bees and butterflies, at that time. Then, volunteers will perform the same count approximately one (1) year after the Project is completed. Volunteers will also track the number of dead or dying plants for two (2) years after the Project is completed. Basic water quality sample data has been collected from the City of Reno during the fall of 2021. The target metric is a 50% increase in bird and insect populations utilizing the shoreline vegetation and wetlands, and a 25% maximum plant die-off rate.

Water quality samples will be collected once per year for two years after the Project is completed. However, notably, given the scale of the nutrient loading and size of the pond, the wetlands and other revegetation efforts may not be able to measurably improve overall pond water quality, except within the immediate vicinity of the wetlands islands. Referencing the research report prepared for this project (attached to application), Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year) summarizes estimated annual removal rates. Erosion reduction will be assessed by measuring the square footage of previously barren bank slopes that are now covered by specific riparian species.

Goal 2: STEM-based Education: Lead and coordinate the design, fabrication, and installation of two STEM-based signs at Lake Park and share the news and educational way to use the new Lake Park improvements with schools and residents. The educational signs installed will support local schools, groups, and the general public to learn more about watershed topics with a STEM-based lens. Signage will have a stewardship message for everyone to take responsible actions to protect our local watershed. City of Reno will mail all residents with one-mile of the park and all Washoe County School Districts to share the news about the STEM-based education at Lake Park.

Metrics to evaluate impact of Goal 2 are the number of individuals who read the educational signs. This will be tracked by providing a QR code on signs to City of Reno and TMstormwater.com websites by the counted clicks from the QR link. The quality of education can be evaluated through a visitor feedback box or using a web form. Mailers will be evaluated by the number mailed and the number of responses from the mailer. The target metric is 200 individuals reading the signs in the first full year after installation, and at least two classroom field trips to the park to view the STEM signage and explore the wetlands/riparian information.

2.) Describe the project location.*

Lake Park is a City of Reno park located in a residential neighborhood of Northwest Reno. The park makes up one city block, consists of grass, trees, walking paths, a playground, and is centered around a 1.5-acre pond. The park is popular with local residents, and a Friends of Lake Park (FOPL) group has been create to help coordinate volunteers in maintaining the park, and providing feedback for park improvements.

3.) Project Description*

Include site map and aerial photos if applicable/possible as an attachment.

Lake Park Wetlands and Pollinator Projects_Design Memo_TRF_Reduced.pdf

The City of Reno (City) proposes a collaborative Lake Park Watershed Project (Project) with One Truckee River (OTR), Friends of Lake Park, and Truckee Meadows Park Foundation. A natural resource initiative, this Project would use advanced wetland solutions and science, technology, engineering, and math (STEM)-based education to support a healthy watershed at Lake Park's central pond, which flows intermittently into the Truckee River. Specifically, Project objectives are to: 1) place three 10'x12' floating vegetated wetland islands within the pond; 2) plant around the entire pond shoreline (wetland and natives) and in barren park areas; and 3) design and install two STEM-based signs. The Project will combine with OTR's River-Friendly demonstration garden (funded by a 319(h) Grant) and complement Friends of Lake Park's public art project; both funded and planned for installation in Fall 2023. Reference the attached report prepared for this project ("Lake Park Wetlands and Pollinator Project_Design Memo_TRF_Combined.pdf"), which provides detailed information including history of Lake Park, photos of the existing site, preliminary site plan, wetland design engineering details, existing water quality monitoring results, and more.

Currently, Lake Park has undiversified landscaping, consisting primarily of grass lawn, a few common tree species, invasive weeds surrounding the pond, and a few individual riparian plants. Patches of invasive weeds include bindweed, thistle, pigweed, and horseweed, and the pond edge is usually overgrown with a monoculture of Curlytop Knotweed, with a few milkweed plants interspersed. The pond receives inflow from the Highland Canal during the spring and summer months, and while it has a recirculation and aeration system, the pond is otherwise stagnant and has ongoing water quality issues related to water clarity, odor, and nutrient/bacteria concentrations, primarily due to the high population of ducks (summer) and geese (winter) that utilize the pond. Pond water routinely overflows into storm drains, causing the impaired water travels to the Truckee River.

For the past decade, research has been conducted by the City of Reno and UNR at various City-owned lakes, exploring various chemical, mechanical, and biological methods for removing such pollutants, and a wetlands approach has proven to be one of the most cost effective and beneficial techniques. Floating wetlands are small artificial platforms that allow aquatic plants to grow in water typically too deep for them to establish, and the submerged root-based ecosystem that develops creates an environment that captures nutrients and remove common water pollutants. Specifically, the floating wetlands support minimizing phosphorus, nitrogen, and total dissolved solids in the pond (these constituents have NDEP-mandated concentration limits in the Truckee River), as well as other forms of water pollution. The Project's wetland plants have been carefully chosen by the City's horticulturalist, and include several species of rushes and sedges, including the common tule, Baltic rush, tufted hair grass, as well as the yellow flowering seep monkeyflower.

Reference the attached research report prepared for this project, which provides detailed information about Lake Park water quality (baseline samples taken in summer 2021) and the nutrient removal rates associated with an engineered floating wetlands.

Further project benefits are to provide permanent STEM-based educational resources at no cost to students, teachers, and the public that will include messaging on how to be more responsible to protect our local watershed, test out and showcase a growing ecological method to protect and enhance wetlands, increase and diversify native and pollinator plant species, support creating a safe waterfowl habitat, and engage the local community in park improvements.

4.) Grant priorities*

Explain how the proposed project advances the TRF's specific grant priorities.

Lake Park Watershed Project meets several grant priorities, specifically numbers VI – Stewardship and Environmental Awareness, II – Watershed Improvements, VII – Multiple Objectives, and VIII – Leverage Stakeholder Assets and Participation.

Priority VII is met through priorities II and VI. For priority II - Watershed Improvements, revegetating barren sections of the pond shoreline with various pollinator-friendly shrubs will reduce sediment erosion into the pond by keeping soil protected from rainfall and foot traffic. In addition, referencing Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year) from the attached research report, the floating wetlands have the capacity to remove up to 1,800 lbs/year of Total Suspended Solids (TSS), as well as excess nutrients and BOD (Biological Oxygen Demand).

Priority VI – Stewardship and Environmental Awareness is met through the implementation of professionally designed STEM-based signage around the lake that allows the public to easily understand the function of wetlands in improving water quality, watersheds, and the general ecosystem. Several Washoe County School District schools, and a large preschool, are within walking distance to Lake Park, and will be notified about the STEM-based education at Lake Park via mailers that will encourage field trips to the park.

The project meets Priority VIII – Leverage Stakeholder Assets and Participation as it engages several agencies to collaborate and contribute to the project, including the City of Reno Utility Services Department, Parks and Recreation Department, the Friends of the Lake Park, The Truckee Meadows Park Foundation, and One Truckee River (OTR). Utility Services will provide in-kind (time and labor) project management services including project coordination, planning, and construction management. Parks and Recreation will provide in-kind services for landscape design, plant purchasing, plant cultivation in greenhouses (wetlands plants will need to be grown for 3-6 months prior to planting into the wetland island), and wetland installation support. The Truckee Meadows Park Foundation has also been engaged and will volunteer the labor of several skilled wetlands restoration technicians to perform the majority of the bank plantings, over several days. However, the City would like to utilize the grant to reimburse their efforts, if possible.

One Truckee River (OTR) has also been engaged in project management for the Wetlands Project, aiding in coordinating this project with the OTR's River-Friendly pollinator garden at Lake Park, which goes hand-in-hand with the Wetlands Project, and also engages the same partners for construction and landscaping design and labor. If OTR has excess funds for their garden, they are open to helping purchase wetlands plants for starting greenhouse cultivation earlier in the Project timeline. A final stakeholder is the Friends of Lake Park (FOPL), a growing association of citizens from the Lake Park neighborhood who utilize the park for recreation, volunteer to help clean and landscape the park, and gather to discuss potential park improvements. FOPL was engaged in a public outreach meeting in August 2022, where the group, backed by leader Cathy Schmidt, expressed being highly in favor of this type of project, and willing to aid in long-term maintenance and upkeep of the improvements.

5.) Permitting*

Provide a permitting schedule for your project along with your plan for getting the required permits and decision documents. Be sure to include the cost of permitting/decision documents as a line item in your budget.

Approvals for this installation and the associated in-kind services have already been provided in email documentation from the Parks and Recreation and the Utility Services departments. No permits are required for the landscaping or wetlands installation.

6.) Future Land Use*

List any known or foreseeable zoning, land use, or development plans that may affect your proposed project.

OTR's River-Friendly demonstration garden and the Friends of Lake Park's public art sitting bench project will be installed in Fall 2023, which won't alter existing landscaping plans.

7.) If future phases of the project will be needed, identify anticipated sources of funding.*

No future phases are anticipated, however, if any extra funds are required for future repairs or professional services related to wetlands maintenance, the City of Reno Utility Services is prepared to allocate approximately \$10k of department funds.

8.) Identify the principals involved in leading or coordinating the project or activity.*

Daniel Moss - Project Coordinator, City of Reno Utility Services. Role: Lead Project Manager

Ryan Sharrer - Horticulturalist, City of Reno Parks and Recreation. Role: Lead landscaping/construction manager and plant cultivator.

Elena Larson - Nature Study Area Director, Truckee Meadows Parks Foundation. Role: Coordinator of TMPF Wetland Technician staff labor.

9.) Number of staff positions involved in project.*

Identify how many staff will be full-time and how many will be part-time.

"Fulltime" means 100% of their staff position will be dedicated to this project; "part-time" means only a portion of their staff position will be dedicated to this project.

fulltime - 0. Part-time - 5 (up to 9 total including minor roles or for construction mgmt only)

10.) Number of volunteers involved in project and an estimated number of volunteer hours.*

5 FOPL volunteers at 10 hours each (50 hours)

11.) Timeline of Project*

List key dates and include project milestones. Note: Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.

***Note: Funding will not be provided for work performed prior to grant approval.*

Fall 2023:

- Project Funding approval, project kick off

October/November 2023:

- Purchase wetlands and riparian plants (or seeds) and place in City of Reno greenhouse for cultivation

March/April 2024:

- Plant certain seedlings in City of Reno greenhouse for cultivation

June/July 2024:

- Purchase floating wetlands islands and anchoring material;
- Design and purchase STEM educational signs
- For Goal #1 metrics, conduct 5 total days of bird and insect counts utilizing existing vegetation
- Take baseline water quality samples at pond recirculation discharge

September 2024:

- If plants are large enough for planting (likely), install floating wetlands island, complete pond perimeter plantings, and install STEM signs

October 2024 (Installation Complete):

- Hold project completion walk-through and gathering with all Stakeholders
- Send out mailers to schools and neighbors advertising the park improvements

Post-Installation Follow-Up

May 2025:

- Check for dead plants and consider replacing them

June/July 2025:

- For Goal #1 metrics, conduct 5 total days of bird and insect counts utilizing existing vegetation
- Take new water quality samples at pond recirculation discharge

May 2026:

- Check for dead plants (and count them for Goal #1 metrics) and consider replacing them

12.) What factors will indicate a successful project?*

Several Factors will indicate a successful project, including the following:

- A) The long-term health of the wetland islands and riparian shoreline plants, which will be determined by semi-annual vegetation inspections and any necessary maintenance.
- B) A measurable increase in vegetation usage by birds and insects, which will be determined by the volunteer-led surveys.
- C) Frequent viewing of the STEM educational signs by the public and school groups, which will be determined by tour counts, QR code counts and other volunteer-led observations.
- D) Positive feedback from park users, including members of the Friends of Lake Park (FOPL).
- E) Minimal long-term maintenance of improvements, including annual wetlands maintenance, a lack of vandalism, and longevity of wetlands island infrastructure (materials can last 20+ years).

13.) Collaboration*

List partnerships or collaborations with other entities in relation to your proposal, if any.

Partnerships: One Truckee River, Friends of Lake Park, Truckee Meadows Parks Foundation

(NOTE: text below is copied from section 4. regarding Priority VIII – Leverage Stakeholder Assets and Participation)

The Truckee Meadows Park Foundation has been engaged and will volunteer the labor of several skilled wetlands restoration technicians to perform the majority of the bank plantings, over several days. However, the City would like to utilize the grant to reimburse their efforts, if possible.

One Truckee River (OTR) has also been engaged in project management for the Wetlands Project, aiding in coordinating this project with the OTR's River-Friendly pollinator garden at Lake Park, which goes hand-in-hand with the Wetlands Project, and also engages the same partners for construction and landscaping design

and labor. If OTR has excess funds for their garden, they are open to helping purchase wetlands plants for starting greenhouse cultivation earlier in the Project timeline.

A final partnership is with is the Friends of Lake Park (FOPL), a growing association of citizens from the Lake Park neighborhood who utilize the park for recreation, volunteer to help clean and landscape the park, and gather to discuss potential park improvements. FOPL was engaged in a public outreach meeting in August 2022, where the group, backed by leader Cathy Schmidt, expressed being highly in favor of this type of project, and willing to aid in long-term maintenance and upkeep of the improvements.

Grant Match

All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. For larger grant requests, priority will be given to projects that significantly leverage the grant with funding from other sources.

Total grant match to be provided.*

\$16,916.00

Cash

For the cash portion, is the funding already being held by the applicant for this project?

No

In-kind

***Note: Provide an itemized breakdown of volunteer match in your budget with rationale.*

\$16,916.00

Description of matching funds/in-kind donations.*

- CoR Utility Services Project Coordinator to coordinate and the Lake Park Watershed Project (cost includes wages and taxes)
- CoR Utility Services Associate Civil Engineer to oversee and assist in project coordination (cost includes wages and taxes)
- CoR Parks and Rec Horticulturist to oversee plant cultivation and landscaping (cost includes wages and taxes)
- CoR Parks and Rec Irrigation System Technician to aid in wetlands installation and landscaping (cost includes wages and taxes)
- Truckee Meadows Park Foundation services for installation (AmeriCorps Wetlands Technician labor at a value of \$20/hr. x 4 AmeriCorps x 48 hrs. each)
- OTR Executive Director to coordinate River-Friendly Demonstration Garden with Watershed Project (cost includes wages and taxes)

- Friends of Lake Park volunteer services for bird/insect surveys (free volunteer services)

Attachments

Nonprofits must submit:

- Last audited financial statements if your organization has been audited
- List of Board of Directors
- Copy of agency’s IRS 501(c)(3) Tax Determination Letter
- Copy of the agency’s most recent IRS Form 990

**Please submit as one PDF document

Governmental entities must submit:

- Departmental budget in lieu of audited financial statements

FY24 Budget Report - Utility Services & Parks Maintenance.pdf

Project Budget*

*Provide detail on line-item expenditures and show which costs are to be paid for by the Truckee River Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services. Other sources of funding should be provided. A **sample budget template is provided below.***

****Note:** *Indirect/overhead expenses cannot exceed 25 percent; TRF may fund indirect/overhead up to 25% based on availability of funds. Applicants should be prepared to provide reduced budgets during the review of applications by the TRF Board when funds are limited.*

Grants from the Truckee River Fund are paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

Budget Worksheet_Lake Park Watershed Project.pdf

Sample Budget Template

ORIGINAL PROJECT BUDGET					REIMBURSEMENT REPORT	
Budget Item	Description* TRF \$	Other Funding Name**	Match \$	Total	Expenditures to date TRF	Expenditures to date (other sources)
Design/Engineering	\$xx,xxx	Agency X	-	\$xx,xxx	\$xx,xxx	
Permitting	\$xx,xxx	Agency X	\$x,xxx	\$x,xxx		\$x,xxx
Labor--paid	\$x,xxx	Agency X	\$x,xxx	\$x,xxx	\$x,xxx	
Labor--volunteer (\$20/hr)		Own people	\$xx,xxx	\$xx,xxx	\$x,xxx	

Construction	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Materials	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Other (be specific)	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Overhead (max. 25%)	\$xx,xxx	Own agency	\$xx,xxx	\$xx,xxx		
TOTAL	\$xxx,xxx		\$x,xxx	\$xxx,xxx	\$xx.xxx	\$x,xxx

*These are sample descriptions.

**Explain status of other funding if not in hand.

If project is to be implemented in phases, please separate budget into each phase.
 Indirect costs may not be counted as match.

Grantee Requirements & Project Evaluation Criteria

GRANTEE REQUIREMENTS

To be eligible for funding, grantees must adhere to the following requirements:

- Funds are to be used and/or disbursed exclusively for the charitable uses and purposes.
- The Fund shall be used exclusively for projects that protect and enhance water quality or water resources of the Truckee River, or its watershed.
- The Charitable Beneficiaries may include 501(c)(3) organizations and governmental entities. Any grants to governmental entities must be made exclusively for public benefit purposes.
- All grantees will be required to sign a grant agreement stipulating their agreement with all of the terms, conditions, and reporting requirements.
- Organizations or entities sponsoring proposals are prohibited from ex parte communications regarding such proposals with members of the Truckee River Fund Advisory Committee while such proposals are pending before the Committee, and such communications may be grounds for rejecting a proposal.
- To maintain eligibility to receive grant funds, each Charitable Beneficiary must comply at all times with the following requirements:

1. Charitable Beneficiaries must be exempt from federal income taxation under Section 501(c)(3) of the Code;

Charitable Beneficiaries shall use all Fund distributions toward projects that are appropriate and legal public expenditures;

Charitable Beneficiaries must provide financial details and/or reports of their organizations upon request;

Charitable Beneficiaries must not use any Fund distributions for political contributions or political advocacy;

Charitable Beneficiaries must either implement the projects, activities, and/or programs for which they received Fund distributions within six months of the date in which such distributions are

received or by date(s) as agreed upon in the grant acceptance agreement, or must return all such distributions to the Community Foundation forthwith;

Charitable Beneficiaries must provide the Community Foundation a report detailing the completion of their projects, activities, and/or programs; and

Charitable Beneficiaries must sign an agreement regarding their compliance with the qualifications hereof.

PROJECT EVALUATION

Each proposal will be evaluated on criteria that include but are not limited to:

- Measurable outcomes in accordance with stated grant priorities.
- Readiness of sponsoring organization to undertake and complete project.
- Consistency with established Truckee River operations.
- Impact on other River stakeholders.
- Absence of negative or unintended consequences.
- Solutions to known problems as identified through past research.
- Prior performance on grants from the Truckee River Fund.

The Nature Conservancy & Truckee River Watershed Council have conducted assessments of Truckee River and Donner Lake watersheds and have presented their findings to the Truckee River Fund advisory committee. The results may influence the advisors' decision-making during proposal review. Copies of the assessments are available at www.truckeeriverfund.org.

