

HYBRID MEETING NOTICE

Joint Coordinating Committee

For The Truckee Meadows Water Reclamation Facility

DATE: November 1, 2023
TIME: 10:00 a.m.
PLACE: Truckee Meadows Water Reclamation Facility – Training Center
8500 Clean Water Way, Reno NV 89502

Public Notice: This Agenda is posted at Reno City Hall, Sparks City Hall, and the Washoe County Administration Complex. Further, in compliance with NRS 241.020, this notice has been posted to the official website for the City of Reno at www.reno.gov, the City of Sparks at <https://cityofsparks.us/>, and a link to this agenda has been posted to the State of Nevada website at <https://notice.nv.gov>. To obtain further documentation regarding posting, please contact Leslie Griffin at Reno City Hall, 1 East 1st Street, 7th Floor, Reno, NV 89501, or at griffinl@reno.gov.

Members of the Committee may participate in this meeting using the zoom video conference platform.

Members of the public may participate in the meeting by registering through the below zoom link which will provide the meeting ID number and call-in phone number.

Virtual link: https://us06web.zoom.us/meeting/register/tZclduyvpjsuHtUkRy0Pvv5dG4x_CrLKBqGh

In Person: Truckee Meadows Water Reclamation Facility – Training Center
8500 Clean Water Way, Reno NV 89502

Supporting Material: The designated contact to request support materials is Leslie Griffin, 1 East First Street, 7th Floor, 775-657-4595. Support materials are also available at the scheduled meeting.

Order of Business: Section titles on this agenda are for convenience and reference purposes and are not intended to define, govern, limit, modify or in any manner affect the titles of the items listed for consideration by the Committee. A time listed next to a specific agenda item indicates that the specific item will not be heard before that time – it does not indicate the time schedule of any other item. Items on the agenda may be removed, postponed, taken out of order and the Committee may combine two or more agenda items for consideration.

Accommodations: Committee and staff will make reasonable efforts to assist and accommodate persons with physical disabilities desiring to attend the meeting. If you require special arrangements for this meeting, please call 334-4230 prior to the date of the meeting.

Public Comment:

In-Person

A person wishing to address the public body shall submit a “Request to Speak” form to the presiding officer. Public comment, whether on items listed on the agenda or general public comment, is limited to three (3) minutes per person. Unused time may not be reserved by the speaker, nor allocated to another speaker. No action may be taken on a matter raised under general public comment until the matter is included on an agenda as an item on which action may be taken.

Virtual

No action may be taken on a matter raised under general public comment until the matter is included on a subsequent agenda as an action item.

Pursuant to NRS 241.023, those wishing to submit public comment may do so by sending an email to chewh@reno.gov, by leaving a voicemail at 775-531-7222 or at the meeting during virtual public comment. Public comment is limited to three (3) minutes per person. Voicemail Comments received prior to 4:00 p.m. on the day preceding the meeting will be transcribed, provided to the Committee for review, and entered into the record. Comments received after 4:00 pm on the day preceding the meeting will be provided to the Committee for review prior to adjournment, and entered into the record. Email comments will be provided to the Committee for review prior to adjournment, and entered into the record.

AGENDA

1. Call Meeting to Order.
2. Roll Call.
3. PUBLIC COMMENT – This item is for either public comment on any action item or for general public comment and is limited to no more than **three (3) minutes** for each commentator.
4. Approval of Agenda – November 1, 2023. (For Possible Action)
5. Approval of Minutes for August 2, 2023, JCC Meeting (For Possible Action)
6. Informational Management Reports from TMWRF Management Team (For Information Only):
 - a. Safety Update – Plant Manager
 - b. Staffing Update – Plant Manager
 - c. FY 24 Budget-to-Actual as of September 30, 2023 – Plant Manager
 - d. The Influent flow split - Plant Manager
 - e. Ongoing Operations activities including status of processes - Operations Manager
 - f. Ongoing process and chemical optimization – Plant Manager
 - g. Ongoing Maintenance activities - Maintenance Manager
7. Update and discussion regarding compliance with the allowable Total Nitrogen (TN), Total Phosphate (TP) and Total Dissolved Solids (TDS) discharges in accordance with the National Pollutant Discharge Elimination System permit issued by Nevada Division of Environmental Protection (NDEP) by the Plant Manager. (For Information Only)
8. Update and discussion on the TMWRF Capital Improvement Program (CIP) progress by the City of Reno TMWRF CIP Team. (For Information Only)
9. Review and approval of the draft 1-Year Capital Improvement Program reallocation for Fiscal Year 2024 or direction thereon. (For Possible Action)
10. Identification of future agenda items. (For Information Only)
11. Discussion and Direction regarding setting the next meeting date as February 7, 2024. (For Possible Action)
12. PUBLIC COMMENT – This is for general public comment limited to items that do not appear on the agenda and is limited to no more than **three (3) minutes** for each commentator. Pursuant to NRS 241.020, no action may be taken upon a matter raised under this item until the matter has been specifically included on an agenda.
13. Adjournment. (For Possible Action)

MINUTES

JOINT COORDINATING COMMITTEE (JCC) FOR THE TRUCKEE MEADOWS WATER RECLAMATION FACILITY (TMWRF) Wednesday, August 2, 2023

The Joint Coordinating Committee (JCC) meeting was hybrid using Zoom and meeting in person at Truckee Meadows Water Reclamation Facility - Training Center at 8500 Clean Water Way, Reno NV and conducted the following business:

1. Call Meeting to Order

The meeting was called to order by Chair Michael Drinkwater at 10:00 a.m.

2. Roll Call - A quorum was present.

Committee Members Present

Donald Abbott	Council Member, City of Sparks
Jeff Cronk	Finance Director, City of Sparks
Michael Drinkwater	Community Services Director, City of Sparks
John Flansberg	Regional Infrastructure Administrator, City of Reno
Trina Magoon	Director of Utility Services, City of Reno
John Martini	Assistant City Manager, City of Sparks
Chris Melton	General Manager, SVGID
Matt Taylor (proxy for Van Buren)	Assistant Finance Director, City of Reno

Members Absent

Jenny Brekhuis	Council Member, City of Reno
Vicki Van Buren (proxy present)	Finance Director, City of Reno
David Solaro	Assistant County Manager, Washoe County

Staff Present

Susan Ball Rothe	Deputy City Attorney, City of Reno
Matt Smith	Senior Civil Engineer, City of Reno
Haley Chew	Associate Civil Engineer, City of Reno
Casey Mentzer	TMWRF Plant Manager
Paul Shapiro	TMWRF Safety Coordinator
Rick Breese	TMWRF Operations Manager
Amy Egan	TMWRF Lab Manager
Jerry Kingery	TMWRF Maintenance Manager

3. Public Comment

None

4. Approval of Agenda – August 2, 2023 (For Possible Action)

IT WAS MOVED BY MEMBER MARTINI, SECONDED BY MEMBER FLANSBERG, TO APPROVE THE AGENDA. THE MOTION CARRIED UNANIMOUSLY WITH EIGHT MEMBERS PRESENT.

5. Approval of Minutes for May 31, 2023 JCC Meeting (For Possible Action)

IT WAS MOVED BY MEMBER MARTINI, SECONDED BY MEMBER MELTON, TO APPROVE THE MINUTES. THE MOTION CARRIED UNANIMOUSLY WITH EIGHT MEMBERS PRESENT.

6. Nomination and election of Chairman for the Fiscal Year 24/25 (For Possible Action)

IT WAS MOVED BY MEMBER FLANSBERG, SECONDED BY MEMBER DRINKWATER, TO ELECT MEMBER MAGOON AS CHAIR. THE MOTION CARRIED UNANIMOUSLY WITH EIGHT MEMBERS PRESENT.

7. Informational Management Reports from TMWRF Management Team:

a. Safety Update – Safety Coordinator

Paul Shapiro, TMWRF Safety Coordinator, reported they got through the winter with no slip and fall injuries. There have been 8 reported incidents with no lost time injuries.

b. Staffing Update – Plant Manager

Casey Mentzer, TMWRF Plant Manager, introduced a new employee in a mechanic position. Mr. Mentzer stated the plant is understaffed and presented a report on the TMWRF vacancy rate and how it is impacting overtime worked.

Mr. Mentzer answered questions regarding resignations versus retirements and discussed current recruiting efforts.

Member Drinkwater noted that exit interviews have not historically been done but that is changing as the plant has been directed to start conducting exit interviews.

c. FY23 Unaudited End of Year Budget as of June 30, 2023 – Plant Manager

Mr. Mentzer reviewed several budget line items included in the meeting packet.

d. The Influent Flow Split – Plant Manager

Mr. Mentzer reviewed the report included in the meeting packet noting it has been a wet year with incredibly high flows.

e. Inspection Update – Plant Manager

Mr. Mentzer reported on the TMWRF annual inspection with NDEP in June. A final inspection report has not yet been received.

f. Ongoing Operations activities including status of processes - Operations Manager

Rick Breese, TMWRF Operations Manager, reviewed information in the Unit Process Performance Update report included in the meeting packet and answered questions regarding violations shown in the report.

g. Lab Audit and Update – Lab Manager

Amy Egan, TMWRF Lab Manager, reported on the bi-annual audit that took place in April 2023. There were some findings from the audit that were corrected within the required timeframe. Ms. Egan also reported on cost analysis results for extra lab samples from a 2022 project. The cost to the TMWRF lab budget was around \$86,000. If the work was sent to an outside lab, it would have cost \$480,000. Considering TMWRF's faster turnaround times, that cost savings would be even greater.

h. Ongoing Maintenance activities – Maintenance Manager

Jerry Kingery, TMWRF Maintenance Manager, reported on past due mechanical and electrical preventative maintenance (PM) tasks and work orders (WO).

8. Update and discussion regarding compliance with the allowable Total Nitrogen (TN), Total Phosphate (TP) and Total Dissolved Solids (TDS) discharges in accordance with

the National Pollutant Discharge Elimination System permit issued by Nevada Division of Environmental Protection (NDEP) – TMWRF Plant Manager

Mr. Mentzer reviewed information included in the meeting packet regarding compliance with the National Pollutant Discharge Elimination System permit issued by NDEP.