File Attachment Summary

Applicant File Uploads

- Lake Park Wetlands and Pollinator Projects_Design Memo_TRF_Reduced.pdf
- FY24 Budget Report - Utility Services & Parks Maintenance.pdf
- Budget Worksheet_Lake Park Watershed Project.pdf

Lake Park Floating Wetlands and Pollinator Revegetation Project

LAKE PARK, RENO, NV

Prepared by:

Daniel Moss, PE
Utility Services Department, City of Reno

Date:

July 2023



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Table 1 - Lake Park Nutrient Concentrations vs WQ Limits, Fall/Winter 2021

Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year)

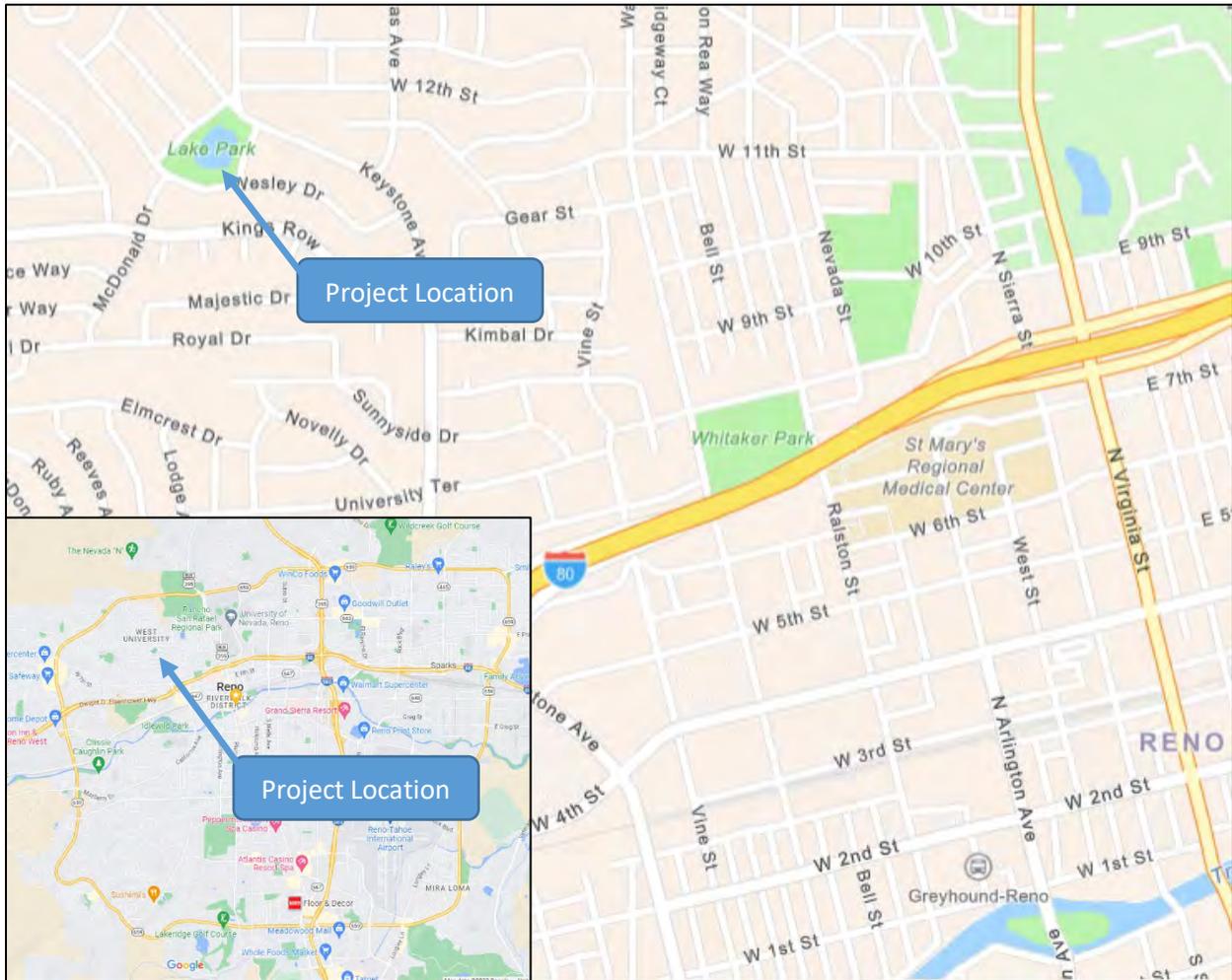
Summary

Lake Park is a City of Reno-maintained neighborhood park centered on a 1.5-acre pond, at the corner of Coleman Drive and Keystone Avenue. The pond receives inflow from the Highland Canal during the spring and summer, and while it has a recirculation and aeration system, it is otherwise stagnant and has water quality issues related to water clarity, odor, and nutrient/bacteria concentrations. Reference the attached photos, showing the typical green-brown color of the pond water. Due to water quality concerns, the Utility Services Department routinely monitors this lake for the presence of toxic algae, and has posted public warning signs in the past.

The proposed *Lake Park Floating Wetlands and Pollinator Revegetation Project* includes placing three (3) 10'x12' floating wetland islands within the pond, and planting various wetland and pollinator plants in specific locations around the pond's edge. Reference Appendix A and B for the Preliminary Site Plan and Wetland Concept Example. This project concept is acceptable to the Parks and Recreation Department, contingent on the project's feasibility and minimal routine (annual) maintenance, and is popular with the Friends of Lake Park, a coalition of citizens created to protect and enhance Lake Park.

The benefits of the Project is multifold, including improving overall aesthetics of the park, diversifying plant and pollinator species, improving water quality, creating safer habitat for waterfowl, providing water quality education to citizens, and providing good public relations to the Friends of Lake Park. Notably, given the scale of the nutrient loading, the revegetation efforts are not able to significantly improve overall pond water quality.

Location Map



Caption: Lake Park is located within a city block at the corner of Coleman Dr and Keystone Ave

Background

Lake Park is subject to multiple factors that exacerbate poor water quality including minimal lake inflow/outflow, high average water temperatures, stormwater runoff, and significant bird usage. Many issues are related to poor quality, including unsightliness, odor, disease risk for wildlife, toxic algae risks, and poor ecosystem function (eutrophication, etc.).

Lake Park only receives a limited amount of inflow from the Highland Ditch – 7.5 ac-ft/year, in spring and summer (based on Truckee River/Orr Ditch Decree). The lake is not designed to have a constant inflow/outflow.

Climate models show warming trends over the decades, and Lake Park has been subject to these rising temperatures. Many citizens report of less and less ice present on the lake, over the years.

The lake is heavily used by roosting waterfowl (geese and ducks) in the winter time, and as a breeding ground for ducks in the spring/summer. Reducing the population of these animals at this park has been investigated and attempted in the past, but efforts have been marginally effective.

Over the two decades, City of Reno Parks and Recreation has taken steps to improve water quality and the overall enjoyment of the park, however, water quality is still impaired, and a 2018 proposal to remove the lake altogether and replace it with a water feature instead was met with significant public opposition. In 2008, the recirculation and aeration system was installed and made notable improvements to water odor and some improvement to water clarity (Appendix J). In the early 2000s, the lake was dredged of silt, bird droppings, and decomposed vegetation.

Multiple techniques can be used to raise water quality, including increased recirculation/aeration, wetlands vegetation, discouraging presence of waterfowl, chemical dyes, disinfectants, grass carp, and many other experimental methods.

Community Support

In August 2022, Daniel Moss conducted a public meeting with the Friends of Lake Park, an informal group of concerned citizens who utilize the park, to discuss the proposed wetlands and revegetation concept. Of note, the Friends group was likely created as a response to the 2018 proposal for replacing the lake. The Friends group is highly in favor of this type of Park improvement, and provided input for the overall project design, related to plant species, sight lines, and other general ideas. Reference the attached meeting Agenda with design considerations (Appendix F.1), and the follow up email exchange with Matt Brezina (Appendix F.2), Parks Manager of City of Reno Parks and Recreation.

Water Quality Monitoring Results

From September through December 2021, Lake Park surface water was monitored using a multi-parameter water quality sonde, and through the collection and analysis of water samples for various parameters. The four samples were analyzed for nutrient-related water quality constituents including ammonia (NH₃), nitrate and nitrite (NO₃ & NO₂), total nitrogen (TN), total kjeldahl nitrogen (TKN), total phosphorous (TP), ortho-phosphorous (OP) and toxic algae. Samples were collected at the discharge of the recirculation waterfall, while sonde measurements were taken both at this discharge point as well as the northeast corner of the lake (opposite corner), which has minimal circulation.

Nutrient concentrations are summarized in the below table, as well as water quality criteria from multiple EPA and NDEP sources (Table 1).

Table 1 - Lake Park Nutrient Concentrations vs WQ Limits, Fall/Winter 2021

Date	NH3 (mg/L)	Ortho-P (mg/L)	TP (mg/L)	Total N (mg/L)	TKN (mg/L)
9/29/2021	0	0.075	0.74	15	15
10/13/2021	2	0.025	1.4	20	20
11/4/2021	4.8	0.072	0.62	6.7	6.6
12/8/2021	6.1	0.07	1.8	28	28
Average	3.23	0.06	1.14	17.43	17.40
WQ Limit ¹ / Ref Value ² (mg/L)	9.65	≤ 0.05	0.33	0.51	0.34

Footnotes:

1. "Water Quality Criteria to Protect Beneficial Uses, from NAC 445A

- NH3 - Acute ammonia concentration for pH 7.7 (average from samples), taken from Table 1 of NAC 445A.118
- OrthoP - Ref NAC 445A.1684 Truckee Region: Truckee River at Idlewild
- Total P - Ref NAC 445A.1722 Truckee Region: Washoe Lakes. The limits of this table apply to the entire body of water known as Washoe Lakes.
- Total N - Ref NAC 445A.1694 Truckee Region: Truckee River at the Pyramid Lake Paiute Reservation

2. TKN - Reference Value: Average 25th percentile values based on all seasons data for the decade, from Table 3d: Reference conditions for Ecoregion III lakes and reservoirs sub-ecoregion 13, from Ambient Water Quality Criteria Recommendations: Lakes and Reservoirs in Nutrient Ecoregion III, EPA, 2001

The samples exhibit very high levels of TP, TN, and TKN, which far exceed recommended water quality criteria for local water bodies. Further, the samples show a generally increasing trend over the months, especially for NH₃, TN, TKN. This trend is likely related to increased waterfowl usage in the winter months, and could also be related to decreased vegetation/algae uptake due to cooler water temperatures and less daily sunlight.

It should be noted that due to very shallows water levels, measuring accurate water quality parameters (dissolved oxygen, TDS, pH, etc.) with the sonde was difficult as it frequently got coated in silt/vegetation, so this table of data is not shown in the report. Nevertheless, the parameters showed expected correlation between increased temperatures and decreased dissolved oxygen, while trends in pH were not recognizable. Toxic algae was expected in the periods of warmest water, however, none was found present in this round of sampling.

Design

An initial design has been prepared by Daniel Moss, Utility Services Civil Engineer Project Coordinator, in conjunction with Ryan Sharrer, the City of Reno Parks and Recreation Horticulturalist. With his experience as the Washoe State Nursery Manager for over 8 years, Mr. Sharrer selected a number of

key plant species for the overall design, and plant suggestions from the Friends of Lake Park have also been taken into account. If the project is funded, the design will be completed entirely in-house, providing significant time and cost savings.

The following considerations were accounted for in the initial plant revegetation and wetlands design:

- i. Water quality and ecological function, wildlife safety
- ii. Overall aesthetics
- iii. Sight lines, human safety, vandalism reduction
- iv. Feasibility of construction, cost, routine maintenance

Three (3) 10'x12' kidney-shaped Biohaven® wetlands islands, manufactured by Floating Island International, are currently selected for the wetlands design, as shown in the pictures in Appendix B. These are prefabricated floating platforms that allow for simple transport, installation, and planting. Reference Appendix A and B for the Preliminary Site Plan and Wetland Concept Example.

Nutrient Removal Rates:

As described in the Summary section of this report, the wetlands is not designed to significantly improve overall pond water quality through high volume nutrient removal rates. These removal rates are have still been estimated, demonstrating that water quality will be improved immediately around the wetlands. Floating Island International's Biohaven® FAQ Sheet (Appendix C) contains a Removal Spreadsheet, providing a table of estimated nutrient removal rates for Nitrates, Nitrogen, Phosphorous, TSS, BOD, and more. These rates depend on if the water type is wastewater, stormwater, or lake water.

The range of removal rate varies broadly, so these calculations are considered rough estimates. In an attempt to estimate the proposed wetlands nutrient removal rates, the average nutrient concentrations values from Table 1 were compared to typical wastewater inflow concentrations, provided by TMWRF (Truckee Meadows Water Reclamation Facility), to help classify the lake as "wastewater," "Stormwater," or "lake water." This comparison is shown in the attached Lake Park/TMWRF WQ Comparison Table (Appendix D). Overall, Lake Park concentrations ranged from 1.64% and 3.27% of TMWRF's for OP and NO₃ to 35.39% and 18.46% of TMWRF's for TKN and TP. These values range widely, so removal rates were roughly estimated using the existing Biohaven table values. Reference the attached Nutrient Removal Spreadsheet table (appendix E).

Total estimated removal rates were calculated and are summarized in the table below. A 2011 study entitled *Floating Treatment Wetlands: A New Tool For Nutrient Management In Lakes and Waterways* (Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany, 2011) was referenced to verify these estimated values. In addition, a 1998 EPA Wetlands Design Manual was referenced for removal rates, but the BOD removal rate equation could not be utilized due to limited existing data needed for equation parameters and constants.

Table 2 - Estimated Nutrient Removal Rate of Nutrients from Lake Park Pond (pounds per year)

	NH3	Total N	Nitrate	TP	TSS	BOD
Removal Rate (lbs/year)	72	72	72	25	1,800	1,800

Construction Labor

Given the small scale of this project, preparation of the wetlands plants and construction can be completed without a contractor. The construction can be performed by the City of Reno Parks and Recreation Department maintenance workers and the horticulturalist, with support from skilled wetlands restoration technicians from the Truckee Meadows Parks Foundation (TMPF). The project would be managed by a qualified engineer from the Utility Services Department.

The use of AmeriCorps volunteer restoration technicians is based off a discussion with Elena Larson, TMPF’s Nature Study Area Director, where she confirmed that her program would be enthusiastic to include restoration technicians in the project. She explained that there’s a high likelihood of their availability, especially for the final installation days and routine maintenance. She confirmed that funding will be available in at least the upcoming 3-4 years, so it is very likely that this is a consistent source of labor for completing this project. Her largest workforce is available in spring-summer, as opposed to fall, so spring plant installation is the optimal time to use their resources. Reference the meeting’s minutes contained in an email, attached as Appendix G.

Materials and Quantities

Reference the attached preliminary material and cost estimate, prepared by Ryan Sharrer and Daniel Moss, updated in July 2023 (Appendix H). Ryan notes that plant prices are based on the prices at the local National Division of Forestry (NDF) conservation nursery.

Construction Schedule Overview

The project involves cultivating plants from seed, which will take 6-12 months, depending on the species. The wetlands would be installed in mid-spring, for optimal growth, but can also be installed in fall. The revegetation and wetlands construction installation is estimate to take 4-5 working days, with a crew of up to 2 landscapers and 4 wetlands technicians. The proposed schedule is as follows:

A) Fall 2023:

- Project Funding approval, project kick off

B) October/November 2023:

- Purchase wetlands and riparian plants (or seeds) and place in City of Reno greenhouse for cultivation

C) March/April 2024:

- Plant certain seedlings in City of Reno greenhouse for cultivation

D) June/July 2024:

- Purchase floating wetlands islands and anchoring material;
- Design and purchase STEM educational signs

- For Goal #1 metrics, conduct 5 total days of bird and insect counts utilizing existing vegetation
- Take baseline water quality samples at pond recirculation discharge

E) September 2024:

-If plants are large enough for planting (likely), install floating wetlands island, complete pond perimeter plantings, and install STEM signs

F) October 2024 (Installation Complete):

- Hold project completion walk-through and gathering with all Stakeholders
- Send out mailers to schools and neighbors advertising the park improvements

Post-Construction maintenance and monitoring:

G) May 2025:

- Check for dead plants and consider replacing them

H) June/July 2025:

- For Goal #1 metrics, conduct 5 total days of bird and insect counts utilizing existing vegetation
- Take new water quality samples at pond recirculation discharge

I) May 2026:

- Check for dead plants (and count them for Goal #1 metrics) and consider replacing them

Funding

Funding is currently being pursued through the Truckee River Fund, with a 25% in-kind/cash match requirement.

Photos



Lake Park, looking southeast from the return flow channel. Typical color in summer/fall months.



Lake Park, looking south from the return flow channel. Typical mallard/geese presence shown.



Lake Park, looking west, return flow channel shown on right. Shows invasive species surrounding pond.



Lake Park, looking north at only section of reeds/cattails. Pole in water indicates return flow intake pipe.



Lake Park return flow channel/water feature, on west side of lake.

Appendix

Appendix A – Preliminary Site Plan

Appendix B – Wetland Concept Example

Appendix C – Biohaven FAQ

Appendix D – Lake Park/TMWRF WQ Comparison Table

Appendix E – Nutrient Removal Spreadsheet Summary

Appendix F-1 – 8-15-22 Meeting with Friends of Lake Park - Agenda

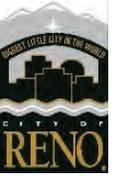
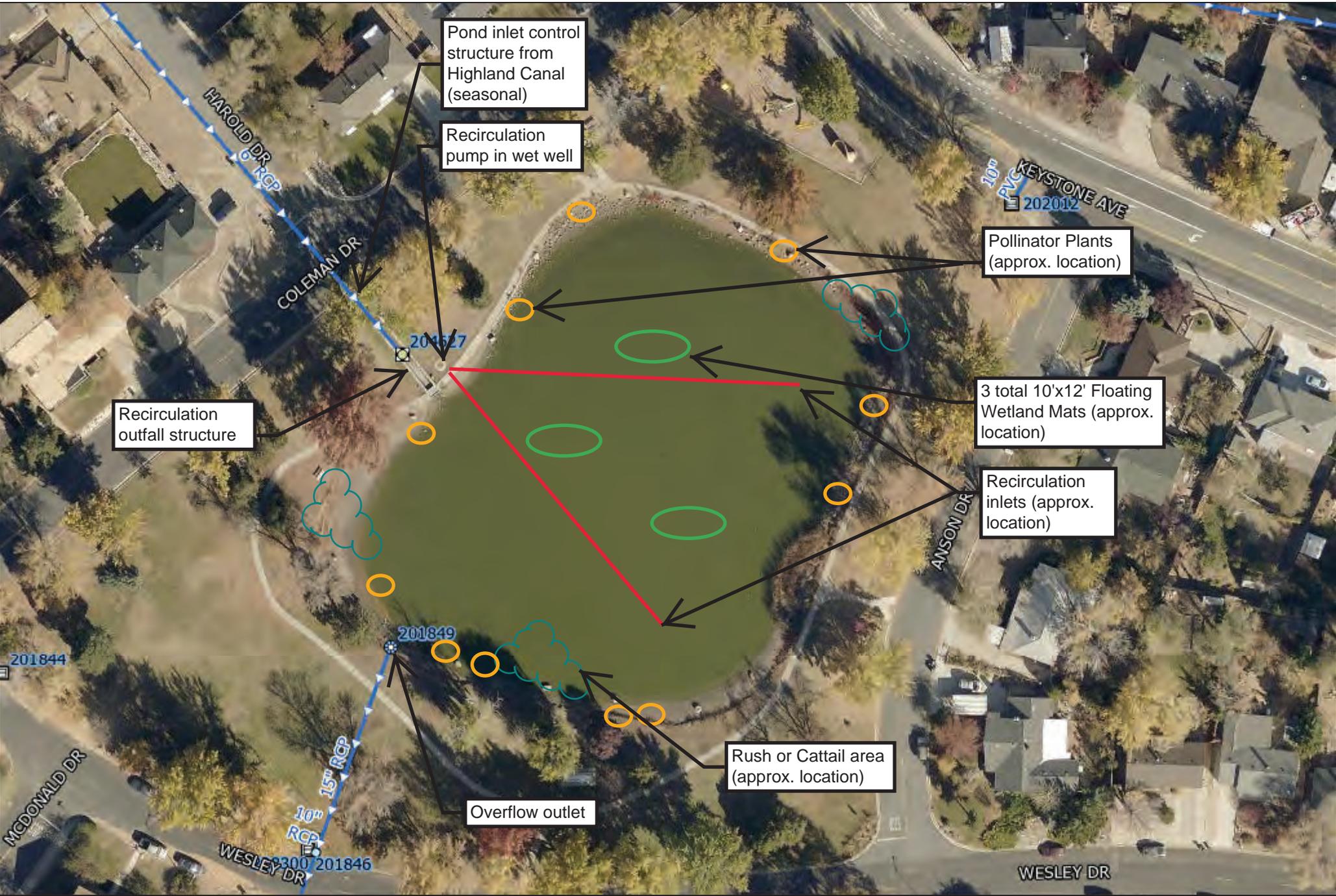
Appendix F-2 – Friends of Lake Park Follow-Up Email – Matt Brezina Responses

Appendix G – Meeting Notes – Labor Collaboration with TMPF

Appendix H – Materials and Cost Estimate (Preliminary)

Appendix I –

Appendix J – Lake Park Pond Water Circulation System Site Plan, 2008



City of Reno, NV
 Department of Public Works

Lake Park - Preliminary Site Plan

Source: Public Works Enterprise GIS Portal

Disclaimer: This map data is for general reference only and is subject to continuous change and updates. The entire risk as to quality, performance and usefulness of this map data rests with the user.

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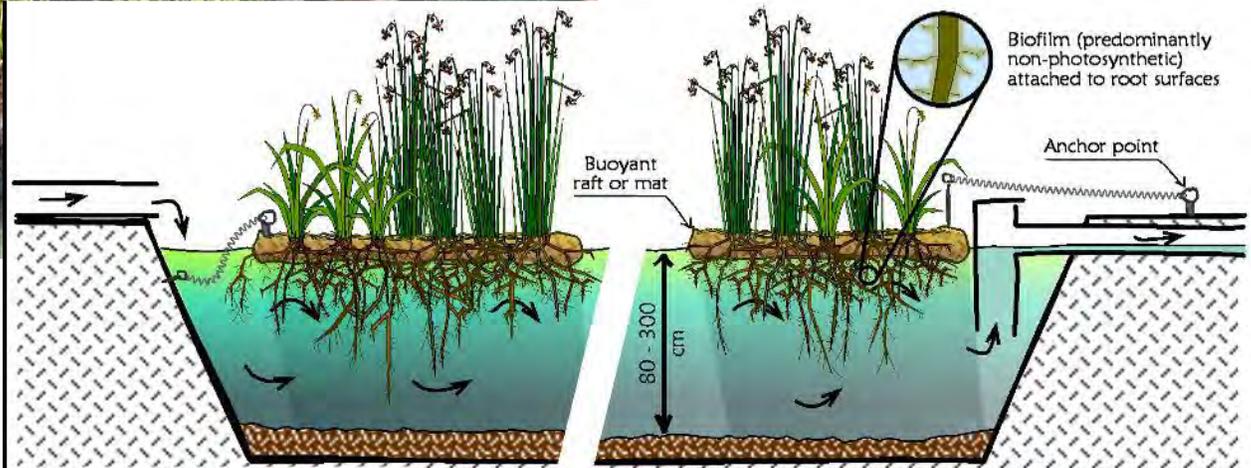
 3/22/2023
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**Lake Park Water Quality and
Wetlands/Pollinator
Revegetation Plan
Date: 8-15-22**



*(10x12 Kidney Shape Wetlands
– Floating Island West, LLC)*

Source: Tanner, C.C., Headley, T.R. (2011). Components of floating emergent macrophyte treatment wetlands influencing removal of stormwater pollutants. Ecological Engineering 37:474-486.



BIOHAVEN®

FREQUENTLY ASKED QUESTIONS

How much of each contaminant is removed by BioHaven Floating Treatment Wetlands (FTWs)?

The removal rates we use are based on field-scale case studies so they vary depending on the concentrations and type of water, but some typical quantities are shown in the following table.

REMOVAL SPREADSHEET		
For 1000-ft² Island		
Parameter	Water	Typical Removal (lb/yr)
Ammonia-N	wastewater	400 - 2,300
Nitrate-N	wastewater	600
	stormwater	13
Total N	wastewater	250 - 600
	stormwater	50 - 250
Total P	lake water	35
	wastewater	500
	stormwater	10 - 80
TSS	wastewater	200
	stormwater	2,000 - 35,000
	lake water	5,000
BOD	wastewater	200 - 20,000
	stormwater	20,000
Total Copper	stormwater	14 – 400
Total Zinc	stormwater	80

- The table can be used for wastewater, stormwater or lake water applications where a specific target must be met.
- Our experience has shown it is accurate to within 50%. Every time we get substantial new data, we refine the model to make it more accurate.
- Other ways of sizing are available (e.g., by budget, by increments) if the goals are more general.
- For best sizing estimates, we want to know current concentrations and concentration goals for each contaminant of concern, along with the estimated flow rate and water temperature. If flow is absent or very low, we can specify the time period over which the client wants

remediation to occur (e.g., phosphorus concentrations will be reduced from 0.3 mg/L to 0.05 mg/L in two years) if we know the water volume.

- Removal estimates shown above are based on field-scale case studies. Removal will be somewhat lower when it is cold, which is why we factor in the water temperature. The temperature correlation we are using shows that the removal rate at 10°C will be 53% of the rate at 23°C. However, native bacteria have an amazing ability to adapt and we have found that removal at lower temperatures will typically be higher than predicted in the literature.
- These removals and estimated island sizes are for BioHavens without aeration. We believe that removal rates will be several times higher for islands that incorporate aeration and active mixing. Since these “active” islands called Floating Streambeds are relatively new, we do not yet have field-scale data to demonstrate this.

How are nutrients actually removed?

- **Ammonia** is converted to nitrate by an *aerobic* bacterial process (nitrification). The only requirements for this are: a) dissolved ammonia and oxygen, b) bacteria and c) surface area for the bacteria to attach to. If the resulting nitrate is also removed, that will show up under “total nitrogen” removal (discussed below).
- **Nitrate** is converted to nitrogen gas by an *anoxic* bacterial process (denitrification). Nitrogen gas is then released to the atmosphere so this two-stage nitrification/denitrification process provides “total nitrogen” removal. The requirements are: a) nitrate, b) bacteria c) surface area d) dissolved carbon (rather than dissolved oxygen).
- *Although the nitrification/denitrification processes appear to require mutually-exclusive conditions (air/no air), we know from research (both ours and others’) that both processes occur simultaneously within the BioHaven if aeration is present.*
- **Total nitrogen** is removed via: a) denitrification (if it is present as nitrate) or b) nitrification / denitrification (if it is present as ammonia). Sometimes the rates for ammonia removal and/or nitrate removal will be higher than that for total nitrogen removal.
An example would be water with ammonia of 10 and nitrate of 5, so TN is 15. After treatment, ammonia is 0 and nitrate is 10, so TN is 10. Ammonia has been reduced by 10 but TN by only 5. Therefore, the rate for ammonia removal is higher than the rate for TN removal.
- **Total suspended solids (TSS)** can be made up of inorganic and organic particles. They can be removed mechanically, by filtration, and biologically (see BOD below). The sticky biofilm on the matrix and plant roots will capture the particles. As shown in the table, TSS removal in stormwater may be relatively high because those concentrations are typically high to begin with. BioHavens with aeration or circulation will provide better TSS removal because of an increased filtering effect.
- **Biochemical oxygen demand (BOD)** is created primarily by organic carbon present in the water (such as decaying leaves, goose droppings). BOD can be removed by all types of bacteria.

Aerobic bacteria consume BOD (and oxygen) faster than anoxic bacteria consume BOD (and nitrate); therefore, growth of aerobic bacteria is accelerated when oxygen is present. TSS removal, particularly in stormwater, can also provide BOD removal. BOD is permanently removed because dissolved carbon is converted by bacteria to carbon dioxide and vented to the atmosphere. This is similar to nitrate removal via nitrogen gas.

- **Total Copper** and **Total Zinc** are removed via two mechanisms. Total metals have both particulate and dissolved components. Particulate copper and zinc are removed as TSS via the TSS mechanism described above. It is believed that dissolved copper and zinc are removed as floating islands release plant root organics and detritus, which act as a biosorbent for dissolved metals at the neutral pH induced by the islands.

Do BioHavens, then, contribute to climate change by releasing CO₂ into the atmosphere?

No, BioHavens will not contribute to climate change. Although BioHavens promote biological activity that may produce carbon dioxide, they merely speed up the biological processes that would eventually occur anyway.

We now understand that methane is a much more potent greenhouse gas than CO₂, and that hyper-eutrophic waterways release enormous amounts of methane into the atmosphere. BioHavens mitigate climate change by a) the vegetation on and around the island (periphyton) absorbing carbon and b) all the water quality benefits they provide that prevent hyper-eutrophication, such as aeration, surface area and nutrient uptake (etc.).

What is the removal/sequestration mechanism for phosphorus?

Phosphorus can be removed with BioHaven FTWs and sequestered via six pathways:

1. Filtration and settling of particulate phosphorus. This phosphorus is not dissolved in water and is present as total suspended solids (TSS). This TSS can be filtered by the FTW matrix and attached plant roots, and will either be retained in the FTW or will settle to the bottom of the waterway.
2. Incorporation into biomass within the BioHaven FTW. Biomass is created: a) when biofilms form on the surface area; b) when plant leaves fall onto the island and build up the soil layer over time; c) as the roots become entwined within the matrix and d) as insects and other life lay eggs and hatch within the matrix. This mass will grow indefinitely, creating a natural island around the original BioHaven “seed.”
 - a. *Studies conducted at Michigan’s Houghton Lake over the past 40 years demonstrate that phosphorus will keep accumulating within wetland soils (i.e., FTW biomass). In that municipal wastewater being treated, the phosphorus concentration in the large wetland is still reduced from about 3 mg/L to less than 0.1 mg/L.*
3. Incorporation into biomass that will sink to the bottom, then bind to the sediment. Phosphorus can be sequestered in sediments without a floating island, but BioHavens can speed up this process and make it permanent by maintaining aerobic conditions, even with passive islands

(through plant oxygen transfer) but much more effectively if aeration is added. After phosphorus has been incorporated into biomass and sediment, it typically remains sequestered, unless an anoxic event releases it back into the water.

4. Incorporation into the food chain, via bacteria, algae, zooplankton, insects, fish and birds (think: there was an old woman who swallowed a fly). As phosphorus is assimilated up the food chain, some of it will be removed from the system and remain sequestered. An example is people catching fish and keeping them, but the spiders eat the flies (figuratively speaking) at every level.
5. Phosphorus removal via plant uptake. BioHavens greatly improve water clarity, which will allow more sunlight exposure to promote bacterial growth and subsequent phosphorus removal. It may also lead to the possibly undesirable effect of increased underwater plant growth but this has two possible benefits: a) increased surface area for promotion of healthy bacteria/biofilm; and b) an opportunity for removing even more phosphorus through manual harvest of these plants.
6. Another phosphate removal pathway is to harvest adsorbent materials added to the BioHaven. The floating streambed lends itself to “accessorizing” with adding various materials, circulating water through them, and replacing those materials periodically.

Pathways 2, 3, 4 and 5 are temperature-dependent (i.e., their effects will be higher at higher water temperatures). Pathways 1 and 6 should not depend on temperature.

What is the difference between phosphorus and phosphate?

Phosphorus is an element (P). Phosphate is a compound (PO_4) that contains phosphorus and easily dissolves in water. Either one can be analyzed in water samples. The conversion factor is that 1 mg/L of P equals about 3 mg/L of PO_4 .

Is plant harvesting or trimming recommended?

No. Plant uptake is just one mechanism for phosphorus removal and it has been shown that only about 6% of phosphorus removed is due to plant uptake – the majority is via pathways 1 – 3. Also, most of this 6% phosphorus uptake is contained in the roots, not in the above-surface portion available for trimming.

The root mass is the main “engine” for nutrient removal, fueled by the symbiotic relationships that take place between the microbes, plant sugars, enzymes and gases, so it vital to promote the healthiest possible root growth and protect it. It does not make any sense to remove it and start over! Planting with bushy-rooting perennials will avoid root die-off, and trimming the shoots will promote root growth.

Plant trimming is often required by the customer to stop debris falling into the water and to keep the islands looking tidy, but it has little effect on phosphorus removal.

How do BioHaven floating islands remove algae?

BioHavens remove algae in two ways. The first method is that existing algae (TSS in the water) will be filtered by the BioHaven over time, as it sticks to the biofilm on the roots and the matrix. The second and more important mechanism is that BioHavens can out-compete algae for nutrients.

Is there an issue with having the plastic material used to make the matrix in the water?

BioHaven floating islands are composed of a matrix material that was already being used as a water filter in ponds before BioHaven came along. It has had decades of safe use. The matrix filter material is made from post-consumer PET drinking bottles, so the plastic itself is designed to be safe in water. Toxicity testing has been conducted by the matrix manufacturer to ensure safety for fish. This has been borne out by FII, in particular, in the BPA Case Study.

As soon as matrix filter material enters a waterbody, the process of biofilm formation begins, and soon every available surface fiber is covered by a protective layer of periphyton. The island then becomes a “seed” that is fully enveloped by the eco-system that grows up around it.

In our experience, there may be two reasons why a BioHaven island might be considered susceptible to disintegration: damage by wildlife and UV damage. Damage from wildlife can be reduced by planting woody perennials that they do not find palatable or by employing strong fencing and other deterrents. We do provide a non-toxic UV barrier on the matrix but recommend that the matrix not be exposed to UV light per the manufacturer’s instructions.

**Comparison of Lake Park to Wastewater
WQ Parameters
(TMWRF = Truckee Meadows Wastewater
Reclamation Facility)**

Parameter	(TMWRF (mg/L or ppm)	Lake Park (mg/L or ppm)	% of TMWRF
Ammonia	32.3	3.23	9.98
NO2	0.0954	0.01	6.29
NO3	0.329	0.01	3.27
TKN	49.3	17.40	35.29
OP	3.6848	0.06	1.64
TP	6.1753	1.14	18.46
BOD	333	n/a	
TSS	244.3452	n/a	

NUTRIENT REMOVAL SPREADSHEET				
Floating Island International - Biohaven Wetland Island				
For 1000-ft² Island			Lake Park Islands (360-ft²)	
Parameter	Water	Typical Removal Rates (lb/yr)	Typical Removal Rates (lb/yr) for Lake Park - Estimate	Typical Removal (lb/yr) Lake Park - Estimate
Ammonia-N	wastewater	400 - 2,300	200	72
Nitrate-N	wastewater	600	200	72
	stormwater	13		0
Total N	wastewater	250 - 600	200	72
	stormwater	50 - 250		0
Total P	lake water	35	70	25.2
	wastewater	500		0
	stormwater	10 - 80		0
TSS	wastewater	200		0
	stormwater	2,000 - 35,000		0
	lake water	5,000	5000	1800
BOD	wastewater	200 - 20,000	5000	1800
	stormwater	20,000		0
Total Copper	stormwater	14 - 400		0
Total Zinc	stormwater	80		0

Design Notes:

Removal Rates used for Lake Park design are estimates, based on interpolations of Lake Park nutrient concentration data compared to TMWRF nutrient concentration data. Both "Lake Water" and "Wastewater" values are considered.

Notes (from Floating Island International):

The table can be used for wastewater, stormwater or lake water applications where a specific target must be met.

Our experience has shown it is accurate to within 50%. Every time we get substantial new data, we refine the model to make it more accurate.

Other ways of sizing are available (e.g., by budget, by increments) if the goals are more general.

For best sizing estimates, we want to know current concentrations and concentration goals for each contaminant of concern, along with the estimated flow rate and water temperature. If flow is absent or very low, we can specify the time period over which the client wants remediation to occur (e.g., phosphorus concentrations will be reduced from 0.3 mg/L to 0.05 mg/L in two years) if we know the water volume.

Removal estimates shown above are based on field-scale case studies. Removal will be somewhat lower when it is cold, which is why we factor in the water temperature. The temperature correlation we are using shows that the removal rate at 10°C will be 53% of the rate at 23°C. However, native bacteria have an amazing ability to adapt and we have found that removal at lower temperatures will typically be higher than predicted in the literature.

Outreach and Education Meeting:
Lake Park Water Quality and Wetlands/Pollinator Revegetation Plan

Date: 8/15/22

Contact: Daniel Moss, PE, City of Reno Utility Services Department

Agenda:

1. Lake Park Water Quality: Past and Present
 - a. Factors related to water quality
(Lake inflow/outflow, Bird and animal wastes, Urban runoff, Climate, etc.)
 - b. Issues related to water quality
(unsightliness, disease risk for wildlife, toxic algae, humans, odor, vectors, etc.)
 - c. Measuring Water Quality (WQ)
 - i. Major factors: DO, Temp, pH, e. coli, TSS
 - ii. Sampling efforts: Aug – Oct 2021
 - iii. Trends: Stagnant vs. moving water, seasonal changes
 - d. Techniques for Raising Water Quality:
 - i. Recirculation/aeration, increased inflows, wetlands vegetation, waterfowl removal, dyes, barley straw, carp, etc.
2. Lake Park Water Quality: Memories from the past
 - a. Please share!
 - b. Worth sharing with Historical Society?
3. Lake Park Wetlands/Pollinator Revegetation Plan
 - a. Plan overview – Floating Wetlands and Bank Vegetation
 - b. Design factors to consider:
 - i. Aesthetics, Water Quality/ecological function, wildlife safety
 - ii. Sight lines, vandalism, human safety
 - iii. Cost, maintenance etc.
 - c. Possible Funding sources: Grants, City, Truckee Meadows Parks Foundation, Donations, etc. Labor sources: varies
 - d. Project tasks, timeline, and schedule:
Obtaining funding, seedling cultivation, constructing floating wetlands, major installation, ongoing maintenance and inspection, etc.
4. Other topics:
 - a. Perimeter Weed Abatement
 - b. Playground improvements?

Friends of Lake park meeting - follow up items

Matt Brezina <brezinam@reno.gov>

Thu, Aug 18, 2022 at 12:50 PM

To: Daniel Moss <mossd@reno.gov>

Cc: Jason Collins <collinsj@reno.gov>, Theresa Jones <jonest@reno.gov>

Thanks for the information, Daniel. I have included my response to most of your questions below in red. Please let me know if you need anything further. Thanks.

Matt and Jason,

I just got done with testing for anatoxin in the water here at Lake Park, And also ran into NDOW, looking for birds showing avian botulism/flu . None found atm, and it's possible a citizen has disposed of them.

I had a good meeting with the core members of Friends of Lake Park a few days ago, regarding the proposed wetlands construction project, and the realities of water quality at the lake. They were overall understanding, and definitely support the wetlands and pollinator plantings.

Here are some brief follow up requests posed to Parks: Note that I am happy to help with the legwork on a few of these, if you don't have the time:

1. Before the pandemic, \$3200 had been allocated by Neoma Jardon for new park bench(s). However, nothing has since occurred. Friends are asking for 1-2 simple benches, suggesting minimal concrete underneath (no slab necessary). When can this move forward? **She redacted her donation just before that council meeting and put it towards certain Seniors related issues. There was never a council fund donation put forward towards benches at Lake Park.**

2. Can we install 2 large and readable signs: "Dogs Must Remain on Leash" ? (Because it's a small park, signage like this helps, especially when one citizen is reminding another to follow park rules, they can simply point at the sign.)
Note: Unless you suggest otherwise, I can follow up with TMPF to see if they might have signage they're willing to donate some.

Also, **Theresa/Matt**, can we install 2 permanent signs regarding potential risk of cyanotoxins, to nip this issue at the bud?
I am in the process of getting new off leash dog signs created and fabricated. No need to outsource this, we are taking care of it; I have also already requested more algae signs to be made. They will be the same signs that are posted at Virginia Lake.

3. Other parks are getting "facelifts", is there a projected date for one for Lake Park? **Not sure what "facelifts" describes, but our capital project list identifies the addition of a picnic shelter and tables in FY 2025, and playground replacement in approximately 10-15 years. Both improvements depend on funding approval and/or necessity (e.g. playground may be expedited if existing play equipment is deemed unusable or unsafe).**

4. The rock climbing wall at the park has very old and worn holds. Unless the Park is willing to fix this, I can reach out to Mesa Rim climbing center to see if they can donate holds. **Parks staff will assess the condition of the climbing wall and make repairs as necessary. For compliance purposes, the holds will need to be purchased through our approved vendor, and any donations would need City Council approval. It's easier if we take care of it.**

5. A 10' tall sweetgum tree was cracked off by vandals a few weeks ago, at the south end of the park near the young pine trees. I will reach out to Matt Basile to see if he can replace it. **I will let Matt Basile know of the tree and a replacement will be installed when they have time.**

Overall, the Friends were understanding of the long standing water quality issues, and that there isn't much to really change it, given the overarching issues of limited water rights into the Lake, long term warming temperatures, and increased duck/goose presence. I was glad to hear them say that the 2008 aeration system has dramatically improved odor problems. Overall, they were definitely in support of additional wetlands plantings and pollinator plantings, as long as sight lines aren't taken away too much. Ryan is aware of this in his design plan. I will be following up with Ryan and you regarding some other design consideration and a few other questions, before I move forward with grant funding.

Thank you,

Daniel

[Quoted text hidden]

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CITY OF
RENO

Matt Brezina

Parks Manager

Parks and Recreation

775-334-2270 (o)

brezinam@Reno.Gov

[2055 Idlewild Drive, Reno, NV 89509](#)

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Lake Park Restoration Project - Potential Collaboration with Truckee Meadows Park
Foundation Technical Staff for Major Installation
Meeting 10/11/2022

Attendance: Elena Larson (Lead of Rosewood Wash Restoration Project), Daniel Moss, Utility Services,
David Lake, Utility Services

- Budget:
 - Conserve Nevada Grant – Can apply in Fall 2023
 - Otherwise, according to Theresa, FY23-24 CIP Fund can provide funding
 - **TMPF would appreciate a small financial stipend to do the work, but not required**
- Schedule and Timeline
 - **Spring 2024 (likely)**, or Fall 2023 (if another funding source is available) **for installation**
 - Ideally, cultivate wetlands plants through fall in greenhouse, plant in spring
- Labor Force
 - COR wants collaborate with Wetlands Technician workforce, to reduce budget, and collaborate.
 - **TMPF very open to collaborate and use their Technicians' skillset, given that Lake Park is local and this project falls within their overall Mission to improve parks.**
 - **TMPF has good consistency with funding and hiring Americorp Wetland Technicians**
 - They apply for Americorp Grants in 3-year cycles
 - **TMPF has 14 people in spring-summer, and down to 4-5 in fall-winter.**
 - **Spring is ideal time to do Lake Park Restoration Project**
 - **Of the 14 in spring, 10 would be assigned to project, completing in 2-3 days**
 - **Of the 5 in fall, all 5 would be assigned to project, completing it in 5-6 days**
 - Note: digging in riprap lining is hard
- Design:
 - TMPF actually installs chicken wire cage over entire Islands, though theirs are small (4x4?). Keeps Coots (small water fowl) from eating vegetation
 - Floating Island West recommends short fence surrounding edge of island, as it greatly discourages jumping into island, landing on it, etc.
 - Anchoring system:
 - don't want to impact clay liner, when wind and water rise/fall forces pull on the anchor - Solution is to use large diameter concrete disk(s)
- Lake existing Design conditions
 - Has 2 recirculation inlets that recirculate water, provide aeration, and reduces odors.
 - Only Stormwater inflow is direct sheet flow
 - Inflow is irrigation ditch 6" line, operated by TMWA
- Maintenance
 - **TMPF says this would fit the mission of their program (as Lake Park is a COR Park), and is open to helping.**
 - Annual maintenance includes cleaning out plant debris 1x per year, about 0.5-1 hr per island.
 - Cattails needs to be mowed down semi-regularly to keep debris from building up, and fire risk. Not same with rushes.

- Cattail cuttings can be tied up used as stream and bank stabilization material.
- Equipment:
 - TMPF does not have large trailer or big boat. COR would need to be utilized
- Aside: Snapshot Day
 - COR looking to find it a new home, since GB-OS has released it
 - While TMPF does do in-classroom education and field experiences, they are not interested in taking over this program
 - Meeting Pending with SNJ to take it over

City of Reno - Truckee River Fund Grant Proposal Budget, Fall 2023

Lake Park Watershed Project

Expenditure Category	Quantity	Unit Cost (\$ USD)	TRF (\$ USD)	Other Funding Name	Match (\$ USD)	Total (\$ USD)	Expenditures to date (TRF)	Expenditures to date (other sources)
DIRECT INITIATIVE EXPENSES (PROJECT BUDGET)							REIMBURSEMENT REPORT	
Personal/Staff								
CoR Utility Services Project Coordinator to coordinate and the Lake Park Watershed Project (cost includes wages and taxes)	120	50		CoR Utility Services	5,940	5,940		
CoR Utility Services Associate Civil Engineer to oversee and assist in project coordination (cost includes wages and taxes)	20	54		CoR Utility Services	1,080	1,080		
CoR Parks and Rec Horticulturist to oversee plant cultivation and landscaping (cost includes wages and taxes)	150	45		CoR Parks and Rec	6,750	6,750		
CoR Parks and Rec Irrigation System Technician to aid in wetlands installation and landscaping (cost includes wages and taxes)	80	32		CoR Parks and Rec	2,560	2,560		
Truckee Meadows Park Foundation services for installation (AmeriCorps Wetlands Technician labor at a value of \$20/hr. x 4 AmeriCorps x 48 hrs. each)	192	20	3,840	TMPF		3,840		
OTR Executive Director to coordinate River-Friendly Demonstration Garden with Watershed Project (cost includes wages and taxes)	8	73		OTR	586	586		
Friends of Lake Park volunteer services for bird/insect surveys (free volunteer services)	50	-		FOPL	-	-		
Subtotal:			3,840		16,916	20,756		
Project Materials (Vegetation)								
Shoreline Plants								
Asclepias incarnata	10	8	84			84		
Asclepias speciosa	15	8	120			120		
Carex nebrascensis	10	6	60			60		
Cornus sericea	10	8	80			80		
Juncus balticus	10	6	60			60		
Ribes aureum	10	11	110			110		
Solidago californica	10	8	80			80		
Spirea douglasii	10	11	110			110		
Deschampsia cespitosa	15	8	120			120		
Mimulus guttatus	25	8	200			200		

Floating Mat Plants						-		
Carex nebrascensis	60	6	360			360		
Carex utriculata	30	6	180			180		
Juncus balticus	60	6	360			360		
Juncus effusus	60	6	360			360		
Schoenoplectus acutus	30	6	180			180		
Schoenoplectus americanus	30	6	180			180		
Deschampsia cespitosa	30	6	180			180		
Mimulus guttatus	60	6	360			360		
Wetland Islands - Misc.						-		
Floating Mats, 10x12 Kidney shape	3	4,320	12,960			12,960		
Optional 5th layer for extra bouyancy	3	600	1,800			1,800		
Planting Media	6	60	360			360		
4500 PSI Concrete Anchors (2.5x2.5x3.5") (3 per island)	9	100	900			900		
Anchoring Material - Stainless Steel Eyelet	9	7	63			63		
Anchoring Material - Anchoring Cables (200 ft package) + wire rope clips	1	125	125			125		
Fencing Materials (15" animal fence) (47 ft package)	4	96	600			600		
Recommended Force Account (20% material cost)	1	4,000	4,000			4,000		
Subtotal:			23,992			23,992		
Project Materials (Outreach/Education)								
Large STEM-based educational signs (fabrication and installation)	2	800	1,600			1,600		
Printing of educational material to be distributed to Washoe County schools and nearby residents	500	1	300			300		
Postage to send out educational material	500	0.20	100			100		
Recommended Force Account (20% material cost)			1,000			1,000		
Subtotal:			3,000			3,000		
TOTAL OF DIRECT EXPENSES			30,832		16,916	47,748		

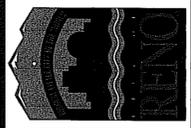


REV.	NO.	DATE	DESCRIPTION



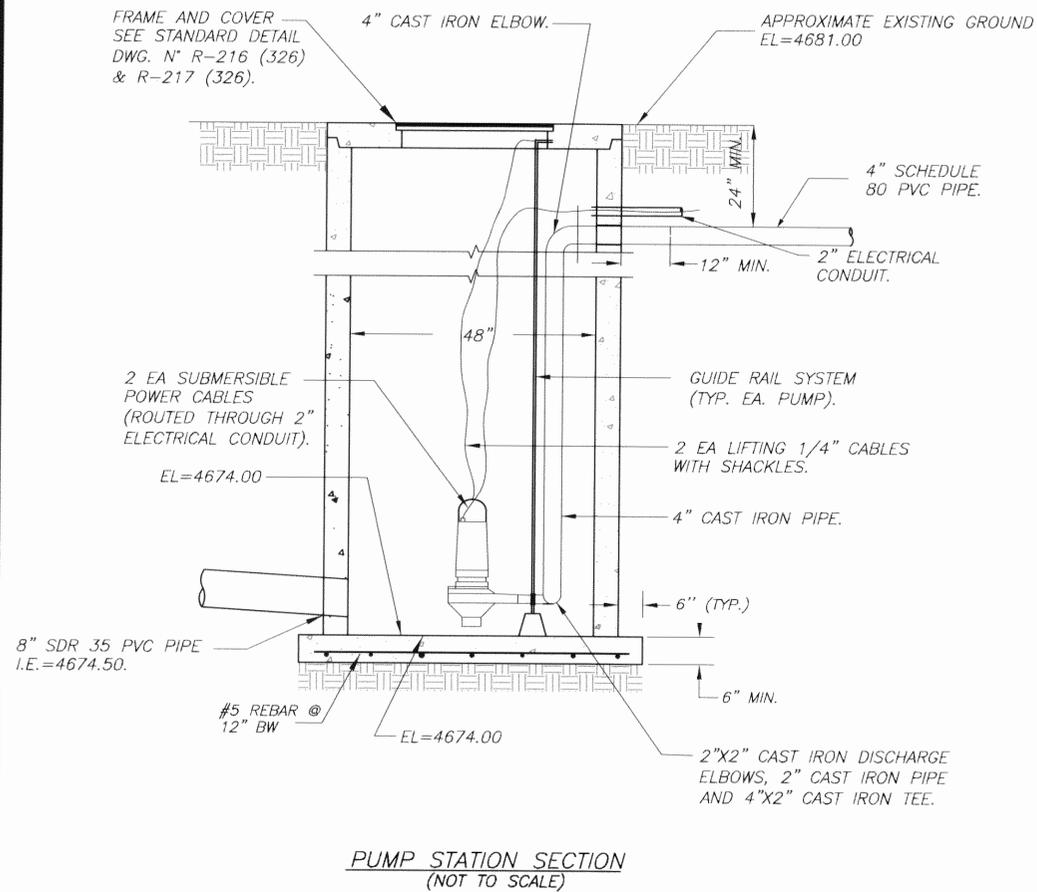
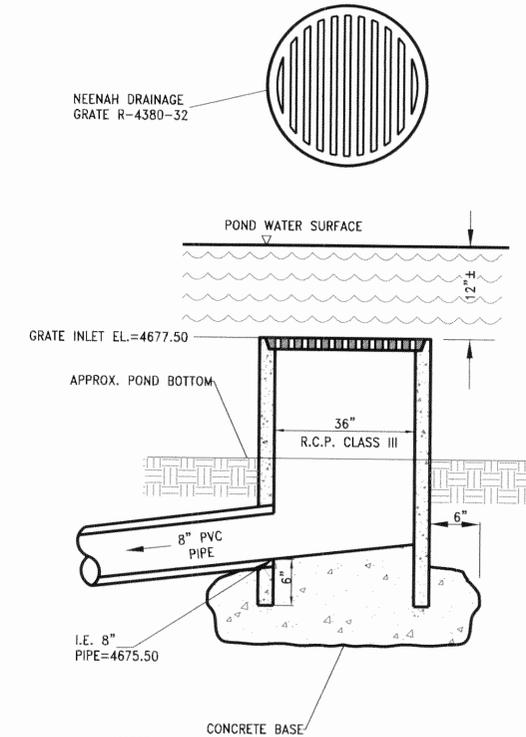
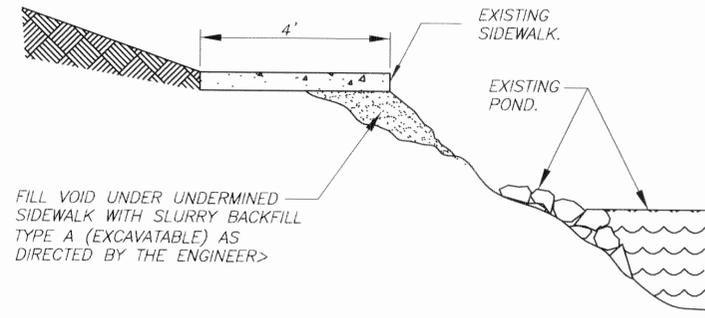
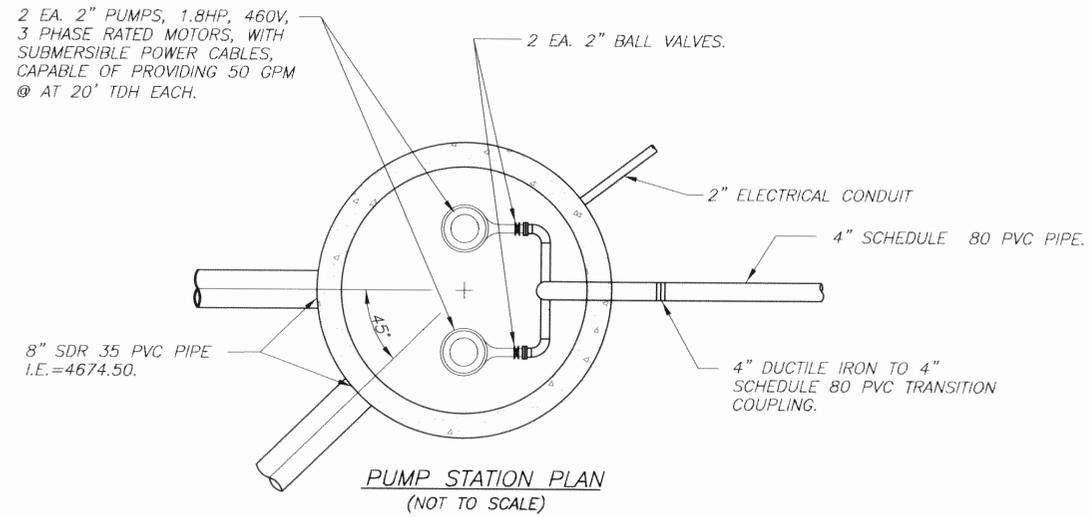
CITY OF RENO
DEPARTMENT OF PUBLIC WORKS

NEIL MANN - PUBLIC WORKS DIRECTOR/CITY ENGINEER

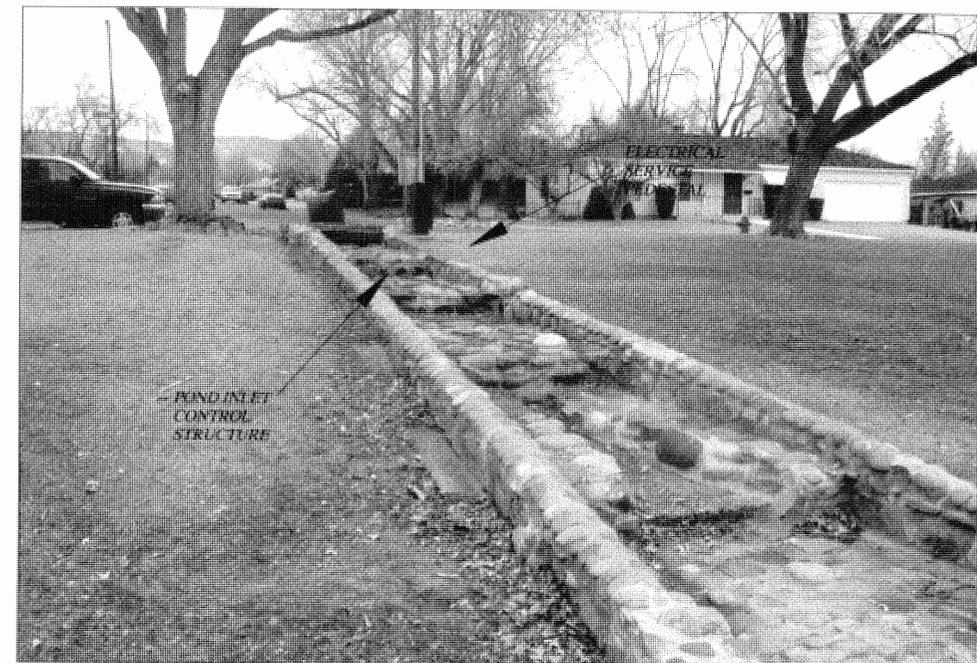


LAKE PARK POND
WATER CIRCULATION SYSTEM
SITE PLAN

PROJ. No. 20036	Date: 03/08
DESIGN: GD	Date: 03/08
DRAWN: RC	Date: 03/08
CHECKED: GD	Date: 03/08
SCALE: AS SHOWN	



NOTE: ALL PUMP STATION MANHOLE INTERIOR PIPING SHALL BE CAST IRON TO AT LEAST 12" BEYOND PUMP DISCHARGE PIPE MANHOLE PENETRATION.



No.	REVISIONS	Date



CITY OF RENO
DEPARTMENT OF PUBLIC WORKS
NEIL MANN - PUBLIC WORKS DIRECTOR/CITY ENGINEER



LAKE PARK POND
WATER CIRCULATION SYSTEM
DETAILS

PROJ. No. 20036
DESIGN: GD Date: 03/08
DRAWN: RC Date: 03/08
CHECKED: GD Date: 03/08
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City of Reno - Truckee River Fund Grant Proposal Budget, Fall 2023

Lake Park Watershed Project

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Fencing Materials (15" animal fence) (47 ft package)	4	96	600				600	
Recommended Force Account (20% material cost)	1	4,000	4,000				4,000	
Subtotal:			23,992				23,992	
Project Materials (Outreach/Education)								
Large STEM-based educational signs (fabrication and installation)	2	800	1,600				1,600	
Printing of educational material to be distributed to Washoe County schools and nearby residents	500	1	300				300	
Postage to send out educational material	500	0.20	100				100	
Recommended Force Account (20% material cost)			1,000				1,000	
Subtotal:			3,000				3,000	
TOTAL OF DIRECT EXPENSES			30,832		16,916		47,748	

Lake Park Floating Wetlands and Pollinator Revegetation Project

LAKE PARK, RENO, NV

Prepared by:

Daniel Moss, PE
Utility Services Department, City of Reno

Date:

July 2023



Photos



Lake Park, looking southeast from the return flow channel. Typical color in summer/fall months.



Lake Park, looking south from the return flow channel. Typical mallard/geese presence shown.



Lake Park, looking west, return flow channel shown on right. Shows invasive species surrounding pond.



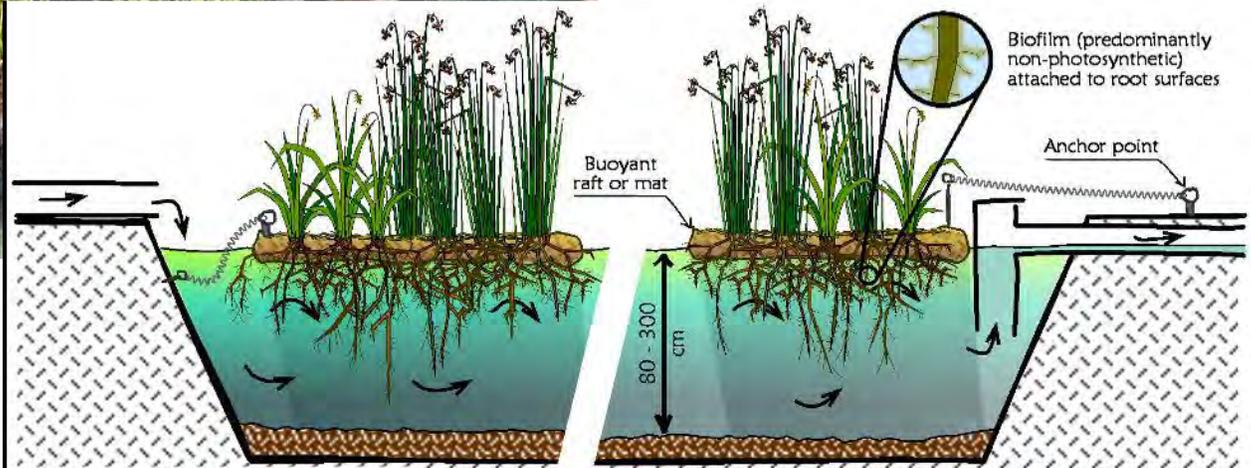
Lake Park, looking north at only section of reeds/cattails. Pole in water indicates return flow intake pipe.

Lake Park Water Quality and
Wetlands/Pollinator
Revegetation Plan
Date: 8-15-22



(10x12 Kidney Shape Wetlands
– Floating Island West, LLC)

Source: Tanner, C.C., Headley, T.R. (2011). Components of floating emergent macrophyte treatment wetlands influencing removal of stormwater pollutants. *Ecological Engineering* 37:474-486.



NUTRIENT REMOVAL SPREADSHEET				
Floating Island International - Biohaven Wetland Island				
For 1000-ft² Island			Lake Park Islands (360-ft²)	
Parameter	Water	Typical Removal Rates (lb/yr)	Typical Removal Rates (lb/yr) for Lake Park - Estimate	Typical Removal (lb/yr) Lake Park - Estimate
Ammonia-N	wastewater	400 - 2,300	200	72
Nitrate-N	wastewater	600	200	72
	stormwater	13		0
Total N	wastewater	250 - 600	200	72
	stormwater	50 - 250		0
Total P	lake water	35	70	25.2
	wastewater	500		0
	stormwater	10 - 80		0
TSS	wastewater	200		0
	stormwater	2,000 - 35,000		0
	lake water	5,000	5000	1800
BOD	wastewater	200 - 20,000	5000	1800
	stormwater	20,000		0
Total Copper	stormwater	14 - 400		0
Total Zinc	stormwater	80		0

Design Notes:

Removal Rates used for Lake Park design are estimates, based on interpolations of Lake Park nutrient concentration data compared to TMWRF nutrient concentration data. Both "Lake Water" and "Wastewater" values are considered.

Notes (from Floating Island International):

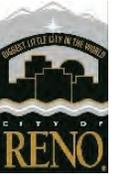
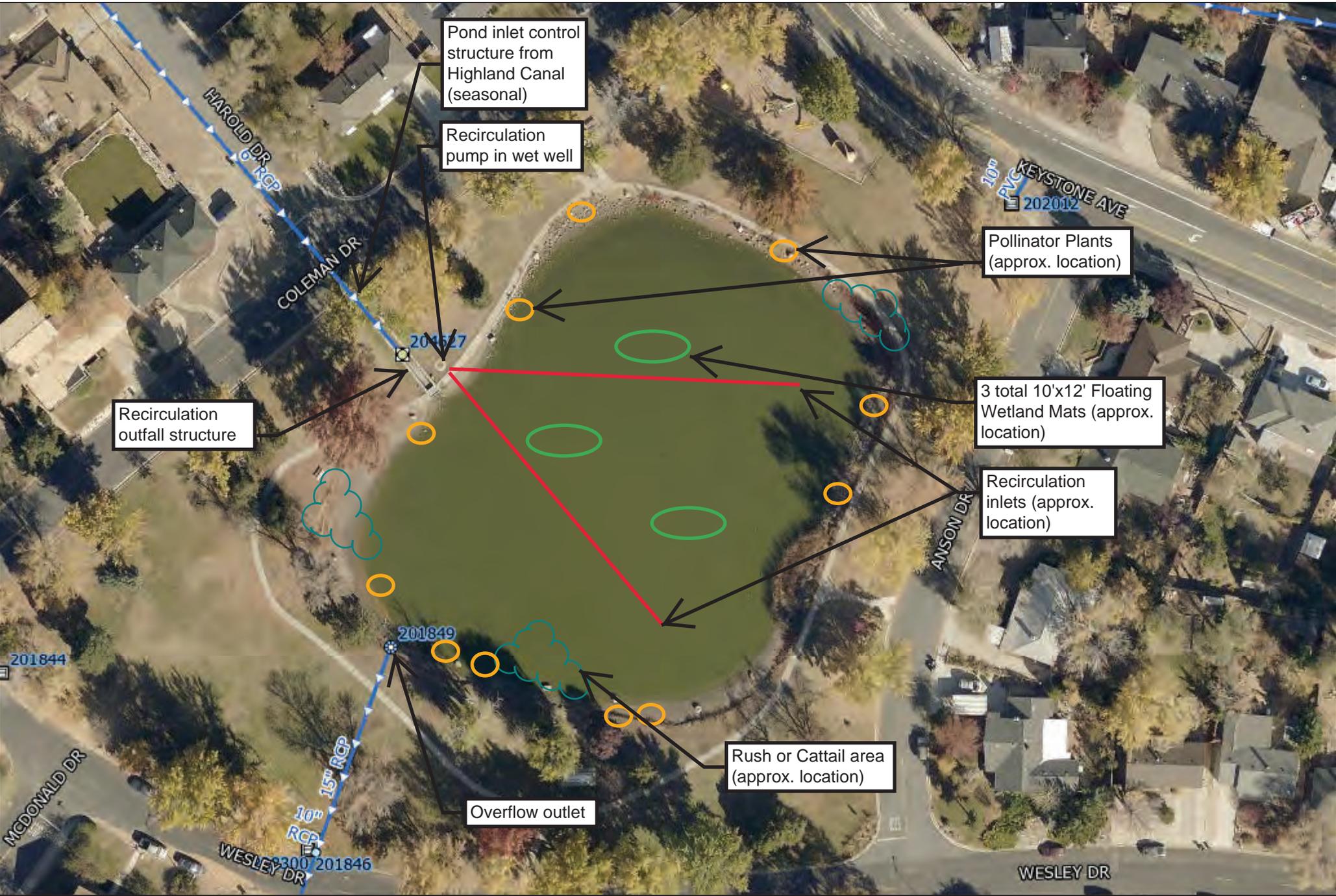
The table can be used for wastewater, stormwater or lake water applications where a specific target must be met.

Our experience has shown it is accurate to within 50%. Every time we get substantial new data, we refine the model to make it more accurate.

Other ways of sizing are available (e.g., by budget, by increments) if the goals are more general.

For best sizing estimates, we want to know current concentrations and concentration goals for each contaminant of concern, along with the estimated flow rate and water temperature. If flow is absent or very low, we can specify the time period over which the client wants remediation to occur (e.g., phosphorus concentrations will be reduced from 0.3 mg/L to 0.05 mg/L in two years) if we know the water volume.

Removal estimates shown above are based on field-scale case studies. Removal will be somewhat lower when it is cold, which is why we factor in the water temperature. The temperature correlation we are using shows that the removal rate at 10°C will be 53% of the rate at 23°C. However, native bacteria have an amazing ability to adapt and we have found that removal at lower temperatures will typically be higher than predicted in the literature.



City of Reno, NV
 Department of Public Works

Lake Park - Preliminary Site Plan

Source: Public Works Enterprise GIS Portal

Disclaimer: This map data is for general reference only and is subject to continuous change and updates. The entire risk as to quality, performance and usefulness of this map data rests with the user.

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KTMB's 2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program

Truckee River Fund- Fall 2023

Keep Truckee Meadows Beautiful

Christina Cakiroglu
PO Box 7412
Reno, NV 89510

O: 775-851-5185

Darcy Phillips

PO Box 7412
PO Box 7412
Reno, NV 89510

grants@ktmb.org
O: 775-851-5185

Application Form

Grant Priorities

TMWA recommends that the Advisors give preference to well-prepared and thought out grant requests for projects and programs that mitigate substantial threats to water quality and the watershed, particularly those threats upstream or nearby treatment and hydroelectric plant intakes:

- I. **Aquatic Invasive Species (AIS):** Projects/Programs that support the prevention or control of aquatic invasive species in the main stream Truckee River, Lake Tahoe, other tributaries and water bodies in the Truckee River system.
- II. **Watershed Improvements:** Projects that reduce erosion or sediment, suspended solids, or TDS discharges to the River. Projects or programs that are located within 303d (impaired waters) sections of the River should be considered, both in California and Nevada. Innovative techniques should be encouraged.
- III. **Local Stormwater Improvements:** Projects that are well designed which mitigate storm water run-off due to urbanization of the local watershed. Priority should be given to those improvement projects in close proximity to TMWA's water supply intakes and canals and which will improve the reliability and protect the quality of the community's municipal water supply.
- IV. **Re-Forestation and Re-Vegetation Projects:** Projects to restore forest and upland areas damaged by fire and historical logging operations, and to improve watershed resiliency in drought situations. Projects/programs in this category should be given a high priority due to urbanization of the watershed and increased susceptibility of the urban and suburban watershed to wildfire.
- V. **Support to Rehabilitation of Local Tributary Creeks and Drainage Courses:** Practical projects to support water quality improvement in Gray Creek, Bronco Creek, Mogul Creek, Chalk Creek, Steamboat Creek and the North Truckee Drain.
- VI. **Stewardship and Environmental Awareness:** Support to Clean-Up programs and the development and implementation of educational programs relative to water, water quality and watershed protection.
- VII. **Meet Multiple Objectives:** Projects/Programs should identify opportunities to meet multiple water quality and watershed objectives as outlined above with preference given to those achieving multiple benefits.
- VIII. **Leverage Stakeholder Assets and Participation:** Projects/Program selection should include an assessment of various stakeholder interests in all aspects of river water quality, watershed protection, source water protection and species enhancement thereby leveraging available funds and other assets.

Note: For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria at lrenda@nevadafund.org

Organization Information

Organization Name*

Keep Truckee Meadows Beautiful

Organization Type*

501(c)(3) Nonprofit

EIN

If the organization is a 501c3, please include the EIN#.

88-0254957

Director of Organization*

Darcy Phillips

Project Contact Name*

Darcy Phillips

Project Contact Postion/Title*

Executive Director

Project Contact Email*

darcy@ktmb.org

Project Contact Phone Number*

775.851.5185

Organization Mission*

Keep Truckee Meadows Beautiful is dedicated to creating a more beautiful and sustainable region through waste reduction, education, and active community involvement.

Project Information

Project Title*

Name of Project.

KTMB's 2024 Great Community Clean-Up, Truckee River Clean-Up, Truckee River Clean-Up, Adopt-A-River Program, and Community Education Program

Amount Requested*

\$91,360.32

Project Start Date*

01/01/2024

Project End Date*

12/31/2024

This funding will be used to:*

Complete this sentence with a max of 2 sentences.

Funds requested in this proposal will support the following efforts in KTMB's 2024 calendar year: removing litter and invasive weeds along the Truckee River corridor and tributaries during KTMB's Great Community Clean-Up and Truckee River Clean-Up; monitoring the impact of KTMB clean-up efforts; engaging year-round clean-up support through KTMB's Adopt-A-River program; and providing community education and outreach to decrease environmental threats to the Truckee River.

This project is on:*

Check all that apply

Public land

Are government permits or decision documents needed for the project?*

Yes

If so, are those permits and decision documents already secured?

If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements provide a list of permits and documents needed and a schedule for securing them.

No

Previous Funding from Truckee River Fund

Has your organization received other grants from the Truckee River Fund?*

Yes

If yes, please include the following information for all previously funded projects:

- *Date awarded*
- *Project # and Title*
- *Amount of award*

Please attach additional pages as needed to list ALL previously funded projects.

Part of attached file.

Description of Project Under Consideration

Indicate the description that best fits the project you are proposing*

Mark no more than three categories.

- A. Projects that improve bank or channel stabilization and decrease erosion.
- B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- C. Projects that remove pollution from the Truckee River.
- D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.
- E. Other projects that meet the evaluation criteria.

C.)

E.)

Narrative Requirements

1.) Specific project goals and measurable outcomes and how you will measure and report them.*

All projects are required to have measurable outcomes.

Keep Truckee Meadows Beautiful (KTMB) is a 501(c)3 nonprofit that is dedicated to creating a more sustainable and beautiful region for 34 years. Water is life, and KTMB aims to improve the quality of life for all species in the Truckee Meadows and accomplishes this through waste reduction and beautification, community and youth education, and active community involvement. KTMB respectfully requests continued funding in 2024 to accomplish four specific project goals: remove invasive weeds and litter from the Truckee

River Watershed during KTMB's Great Community Clean-Up and Truckee River Clean-Up; monitor the impacts of KTMB clean-up efforts; engage year-round clean-up support through KTMB's Adopt-A-River program; and provide community education and outreach to decrease environmental threats to the Truckee River. As a result, KTMB will build and maintain strategic partnerships that protect and preserve the Truckee River, expand litter and invasive weed removal projects throughout the watershed, and educate and empower residents as stewards of our environment. The measurable outcomes of this project are detailed below.

Great Community Clean-Up (GCC) – Spring 2024

- Work with partners like One Truckee River (OTR) to identify and target a minimum of six invasive weed "hotspots" along Truckee River tributaries for weed removal and native plant restoration;
- Support accurate mapping of invasive weed zones as tracked by the Washoe Storey Conservation District (WSCD);
- Engage a minimum of 700 volunteers to participate in litter clean-up and weed removal at the event;
- Of those 700 volunteers, recruit and coordinate a minimum of 125 volunteers to pull invasive weeds at hotspots;
- Involve a minimum of 100 youth volunteers through new and existing youth program partnerships;
- Enhance event marketing and outreach efforts with Adopt-A-River groups to increase their participation in the 2024 Great Community Clean-Up;
- Remove 15-20 tons of trash, invasive weeds, and green waste from the Truckee River Watershed;
- Educate volunteers on waste reduction and weed mitigation at Great Community Clean-Up sites and subsequent volunteer picnic. The "zero waste" event will aim to create as little waste as possible, aligning efforts with current state guidelines on public health and safety at the time of the event;
- Survey volunteers participating in weed-related projects and analyze results to determine the success and impact of the event.

Truckee River Clean-Up (TRC) – Fall 2024

- Engage a minimum of 600 volunteers to participate in a river clean-up, storm drain stenciling, and invasive weed removal;
- Remove 15-20 tons of litter, invasive weeds, and green waste in the Truckee River corridor at clean-up locations from Verdi to Lockwood;
- Involve a minimum of 100 youth volunteers through new and existing youth program partnerships;
- Host 20 "on the river" volunteers including kayakers, fly-fishers, and WET team Emergency Response personnel to remove debris from the river;
- Stencil a minimum of 100 storm drains in partnership with the City of Reno to raise community awareness that all drains lead to the river;
- Spread mulch generated by KTMB's Christmas Tree Recycling program for soil erosion projects and to inhibit weed growth;
- Work with park and natural area staff to identify and wrap trees as needed along the river corridor;
- Remove graffiti as needed;
- Educate volunteers on waste reduction and weed mitigation at Truckee River Clean-Up sites and the subsequent volunteer picnic. The "zero waste" event will aim to create as little waste as possible, aligning efforts with current state guidelines on public health and safety at the time of the event;
- Survey event participants and compile analyzed results to determine the success and impact of the event.

Adopt-A-River 2024

- In response to the changing conditions of the Truckee River as a result of our growing community, KTMB will work with municipal partners to update KTMB's annual Litter Index Survey and dedicate a section completely to the Truckee River corridor. Survey results will help KTMB staff identify areas that need adoption;
- The Adopt-A-River program will also include a litter survey before each clean-up. Areas are rated based on a scale of 1-4, 1 meaning "virtually no litter" and 4 indicating "major illegal dump site". These surveys will show the impact of the Adopt-A-River program;
- Recruit and retain adopters and volunteers to be stewards of our watershed;
- Conduct a minimum of 15 river-specific clean-ups through the Adopt-A-Spot Program;
- Engage 150 volunteers in river-specific clean-up efforts;

- Remove 5 tons of litter and invasive weeds from the Truckee River corridor.

Community Education 2024

- Conduct a minimum of 20 Community and Adult education presentations and service learning events about our watershed, invasive weeds, and litter topics to reach a minimum of 500 community members from local businesses, organizations, community groups, etc.;
- Promote ecological literacy and environmental stewardship messaging using digital outreach.

2.) Describe the project location.*

The Great Community Clean-Up (GCC), Truckee River Clean-Up (TRC), and Adopt-A-River clean-ups are conducted throughout the Truckee River Watershed at locations along the river corridor and tributaries. Community education workshops are presented at locations throughout the Truckee Meadows. KTMB will work with local municipalities and watershed experts, including One Truckee River, to determine storm drain stenciling locations for the 2024 TRC.

3.) Project Description*

Include site map and aerial photos if applicable/possible as an attachment.

KTMB supports a sustainable and beautiful community by educating residents and visitors about the importance of protecting the health of our watershed and improving water quality by mitigating nonpoint source pollution and invasive and noxious weeds. Local park staff report to KTMB that weed removal is often the most challenging aspect of their job. With current staff shortages, the incorporation of weed removal projects prior to weed seeding in the spring is vital and complements the timing of KTMB's Great Community Clean-Up. KTMB's Truckee River Clean-Up and Adopt-A-River clean-ups educate and engage the community about the presence of weeds and litter in our watershed and their underlying causes and effects. According to Keep America Beautiful, "About 85% of littering is the result of people's attitudes...changing individual behaviors is the key to preventing litter — and environmental cues can make a difference." By engaging volunteers and community partners in this effort, and by having consistent outreach and messaging to support behavior change, KTMB educates and empowers residents and visitors to protect the Truckee River as the lifeline of our community.

KTMB's Annual Great Community Clean-Up and Truckee River Clean-Up will:

- Work with partners like OTR and WSCD to monitor river hotspots for invasive weeds;
- Engage volunteers to remove nonpoint source pollution and invasive and noxious weeds at several hotspots along the Truckee River and its tributaries, as identified by KTMB's Litter Index Survey, WSCD weed experts, and municipal partners;
- Provide educational outreach and public service announcements in the community about environmental threats to the Truckee River and responsible river recreation and usage, and enhance marketing to increase volunteer participation.
- Survey event participants and compile analyzed results to determine the success and impact of the event.

KTMB's Adopt-A-River program will:

- Recruit new volunteers and manage existing volunteers to conduct clean-ups along the Truckee River;
- Continue to conduct an annual Litter Index Survey to evaluate current river corridor cleanliness;

KTMB's Community Education program will:

- Continue community outreach through traditional and social media outlets with messaging about the health of the river and individual stewardship opportunities to improve water quality;

- Coordinate service learning events, community/educational presentations, and host community workshops to educate and empower the public to protect the Truckee River Watershed by reducing non-point source pollution and invasive and noxious weeds.

4.) Grant priorities*

Explain how the proposed project advances the TRF's specific grant priorities.

If funding is awarded, KTMB will support the following TRF Grant Priorities: V, VI, VII, VIII.

V: Support to Rehabilitation of Local Tributary Creeks and Drainage Courses - KTMB will support water quality improvement of local tributaries and drainages through the GCC, TRC, and Adopt-A-River clean-up programs. These events will engage hundreds of volunteers to remove tons of litter, invasive weeds, and green waste from multiple locations along the Truckee River Corridor and greater watershed.

VI: Stewardship and Environmental Awareness - This project will communicate and raise environmental awareness about water, water quality, and watershed protection by utilizing digital media and educational/community presentations and service learning events to educate residents and visitors about the importance of maintaining a healthy river; how noxious weeds negatively affect native plant communities; and how litter and pollution are harmful to humans, wildlife, plants, and the local environment, economy, and aesthetics.

VII: Meet Multiple Objectives - This project meets multiple TRF objectives because it will remove nonpoint source pollution and invasive and noxious weeds from our water through clean-ups and beautification projects, increase the community's ecological literacy about water quality and conservation through messaging and education, and promote volunteerism to increase watershed stewardship.

VIII: Leverage Stakeholder Assets and Participation - KTMB will collaborate with numerous municipalities, businesses, community groups, and partners to complete the clean-up and education projects proposed. Project sites and activities along the river will be identified by KTMB and local experts and completed with planning and day-of support from partners to ensure effective programming.

KTMB's 2024 Great Community Clean-Up, Truckee River Clean-Up, and Adopt-A-River program will also support the following One Truckee River Management Plan objectives (see attached document for description): 2.1.b, 2.3.j, 2.5.b, 3.3.h, 3.4.b, 3.4.c, 3.4.e, 3.4.f.

KTMB's Community Education efforts will also support the following One Truckee River Management Plan objectives (see attached document for description): 1.3.b, 2.1.j, 3.2.d, 3.2.f, 3.3.b, 3.3.e, 3.3.h.

5.) Permitting*

Provide a permitting schedule for your project along with your plan for getting the required permits and decision documents. Be sure to include the cost of permitting/decision documents as a line item in your budget.

Since 2005, the only permits required for KTMB's Truckee River Clean-Up and Great Community Clean-Up are health department permits for the post-event volunteer picnic. With support from KTMB partner Washoe County Health District (WCHD), these permits will be obtained before each event. No permits are required for educational events or clean-ups, though all gatherings will be held according to WCHD health and safety recommendations.

6.) Future Land Use*

List any known or foreseeable zoning, land use, or development plans that may affect your proposed project.

There are no known or foreseeable zoning, land use, or development plans that may affect this project.

7.) If future phases of the project will be needed, identify anticipated sources of funding.*

The Truckee River Fund's annual support of KTMB's Great Community Clean-Up and Truckee River Clean-Up assists in maintaining the health of the Truckee River Watershed. It provides opportunities for KTMB to engage partner agencies, municipalities, community groups, foundations, businesses, and local residents in environmental education and stewardship, and to leverage in-kind support and funding from other sources. TRF funding will enhance KTMB's ability to achieve these objectives. KTMB will also continue to pursue new and diverse sources of income to support these programs while leveraging historic funding sources. Historic funding sources include the Nevada Division of Forestry, REI, Sun Valley General Improvement District, UPS Foundation, and Washoe County Health District, to name a few.

8.) Identify the principals involved in leading or coordinating the project or activity.*

KTMB is the principal coordinating agency for managing this project's planning, implementation, and evaluation, as well as volunteer recruitment and coordination. We work closely with any municipal officials and agencies necessary to coordinate the projects and activities.

9.) Number of staff positions involved in project.*

Identify how many staff will be full-time and how many will be part-time.

"Fulltime" means 100% of their staff position will be dedicated to this project; "part-time" means only a portion of their staff position will be dedicated to this project.

nine part-time staff

10.) Number of volunteers involved in project and an estimated number of volunteer hours.*

*GCC: 700-800 volunteers; 2,100-2,400 est. hours *TRC: 600-700 volunteers; 1,800-2,100 est. volunteer hours *AAR: 200-300 volunteers; 300-450 est. volunteer hours TOTAL: 1,500-1,800 VOLUNTEERS; 4,200-4,950 EST. VOLUNTEER HOURS

11.) Timeline of Project*

List key dates and include project milestones. Note: Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.

***Note: Funding will not be provided for work performed prior to grant approval.*

Below is a general timeline KTMB staff follows for each program activity detailed in this proposal. This funding will cover the calendar year 2024.

GCC 2024 Timeline:

Winter: Meet with project partners to identify GCC locations and plan GCC event logistics.

Spring: Survey the length of Truckee River on a four-point scale and create data points. Recruit volunteers. Implement GCC in May.

Spring/Summer: Compile survey data from GCC waste removal and weed pull projects and re-survey. Begin planning for fall TRC.

TRC 2024 Timeline:

Spring/Summer: Compile survey data from the spring GCC waste removal and weed pull projects and re-survey sites for cleanliness. Plan TRC event.

Fall/Winter: Hold Fall TRC and re-survey the length of the river for cleanliness.

Adopt-A-River Timeline:

Winter: Compile and review information on existing sites and existing volunteer groups.

Spring/Summer: Outreach and volunteer recruitment and management to conduct clean-ups along the river corridor.

Community Outreach Timeline:

Spring/Summer: Create an outreach plan to engage more residents on river-related topics through presentations, service learning events, and media outreach. Schedule and conduct presentations and follow the media outreach plan.

Fall/Winter: Schedule and conduct presentations. Continue outreach.

12.) What factors will indicate a successful project?*

The success of KTMB's 2024 Great Community Clean-Up will be measured in the following ways:

- 700 community volunteers engaged in litter and invasive weed removal along the Truckee River and its tributaries; minimum of 15 tons of litter and green waste removed from Truckee River Watershed; 100 youth volunteers engaged in watershed stewardship through Truckee River volunteer projects; event participants educated about the Truckee River threats and actions they can take.

The success of KTMB's 2024 Truckee River Clean-Up will be measured in the following ways:

- 600 community volunteers engaged in litter and invasive weed removal along the Truckee River and its tributaries; minimum of 15 tons of litter and green waste removed from Truckee River Watershed; 100 youth volunteers engaged in watershed stewardship through Truckee River volunteer projects; 100 storm drains stenciled; event participants educated about the Truckee River threats and actions they can take.

The success of Adopt-A-River will be measured by:

- Evidence-based litter survey conducted along the length of the river corridor to evaluate clean-up efforts; 15 clean-ups implemented along the Truckee River corridor throughout the year; 150 community volunteers engaged in litter, invasive weed, and green waste removal along the Truckee River corridor; 5 tons of litter, invasive weeds, and green waste removed from the Truckee River corridor.

The success of Community Education and Outreach efforts will be measured by:

- 20 community education events through formal and informal presentations and service-learning events on protecting the health of our watershed through waste reduction and litter and weed prevention; 500 community members educated.

13.) Collaboration*

List partnerships or collaborations with other entities in relation to your proposal, if any.

KTMB’s major clean-up and education efforts collaborate with many local agencies and organizations including: A-Team Trash Hauling; Bureau of Land Management; City of Reno Parks; City of Sparks Parks; Down to Earth Composting; Friends of NV Wilderness; Les Schwabe Tires; Milne Towing; Nevada Department of Agriculture; Nevada Department of Wildlife; Nevada Division of Environmental Protection; Nevada Division of Forestry; Nevada Land Trust; Northern Nevada HOPES; NV Energy; One Truckee River; Patagonia; Pepsi; REI; Reno Fire Department Water Entry Team; Save Mart; Sun Valley General Improvement District; SWCA; The Nature Conservancy; Truckee Meadows Fire Protection District Water Entry Team; Truckee Meadows Water Authority; Truckee Meadows Watershed Committee; Truckee River Fly Fishers; US Forest Service; Washoe County Health District; Washoe County Parks; Washoe County Sheriff’s Office; Washoe-Storey Cooperative Weed Management Authority; and Waste Management.

Grant Match

All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. For larger grant requests, priority will be given to projects that significantly leverage the grant with funding from other sources.

Total grant match to be provided.*

\$249,194.00

Cash

\$111,920.00

For the cash portion, is the funding already being held by the applicant for this project?

Yes

In-kind

***Note: Provide an itemized breakdown of volunteer match in your budget with rationale.*

\$137,274.00

Description of matching funds/in-kind donations.*

The matching funds for this proposal have been committed by Washoe County as of July, 2023 and will be used to pay organizing staff, purchase supplies, and support volunteers. There is additional cash match from TC Energy that is in-hand. We have a contract with Washoe County Health District that pays us monthly. The in-kind donations will come from reduced rates by vendors for bulk use (port-o-potties, for example). Garbage bags are donated by Keep America Beautiful. Save Mart donates food and time for the volunteer appreciation picnics after the events.

Attachments

Nonprofits must submit:

- Last audited financial statements if your organization has been audited
- List of Board of Directors
- Copy of agency’s IRS 501(c)(3) Tax Determination Letter
- Copy of the agency’s most recent IRS Form 990

**Please submit as one PDF document

Funding_Board List_990_501c3.pdf

Governmental entities must submit:

- Departmental budget in lieu of audited financial statements

Project Budget*

Provide detail on line-item expenditures and show which costs are to be paid for by the Truckee River Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services. Other sources of funding should be provided. **A sample budget template is provided below.**

****Note:** Indirect/overhead expenses cannot exceed 25 percent; TRF may fund indirect/overhead up to 25% based on availability of funds. Applicants should be prepared to provide reduced budgets during the review of applications by the TRF Board when funds are limited.

Grants from the Truckee River Fund are paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

2024 TRF Budget.pdf

Sample Budget Template

ORIGINAL PROJECT BUDGET					REIMBURSEMENT REPORT	
Budget Item	Description*TRF \$	Other Funding Name**	Match \$	Total	Expenditures to date TRF	Expenditures to date (other sources)

Design/Engineering	\$xx,xxx	Agency X	-	\$xx,xxx	\$xx,xxx	
Permitting	\$xx,xxx	Agency X	\$x,xxx	\$x,xxx		\$x,xxx
Labor--paid	\$x,xxx	Agency X	\$x,xxx	\$x,xxx	\$x,xxx	
Labor--volunteer (\$20/hr)		Own people	\$xx,xxx	\$xx,xxx	\$x,xxx	
Construction	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Materials	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Other (be specific)	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Overhead (max. 25%)	\$xx,xxx	Own agency	\$xx,xxx	\$xx,xxx		
TOTAL	\$xxx,xxx		\$x,xxx	\$xxx,xxx	\$xx,xxx	\$x,xxx

*These are sample descriptions.

**Explain status of other funding if not in hand.

If project is to be implemented in phases, please separate budget into each phase.
 Indirect costs may not be counted as match.

Grantee Requirements & Project Evaluation Criteria

GRANTEE REQUIREMENTS

To be eligible for funding, grantees must adhere to the following requirements:

- Funds are to be used and/or disbursed exclusively for the charitable uses and purposes.
- The Fund shall be used exclusively for projects that protect and enhance water quality or water resources of the Truckee River, or its watershed.
- The Charitable Beneficiaries may include 501(c)(3) organizations and governmental entities. Any grants to governmental entities must be made exclusively for public benefit purposes.
- All grantees will be required to sign a grant agreement stipulating their agreement with all of the terms, conditions, and reporting requirements.
- Organizations or entities sponsoring proposals are prohibited from ex parte communications regarding such proposals with members of the Truckee River Fund Advisory Committee while such proposals are pending before the Committee, and such communications may be grounds for rejecting a proposal.
- To maintain eligibility to receive grant funds, each Charitable Beneficiary must comply at all times with the following requirements:
 1. Charitable Beneficiaries must be exempt from federal income taxation under Section 501(c)(3) of the Code;

Charitable Beneficiaries shall use all Fund distributions toward projects that are appropriate and legal public expenditures;

Charitable Beneficiaries must provide financial details and/or reports of their organizations upon request;

Charitable Beneficiaries must not use any Fund distributions for political contributions or political advocacy;

Charitable Beneficiaries must either implement the projects, activities, and/or programs for which they received Fund distributions within six months of the date in which such distributions are received or by date(s) as agreed upon in the grant acceptance agreement, or must return all such distributions to the Community Foundation forthwith;

Charitable Beneficiaries must provide the Community Foundation a report detailing the completion of their projects, activities, and/or programs; and

Charitable Beneficiaries must sign an agreement regarding their compliance with the qualifications hereof.

PROJECT EVALUATION

Each proposal will be evaluated on criteria that include but are not limited to:

- Measurable outcomes in accordance with stated grant priorities.
- Readiness of sponsoring organization to undertake and complete project.
- Consistency with established Truckee River operations.
- Impact on other River stakeholders.
- Absence of negative or unintended consequences.
- Solutions to known problems as identified through past research.
- Prior performance on grants from the Truckee River Fund.

The Nature Conservancy & Truckee River Watershed Council have conducted assessments of Truckee River and Donner Lake watersheds and have presented their findings to the Truckee River Fund advisory committee. The results may influence the advisors' decision-making during proposal review. Copies of the assessments are available at www.truckeeriverfund.org.

File Attachment Summary

Applicant File Uploads

- Funding_Board List_990_501c3.pdf
- 2024 TRF Budget.pdf

KTMB Funding received from the Truckee River Fund

Date Awarded

Date Awarded	September 2022
Project Title	TRF #265 – 2023 Great Community Cleanup, Truckee River Cleanup, Adopt a River Program, & Adult and Community Education Program
Amount of Award	81,640
Date Awarded	September 2021
Project title:	KTMB's 2022 Great Community Cleanup, Truckee River Cleanup, Adopt-A-River Program, & Adult and Community Education Program
Amount of Award:	\$82,880
Date Awarded	August 2020
Project Title:	TRF #239 2021 Spring Great Community Cleanup, 2021 Fall Truckee River Cleanup, Adopt-A-River & Adult Outreach and Education
Amount of Award:	\$74,245
Date Awarded	August 2019
Project title:	TRF #224 KTMB Cleanup and Weed Removal 2020
Amount of Award:	\$79,245
Date Awarded	February 2019
Project title:	TRF #217 Truckee River Cleanup
Amount of Award:	\$53,000
Date Awarded	August 2018
Project title:	TRF #204 Great Cleanup
Amount of Award:	\$31, 640
Date Awarded	August 2017
Project title:	TRF #193 Great Cleanup/River Cleanup
Amount of Award:	\$69,760
Date Awarded	August, 2016
Project title:	TRF #176 Great Cleanup/River Cleanup
Amount of Award:	\$60,625
Date awarded:	October 22, 2016
Project title:	TRF #165 Truckee River Cleanup/Invasive Weed Pull
Amount of Award:	\$48,325
Date awarded:	February, 2015
Project title:	TRF #156 Phase I Truckee River Corridor Management Plan
Amount of Award:	\$90,000
Date awarded:	September, 2014
Project Title:	TRF #154 Invasive Weed Pull & River Cleanup
Amount of Award:	\$46,000
Date awarded:	October 2013
Project Title:	TRF 126: Truckee River Youth Education/Invasive Weed Pull/Cleanup 2014
Amount of Award	\$57,050
Date awarded:	September 2012
Project title:	Truckee River Cleanup 2013
Amount of Award:	\$46,450
Date awarded:	October 2011
Project title:	TRF #89 Truckee River Cleanup 2012
Amount of Award:	\$44,950
Date awarded:	November 2010
Project title:	#82 Truckee River Cleanup May 2011 Invasive Weed Pull and September 2011 Truckee River Cleanup Day
Amount of Award:	\$42,900
Date awarded:	December 2009

KTMB Funding received from the Truckee River Fund

Project title:	Invasive Weed Pull May 2010, River Cleanup Sep 2010
Amount of Award:	\$42,050
Date awarded:	February 2009
Project title:	Truckee River Cleanup Day, September 2009
Amount of Award:	\$26,975
Date awarded:	January 2008
Project title:	Truckee River Cleanup Day, September 2008
Amount of Award:	\$25,604.85
Date awarded:	November 2006
Project title:	Truckee River Cleanup Day, September 2007
Amount of Award:	\$24,730
Date awarded:	July 2006
Project title:	Truckee River Cleanup Day, September 2006
Amount of Award:	\$13,175
Date awarded:	December 2005
Project title:	Truckee River Cleanup Day, September 2006
Amount of Award:	\$9,402.50



**Board of Trustees
FY 2023/2024**

Board Officers	Affiliation
Craig Chisum Chair	UPS
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Garfinkel, Lauren	TTEC
Jon Olsen	Intuit
Jones, John	Consulting
Thomas, Derek	Corp. Placement
Dr. Ayodele Akinola	Community College

**Past Chair*

Truckee River Fund - KTMB Project Budget

2024 - Spring Great Community Cleanup, Fall Truckee River Cleanup, Adopt-A-River Program & Adult and Community Education

Budget Item	Description/Justification	TRF Request	Cash & In-Kind Match	Total Cost
<i>Great Community Cleanup 2023</i>				
COORDINATION & IMPLEMENTATION				
Keep Truckee Meadows Beautiful	Project, Partner, and Volunteer Management	\$19,624.00	\$13,000.00	\$32,624.00
Keep Truckee Meadows Beautiful	Mileage	\$500.00	\$0.00	\$500.00
Washoe County Parks	Staff Time, Materials & Equipment	\$0.00	\$3,680.00	\$3,680.00
City of Reno Parks	Staff Time & Equipment	\$0.00	\$2,000.00	\$2,000.00
Friends of NV Wilderness	Staff Time, Materials & Equipment	\$0.00	\$750.00	\$750.00
City of Sparks Parks	Staff Time, Materials & Equipment	\$0.00	\$3,320.00	\$3,320.00
Nevada Department of Wildlife	Staff Time, Materials & Equipment	\$0.00	\$750.00	\$750.00
The Nature Conservancy	Staff Time	\$0.00	\$500.00	\$500.00
Washoe County Sherrifs office	Labor and supervision	\$0.00	\$1,000.00	\$1,000.00
Bureau of Land Management	Staff Time & Supervision	\$0.00	\$1,000.00	\$1,000.00
Sun Valley GID	Staff Time, Materials & Equipment	\$0.00	\$5,000.00	\$5,000.00
Waste Management	Staff Time	\$0.00	\$160.00	\$160.00
Milne Towing	Staff Time, Materials & Equipment	\$0.00	\$640.00	\$640.00
A-Team Trash Hauling	Staff Time, Materials & Equipment	\$0.00	\$1,560.00	\$1,560.00
Volunteer Hours	700 volunteers x 3 hours x \$28.50/hour	\$0.00	\$59,850.00	\$59,850.00
Sub-Total		\$20,124.00	\$93,210.00	\$113,334.00
EQUIPMENT & SUPPLIES				
Sani-Huts	14 Sani-huts - \$125/unit	\$1,750.00	\$0.00	\$1,750.00
Dumpsters	Dumpsters vary each cleanup, along with discounts. Budget projects need for 24 dumpsters priced at \$700.	\$6,800.00	\$10,000.00	\$16,800.00
Garbage Bags	for trash removal	\$450.00	\$300.00	\$750.00
KTMB Truck for Site Surveying/Event Implementation	Fuel & Maintenance	\$350.00	\$200.00	\$550.00
Trash Pickers	ULINE - 32" (\$9/picker)	\$500.00	\$1,100.00	\$1,600.00
Project Supplies	Tools, tree wrap, paint, masks, gloves, etc.	\$750.00	\$1,750.00	\$2,500.00
Project Posters	NV Energy donation 100 posters	\$0.00	\$227.00	\$227.00
First Aid Kits	Some donated, KTMB purchases the rest	\$0.00	\$400.00	\$400.00
Les Schwabe Tire	Tire recycling	\$0.00	\$1,000.00	\$1,000.00

		Sub-Total	\$10,600.00	\$14,977.00	\$25,577.00
VOLUNTEER COORDINATION					
Event Signage	For way-finding at event		\$100.00	\$100.00	\$200.00
Volunteer appreciation item	Approximately 1,000 items		\$2,000.00	\$2,000.00	\$4,000.00
Health Permit for Picnic	Washoe County Health District		\$200.00	\$0.00	\$200.00
Volunteer Project Leader appreciation item	Approximately 120 items		\$2,000.00	\$400.00	\$2,400.00
Public Education	Radio/TV/PSAs/Post Cards/Bumper Stickers		\$4,500.00	\$500.00	\$5,000.00
Zero Waste Supplies	Serving ware, utensils, signage		\$300.00	\$200.00	\$500.00
Volunteer Provisions	Nature's Bakery, KIND, Tahoe Trail Bars, Soda		\$0.00	\$1,000.00	\$1,000.00
Volunteer Food & BBQ	Donated in part by Save Mart		\$1,000.00	\$1,500.00	\$2,500.00
		Sub-Total	\$10,100.00	\$5,700.00	\$15,800.00
TOTAL GCC 2023 Request			\$40,824.00	\$113,887.00	\$154,711.00
<i>Truckee River Cleanup 2023</i>					
COORDINATION & IMPLEMENTATION					
Keep Truckee Meadows Beautiful	Project, Partner, and Volunteer Management		\$19,624.00	\$13,000.00	\$32,624.00
Keep Truckee Meadows Beautiful	Mileage		\$500.00	\$0.00	\$500.00
Washoe County Parks	Staff Time, Materials & Equipment		\$0.00	\$3,680.00	\$3,680.00
City of Reno Parks	Staff Time & Equipment		\$0.00	\$2,000.00	\$2,000.00
Reno Fire Dept Water Entry Team	Swiftwater rescue technicians and equipment		\$0.00	\$1,000.00	\$1,000.00
Washoe County Sherrifs office	Labor and supervision		\$0.00	\$1,000.00	\$1,000.00
Friends of NV Wilderness	Staff Time, Materials & Equipment		\$0.00	\$750.00	\$750.00
Waste Management	Staff Time		\$0.00	\$160.00	\$160.00
A-Team Trash Hauling	Staff Time, Materials & Equipment		\$0.00	\$1,560.00	\$1,560.00
Truckee Meadows Fire Protection District Water Entry Team	Swiftwater rescue technicians and equipment		\$0.00	\$1,000.00	\$1,000.00
Truckee Meadows Watershed Committee	Storm drain stenciling supplies, staff time, education and give-aways		\$0.00	\$4,000.00	\$4,000.00
City of Sparks Parks	Staff Time, Materials & Equipment		\$0.00	\$3,320.00	\$3,320.00
Milne Towing	Staff Time, Materials & Equipment			\$640.00	
Nevada Department of Wildlife	Staff Time, Materials & Equipment		\$0.00	\$750.00	\$750.00
The Nature Conservancy	Staff Time		\$0.00	\$500.00	\$500.00
Volunteer Hours	600 volunteers x 3 hours x \$20hour		\$0.00	\$36,000.00	\$36,000.00
		Sub-Total	\$20,124.00	\$69,360.00	\$89,484.00
EQUIPMENT & SUPPLIES					

Sani-Huts	United Site Services (3 sanihuts - \$60/unit, 2 sinks - \$90/unit, damage waivers and delivery fees - \$400)	\$760.00	\$420.00	\$1,180.00
Dumpsters	Dumpsters vary each cleanup, along with discounts. Budget projects need for 20 dumpsters priced at \$700.	\$4,000.00	\$10,000.00	\$14,000.00
Garbage Bags	Large bags for trash removal	\$450.00	\$200.00	\$650.00
KTMB Truck for Site Surveying/Event Implementation	Fuel & Maintenance/Mileage	\$350.00	\$200.00	\$550.00
Trash Pickers	ULINE - 32" (\$6-8/picker)	\$500.00	\$0.00	\$500.00
Project Supplies	Tools, tree wrap, paint, masks, gloves, etc., tool maintenance	\$750.00	\$2,250.00	\$3,000.00
Project Posters	NV Energy donation 100 posters	\$0.00	\$227.00	\$227.00
Les Schwabe Tire	Tire recycling	\$0.00	\$1,000.00	\$1,000.00
Sub-Total		\$6,810.00	\$14,297.00	\$21,107.00
VOLUNTEER COORDINATION				
Volunteer Food & BBQ	Supported in part by Savemart	\$1,000.00	\$1,500.00	\$2,500.00
Event Signage	Signs and banners	\$300.00	\$400.00	\$700.00
Volunteer Appreciation Item	Appx. 1000 items	\$2,000.00	\$2,000.00	\$4,000.00
Health Permit for Picnic	Washoe County Health District	\$200.00	\$0.00	\$200.00
Volunteer Project Leader Thank you	appx 120 items	\$2,000.00	\$2,000.00	\$4,000.00
Public Education	Radio/TV/PSAs/Post Cards/Bumper Stickers - increase in requested amount from 2021's proposal will increase TV PSA's in 2022	\$4,500.00	\$1,500.00	\$6,000.00
Zero Waste Supplies	Serving ware, utensils, signage	\$500.00	\$200.00	\$700.00
Volunteer Provisions	bars, snacks, soda, Nature's Bakery	\$0.00	\$1,000.00	\$1,000.00
Sub-Total		\$10,500.00	\$8,600.00	\$19,100.00
Total TRC 2023 Request		\$37,434.00	\$92,257.00	\$129,691.00
<i>Adult and Youth Education & Community Outreach</i>				
COORDINATION & IMPLEMENTATION				
Keep Truckee Meadows Beautiful	Project, Partner, and Volunteer Management (125 hours)	\$4,600.00	\$3,250.00	\$7,850.00
Sub-Total		\$4,600.00	\$3,250.00	\$7,850.00
STEWARDSHIP & ENVIRONMENTAL AWARENESS				
Education and Outreach Supplies	Educational Resources (handouts, literature, etc.), KTMB promotional items	\$2,000.00	\$2,000.00	\$4,000.00
Sub-Total		\$2,000.00	\$2,000.00	\$4,000.00
Total Education and Outreach Request		\$6,600.00	\$5,250.00	\$11,850.00
<i>Adopt-A-River</i>				
COORDINATION & IMPLEMENTATION				

Keep Truckee Meadows Beautiful	Project, Partner, and Volunteer Management	\$6,052.32	\$29,250.00	\$35,302.32
Mileage	to and from events	\$250.00	\$0.00	\$250.00
Volunteer Hours	200 volunteers x 1.5 hours x \$28.50/hour	\$0.00	\$8,550.00	\$8,550.00
Total Adopt-A-River Request		\$6,302.32	\$37,800.00	\$44,102.32
TOTAL REQUEST		\$91,160.32	\$249,194.00	\$340,354.32

	cash	in kind
staff time	\$58,500.00	\$ 40,720.00
volunteer time		\$ 84,000.00
cash support	\$40,294.00	

Watershed Coalition Building

Truckee River Fund- Fall 2023

One Truckee River

Lynn Zonge
P.O. Box 18153
Reno, NV 89511

O: 775-450-5489

Iris Jehle-Peppard

P.O. Box 18153
Reno, NV 89511

iris@onetruckeeriver.org
O: 775-450-5489

Application Form

Grant Priorities

TMWA recommends that the Advisors give preference to well-prepared and thought out grant requests for projects and programs that mitigate substantial threats to water quality and the watershed, particularly those threats upstream or nearby treatment and hydroelectric plant intakes:

- I. **Aquatic Invasive Species (AIS):** Projects/Programs that support the prevention or control of aquatic invasive species in the main stream Truckee River, Lake Tahoe, other tributaries and water bodies in the Truckee River system.
- II. **Watershed Improvements:** Projects that reduce erosion or sediment, suspended solids, or TDS discharges to the River. Projects or programs that are located within 303d (impaired waters) sections of the River should be considered, both in California and Nevada. Innovative techniques should be encouraged.
- III. **Local Stormwater Improvements:** Projects that are well designed which mitigate storm water run-off due to urbanization of the local watershed. Priority should be given to those improvement projects in close proximity to TMWA's water supply intakes and canals and which will improve the reliability and protect the quality of the community's municipal water supply.
- IV. **Re-Forestation and Re-Vegetation Projects:** Projects to restore forest and upland areas damaged by fire and historical logging operations, and to improve watershed resiliency in drought situations. Projects/programs in this category should be given a high priority due to urbanization of the watershed and increased susceptibility of the urban and suburban watershed to wildfire.
- V. **Support to Rehabilitation of Local Tributary Creeks and Drainage Courses:** Practical projects to support water quality improvement in Gray Creek, Bronco Creek, Mogul Creek, Chalk Creek, Steamboat Creek and the North Truckee Drain.
- VI. **Stewardship and Environmental Awareness:** Support to Clean-Up programs and the development and implementation of educational programs relative to water, water quality and watershed protection.
- VII. **Meet Multiple Objectives:** Projects/Programs should identify opportunities to meet multiple water quality and watershed objectives as outlined above with preference given to those achieving multiple benefits.
- VIII. **Leverage Stakeholder Assets and Participation:** Projects/Program selection should include an assessment of various stakeholder interests in all aspects of river water quality, watershed protection, source water protection and species enhancement thereby leveraging available funds and other assets.

Note: For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria at lrenda@nevadafund.org

Organization Information

Organization Name*

One Truckee River

Organization Type*

501(c)(3) Nonprofit

EIN

If the organization is a 501c3, please include the EIN#.

20-3378838

Director of Organization*

Iris Jehle-Peppard

Project Contact Name*

Iris Jehle-Peppard

Project Contact Postion/Title*

Executive Director

Project Contact Email*

iris@onetruckeeriver.org

Project Contact Phone Number*

775-450-5489

Organization Mission*

One Truckee River's mission is to ensure a healthy, thriving, sustainable Truckee River connected to the hearts and minds of its community.

Project Information

Project Title*

Name of Project.

Watershed Coalition Building

Amount Requested*

\$135,138.00

Project Start Date*

11/01/2023

Project End Date*

10/31/2024

This funding will be used to:*

Complete this sentence with a max of 2 sentences.

Continue to 1) Lead, coordinate, and resource the One Truckee River partnership; and 2) increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners.

This project is on:*

Check all that apply

Public land

Are government permits or decision documents needed for the project?*

No

If so, are those permits and decision documents already secured?

If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements provide a list of permits and documents needed and a schedule for securing them.

Previous Funding from Truckee River Fund

Has your organization received other grants from the Truckee River Fund?*

Yes

If yes, please include the following information for all previously funded projects:

- *Date awarded*
- *Project # and Title*
- *Amount of award*

Please attach additional pages as needed to list ALL previously funded projects.

Please include the following information for all previously funded projects: *Note: In 2020, One Truckee River transitioned to its long-term home, the 501 (3) nonprofit, Truckee River Foundation from the fiscal agent Nevada Land Trust.

Funding to One Truckee River through the Truckee River Foundation

Date awarded: September 26, 2022

Project # and Title: TRF #268 – OTR Brodhead Park Restoration Project: Phase II

Amount of award: 79,791.33

Date awarded: March 17, 2021

Project # and Title: One Truckee River Partnership and engagement with the public

Amount of award: \$196,590

Date awarded: September 16, 2021

Project # and Title: TRF #254 – One Truckee River Brodhead Park Restoration Project: Phase 1

Amount of award: \$69,724

Date awarded: September 16, 2021

Project # and Title: TRF #253 – OTR's River-Friendly Landscaping Program Expansion

Amount of award: \$48,000

Funding to One Truckee River through the fiscal agent Nevada Land Trust

Date awarded: August 13, 2020

Project # and Title: TRF #235 - One Truckee River Overall Support and Restroom Attendant

Amount of award: \$74,293

Date awarded: August 16, 2019

Project # and Title: TRF #221: River Restroom Project

Amount of award: \$124,976

Date awarded: March 22, 2017

Project # and Title: TRF #188: One Truckee River – Phase 1 Action

Amount of award: \$256,220

Date awarded: September 23, 2016

Project # and Title: TRF #180: One Truckee River – Phase 1 Implementation

Amount of award: \$98,534

Date awarded: March 21, 2012

Project # and Title: TRF #104: Washoe Drive Fire Stabilization and Restoration Effort

Amount of award: \$115,000

Date awarded: December 12, 2011

Project # and Title: TRF #99: Caughlin Fire Emergency Watershed Stabilization & Restoration Effort
Amount of award: \$219,856

Date awarded: October 11, 2011

Project # and Title: TRF #90: Weed Treatments & Revegetation, Truckee River & Tributaries
Amount of award: \$127,500

Date awarded: July 21, 2009

Project # and Title: TRF #70: Weed Treatments & Revegetation, Truckee River & Tributaries
Amount of award: \$125,000

Date awarded: July 21, 2009

Project # and Title: TRF #66: Scope of Work for Truckee River Ecosystem Restoration Coordination, Creation of a Five-Year Weed Control and Restoration Plan for the Truckee River
Amount of award: \$10,000

Date awarded: July 17, 2008

Project # and Title: TRF #46: Weed Treatments & Revegetation, Truckee River & Tributaries
Amount of award: \$112,500

Description of Project Under Consideration

Indicate the description that best fits the project you are proposing*

Mark no more than three categories.

- A. Projects that improve bank or channel stabilization and decrease erosion.
- B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- C. Projects that remove pollution from the Truckee River.
- D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.
- E. Other projects that meet the evaluation criteria.

C.)

E.)

Narrative Requirements

1.) Specific project goals and measurable outcomes and how you will measure and report them.*

All projects are required to have measurable outcomes.

Project Goal 1: Lead, coordinate, and fundraise for the One Truckee River partnership.

Goal 1 Measurable Outcomes: a) OTR will track detailed engagement of OTR Partnership Council, OTR Oversight Committee, and OTR Goal Groups in meetings and other activities. In addition, meetings with partners, other relevant entities, and the public related to projects to protect the Truckee River led and coordinated by OTR will be tracked with Salesforce CRM; b) Provide two opportunities for OTR Partnership Council, OTR Technical Working Group (TWG) focused on vegetation management, and local elected officials to raft the Truckee River in the Reno/Sparks urban core to network with each other and observe river conditions together; and c) OTR will apply for funding to further the implementation of the OTR Management Plan.

How Goal 1 Outcomes will be Measured: a) OTR will conduct two OTR Partnership Council meetings (15 OTR partner agencies participating), two OTR Oversight Committee meetings (10 OTR partner agencies participating), eight OTR Groups Group meetings organized (three to 10 OTR partner agencies participating depending on the Goal Group size). In addition, OTR estimates 8 additional meetings with partners, other relevant entities, and the public related to protecting the Truckee River; b) Coordinate, lead, and complete two rafting trips with the participation of at least 10 members from OTR Partnership Council, OTR TWG, or local elective officials; and c) OTR Proposal Writing Team will apply for \$300K to \$500K in funding to further the implementation of the OTR Management Plan.

Project Goal 2: Increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners.

Goal 2 Measurable Outcomes: a) Monthly social media content planned and executed with 1 post per week distributed across three OTR social media platforms (Facebook, Instagram, and LinkedIn) about the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners; b) 1-2 posts boosted per month to increase OTR social media followers and to drive OTR social media followers to OTR website to learn more about OTR River-Friendly Living practices and to encourage private donations to support OTR projects underway; and c) 4 newsletters and blogs created and published on OTR website, through email newsletters, and via social media to increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners. Newsletters will include River-Friendly Living blog content, OTR organizational updates, and promotion of River-Friendly Living practices, encouraging readers to continue to learn and participate in River-Friendly activities offline. General website updates and maintenance to reflect organizational updates, newsletters and blog content.

How Goal 2 Outcomes will be Measured: Goal 2 efforts will be measured with online analytics data: a) 1 post a week for 52 weeks distributed through three OTR social media platforms (Facebook, Instagram, and LinkedIn) equaling a total of 156 individual posts; b) Specific analytics data including number of total followers, post impressions, and post engagements will be captured and reviewed monthly to measure effectiveness of posts and inform future content; and c) OTR increases its social media followers overall by 2% per month. People who engage with OTR's River-Friendly living content online will increase by 20% overall.

2.) Describe the project location.*

The Truckee River corridor in the Reno/Sparks urban core.

3.) Project Description*

Include site map and aerial photos if applicable/possible as an attachment.

N/A

4.) Grant priorities*

Explain how the proposed project advances the TRF's specific grant priorities.

OTR's proposed Project supports Truckee River Fund's Grant Priorities: IV. Local Stormwater Improvements, VII. Stewardship and Environmental Awareness, and IX. Leverage Stakeholder Assets and Participation.

Local Stormwater Improvements: OTR's Watershed Coalition Building efforts develop project concepts, partners, and fundraises to implement projects developed under OTR's Watershed Coalition efforts to mitigate stormwater runoff to the Truckee River in the Reno/Sparks urban core. Some current OTR projects developed, funded, and underway due to our Watershed Coalition efforts include OTR's River-Friendly Living demonstration garden at Lake Park in Reno, OTR's Water Trail work to install a third Portland Loo at Reno's City Plaza in spring of 2024, and OTR's Urban Restoration effort leading – in collaboration with Nevada Land Trust – a Technical Working Group focused on regional coordinated vegetation management and future restoration projects along the Truckee River in the Reno/Sparks urban core.

Stewardship and Environmental Awareness: OTR's Watershed Coalition Building efforts include online education targeting adults in the Truckee Meadows to increase their understanding of the importance of the Truckee River and actions each resident can make to support watershed protection through OTR's River-Friendly Living online material and social media posts that can be found at <www.onetruckeeriver.org/river-friendly-living> .

Leverage Stakeholder Assets and Participation: OTR's foundational strategy is to assess various stakeholder interests related to protecting the Truckee River and work to leverage interests and funding to further the implementation of the OTR Management Plan. OTR is a collaboration of public and private partners focused on the implementation of the OTR Management Plan that was unanimously adopted by Washoe County, City of Reno, City of Sparks, and Western Regional Water Commission. The OTR Plan describes over 100 action items devoted to protecting the Truckee River and working to meet multiple objectives. In 2017, the OTR Partnership Council prioritized nine action items, four of them under Goal 1 to ensure and protect water quality and ecosystem health in the Truckee River. The four prioritized OTR Goal 1 action items are:

Action Item 1.1.a) Identify location of all high-volume storm drains and the largest storm water contributions to the Truckee River. Underway. OTR is in coordination with Truckee Meadows Regional Planning Agency to completion.

Action Item 1.2.a) Develop Truckee River Watershed Management Plan through stakeholder coordination and consensus processes. Completed. The Watershed Management and Protection Plan for Tributaries to the Truckee River by Truckee Meadows Stormwater Permit Coordinating Committee and 2020 Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows by Nevada Division of Environmental Protection is completed.

Action Item 1.3.c) Ensure adequate public restrooms along the Truckee River. Initiate a pilot study of temporary restroom facilities in priority areas along the river corridor. Pilot completed and work continues to increase public restrooms along the Truckee River. OTR is in coordination with Truckee Meadows Water Authority, Nevada Division of Environmental Protection, Washoe County, and the City of Reno to continue to install and explore future locations for more public restrooms along the Truckee River.

Action Item 1.4.c) Develop and implement a coordinated vegetation management plan along the river. Underway. In 2020, OTR's regional collaborations expanded with OTR's key partner, Nevada Land Trust. An OTR's Technical Working Group (TWG) was formed, including 16 local entities with authority or interest in vegetation management along the Truckee River in Nevada. OTR's TWG focuses on improving the overall ecologic function of the Truckee River system. In 2022, OTR's TWG completed an OTR Framework Vegetation

Management and Restoration Plan for the urbanized reach of the Truckee River from Crystal Peak Park to Vista Narrows. The Plan is now a living document that the OTR partnership is piloting with a regional condition assessment underway in the summer of 2023. Already identified by OTR partners and underway is an urban restoration project at Brodhead Park in the City of Reno. Now, the OTR partnership is focused on needs identified by Washoe County along the Truckee River including proposed restoration work at Dorostkar Park.

5.) Permitting*

Provide a permitting schedule for your project along with your plan for getting the required permits and decision documents. Be sure to include the cost of permitting/decision documents as a line item in your budget.

N/A

6.) Future Land Use*

List any known or foreseeable zoning, land use, or development plans that may affect your proposed project.

N/A

7.) If future phases of the project will be needed, identify anticipated sources of funding.*

OTR continues to look for additional funding sources for OTR operations and to further the implementation of the OTR Management Plan. We have secured three awards from Western Regional Water Commission to support OTR's operations and watershed coalition building efforts. From September of 2020 to June 2023, OTR secured \$1,136,648, applications pending for \$6,641,545 to support OTR operations and further the implementation of the OTR Management Plan to protect the Truckee River.

8.) Identify the principals involved in leading or coordinating the project or activity.*

Iris Jehle-Peppard, OTR's Executive Director will lead and coordinate the Project activities with support from outside consultants.

9.) Number of staff positions involved in project.*

Identify how many staff will be full-time and how many will be part-time.

"Fulltime" means 100% of their staff position will be dedicated to this project; "part-time" means only a portion of their staff position will be dedicated to this project.

0 Full-time staff and 6 part-time staff.

10.) Number of volunteers involved in project and an estimated number of volunteer hours.*

30 OTR partner volunteers, each eight hours a year, participating in OTR meetings and other activities, equaling a total of 240 hours volunteered to OTR's Project goals

11.) Timeline of Project*

List key dates and include project milestones. Note: Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.

***Note: Funding will not be provided for work performed prior to grant approval.*

OTR's Project Timeline:

Project Goal 1: Lead, coordinate, and fundraise for the One Truckee River partnership

Q4 2023 – One OTR Partnership Council meeting will be conducted.

Q1 2024 – One OTR Oversight Committee meeting and four OTR Goal Group meetings will be conducted.

Q2 2024 – One OTR Partnership Council meeting conducted. Two OTR rafting trips will be conducted.

Q3 2024 - One OTR Oversight Committee meeting and four OTR Goal Group meetings will be conducted.

When additional meetings with partners, other relevant entities, and the public occur will depend on OTR partners' interest and proposed projects' needs. OTR application submitted for funding to further implementation of the OTR Management Plan will depend on funders' requests for proposals and projects' needs.

Project Goal 2: Increase the public's understanding of the Truckee River, OTR River-Friendly Living practices, and efforts underway to protect the Truckee River led by OTR and its partners.

Project Goal 2 outcomes will start November 1, 2023 and end October 31, 2024 and run continually on a weekly and monthly basis as detailed in the Specific project goals and measurable outcomes section.

12.) What factors will indicate a successful project?*

Immediate success will be evident if we meet the measurable outcomes for each goal from metrics detailed earlier in this application.

13.) Collaboration*

List partnerships or collaborations with other entities in relation to your proposal, if any.

The proposed Project will collaborate with the following OTR Partnership Council agencies: City of Reno Parks & Recreation, City of Reno Police Department, City of Reno Public Utilities, City of Reno Public Works, City of Sparks, Desert Research Institute, Keep Truckee Meadows Beautiful, Nevada Department of Wildlife, Nevada Division of Environmental Protection, Nevada Housing Coalition, Nevada Land Trust, Pyramid Lake Paiute Tribe, Regional Transportation Commission of Washoe County, Reno Initiative for Shelter and Equality, Reno-Sparks Indian Colony, Sierra Nevada Journeys, Tahoe Pyramid Trail, The Nature Conservancy, Truckee Meadows Parks Foundation, Truckee Meadows Regional Planning Agency, Truckee Meadows Trails, Truckee Meadows Water Authority, Truckee River Flood Management Authority, Washoe County Health

District, Washoe County Human Service Agency, Washoe County Manager Office, Washoe County Regional Parks and Open Space, and Western Regional Water Commission.

Grant Match

All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. For larger grant requests, priority will be given to projects that significantly leverage the grant with funding from other sources.

Total grant match to be provided.*

\$45,052.00

Cash

\$45,052.00

For the cash portion, is the funding already being held by the applicant for this project?

No

In-kind

***Note: Provide an itemized breakdown of volunteer match in your budget with rationale.*

\$0.00

Description of matching funds/in-kind donations.*

Funding from Western Regional Water Commission awarded to OTR for 2023-2024 will provide 25% in-kind match totaling \$45,052.

Attachments

Nonprofits must submit:

- Last audited financial statements if your organization has been audited
- List of Board of Directors
- Copy of agency's IRS 501(c)(3) Tax Determination Letter
- Copy of the agency's most recent IRS Form 990

****Please submit as one PDF document**

2023-07-28-OTR-Board-Forms-Combined.pdf

Governmental entities must submit:

- Departmental budget in lieu of audited financial statements

Project Budget*

*Provide detail on line-item expenditures and show which costs are to be paid for by the Truckee River Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services. Other sources of funding should be provided. **A sample budget template is provided below.***

****Note:** *Indirect/overhead expenses cannot exceed 25 percent; TRF may fund indirect/overhead up to 25% based on availability of funds. Applicants should be prepared to provide reduced budgets during the review of applications by the TRF Board when funds are limited.*

Grants from the Truckee River Fund are paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

2023-24-OTR-TRF-Watershed-Coalition-Building-Budget.pdf

Sample Budget Template

ORIGINAL PROJECT BUDGET					REIMBURSEMENT REPORT	
Budget Item	Description* TRF \$	Other Funding Name**	Match \$	Total	Expenditures to date TRF	Expenditures to date (other sources)
Design/Engineering	\$xx,xxx	Agency X	-	\$xx,xxx	\$xx,xxx	
Permitting	\$xx,xxx	Agency X	\$x,xxx	\$x,xxx		\$x,xxx
Labor--paid	\$x,xxx	Agency X	\$x,xxx	\$x,xxx	\$x,xxx	
Labor--volunteer (\$20/hr)		Own people	\$xx,xxx	\$xx,xxx	\$x,xxx	
Construction	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Materials	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Other (be specific)	\$xx,xxx	Agency Y	\$xx,xxx	\$xx,xxx		
Overhead (max. 25%)	\$xx,xxx	Own agency	\$xx,xxx	\$xx,xxx		
TOTAL	\$xxx,xxx		\$x,xxx	\$xxx,xxx	\$xx,xxx	\$x,xxx

**Explain status of other funding if not in hand.

*These are sample descriptions.

If project is to be implemented in phases, please separate budget into each phase.
Indirect costs may not be counted as match.

Grantee Requirements & Project Evaluation Criteria

GRANTEE REQUIREMENTS

To be eligible for funding, grantees must adhere to the following requirements:

- Funds are to be used and/or disbursed exclusively for the charitable uses and purposes.
- The Fund shall be used exclusively for projects that protect and enhance water quality or water resources of the Truckee River, or its watershed.
- The Charitable Beneficiaries may include 501(c)(3) organizations and governmental entities. Any grants to governmental entities must be made exclusively for public benefit purposes.
- All grantees will be required to sign a grant agreement stipulating their agreement with all of the terms, conditions, and reporting requirements.
- Organizations or entities sponsoring proposals are prohibited from ex parte communications regarding such proposals with members of the Truckee River Fund Advisory Committee while such proposals are pending before the Committee, and such communications may be grounds for rejecting a proposal.
- To maintain eligibility to receive grant funds, each Charitable Beneficiary must comply at all times with the following requirements:

1. Charitable Beneficiaries must be exempt from federal income taxation under Section 501(c)(3) of the Code;

Charitable Beneficiaries shall use all Fund distributions toward projects that are appropriate and legal public expenditures;

Charitable Beneficiaries must provide financial details and/or reports of their organizations upon request;

Charitable Beneficiaries must not use any Fund distributions for political contributions or political advocacy;

Charitable Beneficiaries must either implement the projects, activities, and/or programs for which they received Fund distributions within six months of the date in which such distributions are received or by date(s) as agreed upon in the grant acceptance agreement, or must return all such distributions to the Community Foundation forthwith;

Charitable Beneficiaries must provide the Community Foundation a report detailing the completion of their projects, activities, and/or programs; and

Charitable Beneficiaries must sign an agreement regarding their compliance with the qualifications hereof.

PROJECT EVALUATION

Each proposal will be evaluated on criteria that include but are not limited to:

- Measurable outcomes in accordance with stated grant priorities.
- Readiness of sponsoring organization to undertake and complete project.
- Consistency with established Truckee River operations.

- Impact on other River stakeholders.
- Absence of negative or unintended consequences.
- Solutions to known problems as identified through past research.
- Prior performance on grants from the Truckee River Fund.

The Nature Conservancy & Truckee River Watershed Council have conducted assessments of Truckee River and Donner Lake watersheds and have presented their findings to the Truckee River Fund advisory committee. The results may influence the advisors' decision-making during proposal review. Copies of the assessments are available at www.truckeeriverfund.org.

File Attachment Summary

Applicant File Uploads

- 2023-07-28-OTR-Board-Forms-Combined.pdf
- 2023-24-OTR-TRF-Watershed-Coalition-Building-Budget.pdf

One Truckee River Board of Directors

As of 2023-07-28 07:40:34 Pacific Standard Time/PST • Generated by Iris Jehle-Peppard • Sorted by Last Name (Descending)

Salutation	First Name	Last Name	Phone	Email	Position
Ms.	Lynn	Zonge	(775) 720-5872	lynnzonge3@gmail.com	President
Ms.	Sonia	Folsom	(775) 834-8002	sfolsom@tmwa.com	Vice President
Ms.	Christi	Cakiroglu	(775) 815-6885	persistentchristi@gmail.com	Treasurer
Ms.	Angela	Fuss	(775) 334-2585	fussa@reno.gov	Secretary
Ms.	Alicia	Reban	(775) 742-5332	a.reban@nevadalandtrust.org	Board Member
Ms.	Danielle	Henderson	(775) 221-5375	dhenderson@washoecounty.gov	Board Member
Total	Count	6			

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STAFF REPORT

TO: Board of Directors
FROM: John R. Zimmerman, General Manager
DATE: September 11, 2023
SUBJECT: **General Manager's Report**

Attached please find the written reports from the Management team including the Operations Report (*Attachment A*), the Water Resource and the Annexation Activity Report (*Attachment B*), and the Customer Services Report (*Attachment C*).

Since TMWA's last board meeting, TMWA has issued one emergency procurement under NRS 332.112. This emergency procurement, August 9, 2023, totaled \$8,483.00 which was used to repair a high-pressure main break in Mt. Rose-Galena Fan area. Gerhardt & Berry were called in to assist with a two-inch saddle tap at Austrian Pine pressure regulator system and backfilling after the main repair which was nine-feet deep.

Also, listed below are news clippings from August 8 through September 11, 2023:

- 08/10/23 [TMWA Working on Large Water Main Break on Mt. Rose Highway](#) KRNV
- 08/09/23 [Top Legislators Meet at Lake Tahoe Summit](#) KTVN
- 08/10/23 [Service Restored to Mt. Rose Area](#) KOLO
- 08/13/23 [Water Conservation at the Forefront of Nevada's Economic Future](#) Las Vegas Review Journal
- 08/15/23 [Senators Announce Grant Funding for Nevada Tribes](#) (Pyramid Lake Water Quality)
- 08/09/23 [Reno Investing in Unique Reuse Techniques for Future Water Supplies](#) (AWWA)
- 08/18/23 [Reno Is Preparing To Turn Its Wastewater Into Drinking Water](#) (NPR-Science Friday)
- 08/23/23 [Reno City Council Approves TMWRF Dewatering Project](#) City of Reno
- 08/25/23 [Reno is Home to Urban Heat Islands that Affect Life and Work](#) KUNR
- 08/29/23 [In a Burn Scar in Sierra Nevada, Green Glaciers Hold Key to Health](#) KVPR
- 08/31/23 [Transforming Reno with LEED](#) (Sustainability Manager Interview) LEED
- 09/01/23 [Nevada Update on Drought for August](#) Nevada today
- 09/04/23 [New Federal Water Pollution Rule Draws Mixed Reaction](#) Thisisreno
- 09/09/23 [Middle Truckee Watershed Awarded \\$8 Million to lower Wildfire Risk](#) Yuba.net
- Yuba.net 09/10/23 [Interior Dept. makes \\$180 million available for large scale recycling projects](#) Wastewater Magazine
- 09/10/23 [Fire Restrictions Lifted for Most of Western Nevada](#) KRNV
- 09/10/23 [City Asked to Approve \\$3.5 Verdi Annexation Settlement Law Suit](#) KOLO TV
- 09/10/23 [August Rains Clears Drought for ¾ of Nevada](#) RGJ



STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: John Enloe, Director Natural Resources
BY: Bill Hauck, Water Supply Supervisor
DATE: September 01, 2023
SUBJECT: **September 2023 Water Operations Report**

SUMMARY

- The region is in a great position from a water supply perspective as we head into the fall.
- Lake Tahoe storage is still in great shape @ 81% of capacity.
- Total combined Truckee River reservoir storage is ~84% of capacity.
- TMWA's privately-owned storage reservoirs (Donner and Independence) are still full at 96% and 99% of capacity, respectfully (@ 26,509 AF).
- TMWA also has 11,677 AF stored under the terms of TROA for a combined upstream storage total of ~38,186 AF.
- The system will be about as full as possible heading into the new water year.
- Normal river flows are likely for the next two to three years.
- Customer demand averaged 111 MGD through the last full week of August.
- Hydroelectric generation for August 2023 is estimated to be \$375,000 (@ 4,936 MWh).

(A) Water Supply

- **River Flows** - Truckee River discharge at the CA/NV state line was about 590 cubic feet per second (CFS) this morning. This is slightly above average, as the 114-year mean daily discharge for this day at Farad is ~477 CFS.
- **Reservoir Storage** - Overall Truckee River reservoir storage is ~84% of capacity. The elevation of Lake Tahoe is 6227.93 feet (~1.17' from full). Storage values for each reservoir as of September 1st are as follows:

Reservoir	Current Storage (Acre-Feet)	% Capacity (Percent)
Tahoe	600,700	81%
Boca	29,378	72%
Stampede	220,545	97%
Prosser	22,313	75%
Donner	9,119	96%
Independence	17,390	99%

In addition to the 26,509 acre-feet of storage between Donner and Independence reservoirs, TMWA also has about 11,677 acre-feet of water stored between Stampede and Boca reservoirs under the terms of TROA. TMWA’s total combined upstream reservoir storage as of this writing is 38,186 acre-feet.

- **Outlook** - The region could not be in a much better position as we approach fall and the start of a new water year. The Truckee River system will be about as full as possible going into this winter (with maximum carry over storage). This will help to provide a cushion should a drier year occur next winter. Normal river flows are likely over the next two to three years regardless of what happens this next winter and the water supply outlook really could not be much better than it is right now.

(B) Water Production

- **Demand** - The daylight hours are growing shorter, and the evenings and mornings are getting cooler as fall approaches. TMWA’s customer demand is beginning to taper off. Demand averaged one hundred eleven (111) million gallons per day (MGD) through the last full week of August. Surface water made up 85% of the supply, and groundwater pumping the other 15%.

(C) Hydro Production

Generation - The average flow in the Truckee River at Farad (CA/NV state line) during the month of August was 605 CFS. All three hydroelectric plants were on-line all month and available 100% of the time.

Statistics and generation for the month as follows:

Plant	Generation Days	% Availability	Generation (Megawatt Hours)	Revenue (Dollars)	Revenue (Dollars/Day)
Fleish	31	100%	1,869	\$142,371	\$4,593
Verdi	31	100%	1,730	\$130,560	\$4,211
Washoe	31	100%	1,435	\$109,538	\$3,533
Totals	93	-	5,034	\$382,469	\$12,339



STAFF REPORT

TO: Chairman and Board Members
THRU: John R. Zimmerman, General Manager
FROM: Eddy Quaglieri, Water Rights Manager
DATE: September 11, 2023
SUBJECT: **Water Resources and Annexation Activity Report**

RULE 7

Rule 7 water resource purchases and will-serve commitment sales against purchased water resources through this reporting period:

Beginning Balance		3,391.56 AF
Purchases of water rights	15.49 AF	
Refunds	0.00 AF	
Sales	-110.67 AF	
Adjustments	0.00 AF	
Ending Balance		3,296.38 AF

Price per acre foot at report date: \$7,900

FISH SPRINGS RANCH, LLC GROUNDWATER RESOURCES

Through the merger of Washoe County's water utility, TMWA assumed a Water Banking and Trust Agreement with Fish Springs Ranch, LLC, a subsidiary of Vidler. Under the Agreement, TMWA holds record title to the groundwater rights for the benefit of Fish Springs. Fish Springs may sell and assign its interest in these groundwater rights to third parties for dedication to TMWA for a will-serve commitment in Areas where TMWA can deliver groundwater from the Fish Springs groundwater basin. Currently, TMWA can deliver Fish Springs groundwater to Area 10 only (Stead-Silver Lake-Lemmon Valley). The following is a summary of Fish Springs' resources.

Beginning Balance		7,410.96 AF
Committed water rights	- 8.17 AF	
Ending Balance		7,402.79 AF

Price per acre foot at report date: \$45,753.75 (SFR and MFR); \$39,690 (for all other services)¹

¹ Price reflects avoided cost of Truckee River water right related fees and TMWA Supply & Treatment WSF charge.

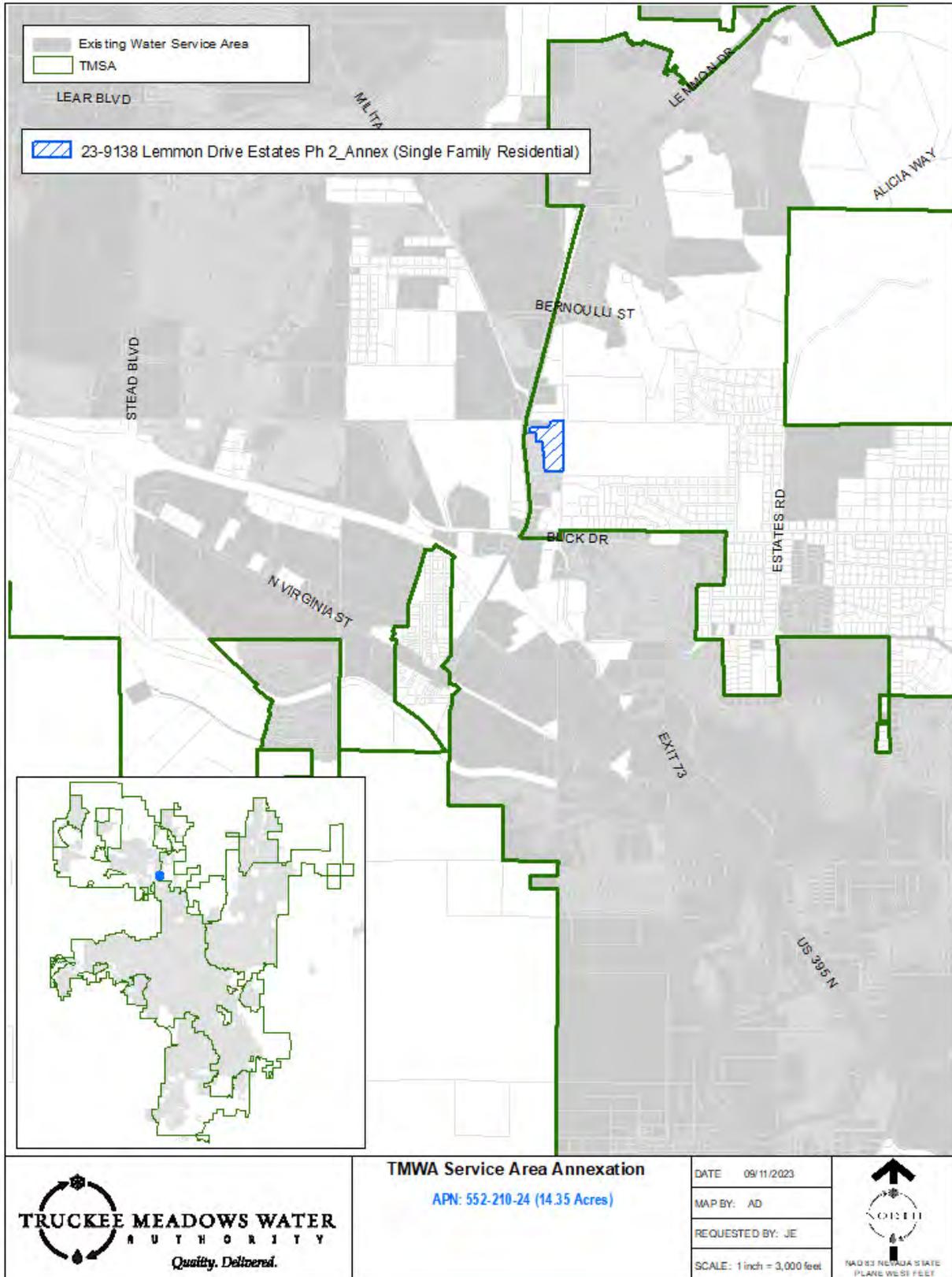
WATER SERVICE AREA ANNEXATIONS

Since the date of the last report, there have been 14.35 acres (Exhibit A) annexed into TMWA's service area.

INTERRUPTIBLE LARGE VOLUME NON-POTABLE SERVICE

No new ILVNPS customers have been added during this reporting period.

EXHIBIT "A"





STAFF REPORT

TO: Board of Directors
THRU: John R. Zimmerman, General Manager
FROM: Marci Westlake, Manager Customer Service
DATE: September 20, 2023
SUBJECT: **August Customer Service Report**

The following is a summary of Customer Service activity for August 2023

Ombudsman -Kim Mazeres

- Customer wants to know why the water line warranty program can't be paid for on the TMWA bill, rather than to a separate company. Called and explained it has to be paid directly to the provider.
- Wants to know if the service line warranty program is a legitimate company or a scam. Explained that yes it was legitimate.
- Customer wanted to know if the odd/even watering rule applied to drip systems. Customer talked to conservation and was informed that the rule applies to all outdoor watering.
- Customer had specific questions about the service line warranty program. Customer talked to the provider and got the answers they needed.

Communications- Public Outreach – August

- Lydia Teel and Robert Charpentier had a tour at the Reno Stead Water Reclamation Facility to talk about the American Flat project. 30 people attended for the tour and ten-minute presentation.
- Lydia Teel, Robert Charpentier, John Enloe, Nick White, Greg Pohll and Danny Rotter had an American Flat Public Meeting at the Stead Airport and 20 people attended.

Conservation (2023 Calendar year)

- 826 Water Usage Reviews
- 4,182 Water Watcher Contacts

Customer Calls – August

- 9,227 phone calls handled.
- Average handling time 5 minutes 01 seconds per call.
- Average speed of answer :17 seconds per call.

Billing –August

- 136,401 bills issued.
- 41,805 customers (30%) have signed up for paperless billing to date.

Remittance – August

- 33,680 Mailed-in payments.
- 25,061 Electronic payments
- 59,002 Payments via AutoPay (EFT)
- 16,061 One-time bank account payments
- 123 Store payments
- 654 Pay by Text
- 4,770 IVR Payments
- 814 Reno office Payments
- 23 Kiosk Payments

Collections – August

- 16,653 accounts received a late charge.
- 3,573 mailed delinquent notices, 0.03% of accounts.
- 828 accounts eligible for disconnect.
- 621 accounts were disconnected. (Including accounts that had been disconnected-for-non-payment that presented NSF checks for their reconnection)
- 0.14% write-off to revenue.

Meter Statistics – Fiscal Year to Date

- 1,306 Meter exchanges completed.
- 313 New business meter sets completed.