9. Update, discussion, and presentation on the TMWRF Capital Improvement Program (CIP) progress and pilot testing

Haley Chew, City of Reno Associate Civil Engineer, reviewed the current status of the TMWRF CIP. There are fourteen engineering projects and evaluations, three CIP construction projects, and one CIP pilot project currently underway. The status of capital project funding was also included in the report.

Matt Smith, City of Reno Senior Civil Engineer, gave a presentation on the results and path forward for the following CIP pilot projects: AquaNereda Activated Sludge Pilot Test; CleanB Sludge Conditioning Pilot Test; Centrifuge Pilot Testing – Separate Sludges; and Cloth Media Filter Pilot. The presentation also reviewed goals and potential benefits of Mobile Organic Biofilm.

10. Review and approval of the draft 1-Year Capital Improvement Program reallocation for Fiscal Year 2024 or direction thereon – TMWRF CIP Program Manager (For Possible Action)

Mr. Smith presented information on things that have changed since the budget was approved in March and explained the need for the proposed reallocation.

IT WAS MOVED BY MEMBER DRINKWATER, SECONDED BY MEMBER FLANSBERG, TO APPROVE THE 1-YEAR CAPITAL IMPROVEMENT PROGRAM REALLOCATION FOR FISCAL YEAR 2024. THE MOTION CARRIED UNANIMOUSLY WITH EIGHT MEMBERS PRESENT.

11. Identification of future agenda items

Member Flansberg requested a future agenda item for an allocation report update.

12. Discussion and direction regarding setting the next meeting date as November 1, 2023 (For Possible Action)

IT WAS MOVED BY MEMBER FLANSBERG, SECONDED BY MEMBER MARTINI, TO SCHEDULE THE NEXT MEETING FOR NOVEMBER 1, 2023. THE MOTION CARRIED UNANIMOUSLY WITH EIGHT MEMBERS PRESENT.

13. Public Comment

None

14. Adjournment (For Possible Action)

The meeting was adjourned at 11:10 a.m.

Respectfully submitted by,
Christine Birmingham, Recording Secretary

Agenda Item #6
November 1, 2023

To: Joint Coordinating Committee (JCC)

From: Casey Mentzer, P.E., Treatment Plant Manager
City of Sparks

Date: November 1, 2023

Re: Informational Management Reports from TMWRF Management Team (For
Information Only)

1. Informational Management Reports from TMWRF Management Team:
 - a. Safety Update – Plant Manager
 - b. Staffing Update – Plant Manager
 - c. FY24 Budget-to-Actual as of September 30, 2023 – Plant Manager
 - d. The Influent flow split - Plant Manager
 - e. Ongoing Operations Activities - Operations Manager
 - f. Ongoing process and chemical optimization – Plant Manager
 - g. Ongoing Maintenance Activities – Maintenance Manager

TMWRF Operations Costs - FY24 Budget to Actual Unaudited

9/30/2023

Item #6c

	FY24 Working Budget	FY24 Actuals (thru 09/30/2023)	Remaining Budget	% Used
Salaries				
Base Salaries	5,263,300	964,079	4,299,221	18%
Longevity	109,000	2,200	106,800	2%
Overtime/Premium Pays*	729,600	159,682	569,918	22%
Leave Bank adjustments & cash outs	158,500	72,254	86,246	46%
Other Salaries	1,300	150	1,150	12%
Total Salaries	6,261,700	1,198,365	5,063,335	19%
Benefits				
Retirement - PERS	1,786,465	332,496	1,453,969	19%
Health Insurance	1,297,100	312,406	984,694	24%
Cell Phone, D/C Match, Tuition, Uniform	129,400	39,025	90,375	30%
Non-contractual Benefits**	248,600	48,207	200,393	19%
Total Benefits	3,461,565	732,135	2,729,430	21%
Discretionary Services & Supplies				
Chemicals (Budget <i>excludes</i> \$300K Contingency)	7,831,297	1,759,187	6,072,109	22%
Maintenance and Repairs	2,134,111	177,671	1,956,439	8%
Operating Supplies	1,510,955	299,506	1,211,449	20%
Biosolds Hauling	2,069,500	338,531	1,730,969	16%
Professional Services (includes temp agency costs)	897,434	87,100	810,334	10%
Other Discretionary Services & Supplies	1,210,858	208,064	1,002,793	17%
Total Discretionary Services & Supplies	15,654,154	2,870,060	12,784,094	18%
Non-Discretionary Services & Supplies				
Electricity	2,725,000	617,248	2,107,752	23%
Common Service Charge	698,689	174,672	524,017	25%
General Insurance Premium	697,600	738,703	(41,103)	106%
Other Non-discretionary Services & Supplies	238,432	53,900	184,532	23%
Total Non-Discretionary Services & Supplies	4,359,721	1,584,524	2,775,197	36%
Capital Outlay (managed by TMWRF staff)				
Capital Outlay (Budget <i>excludes</i> \$1M Contingency)	1,233,590	80,573	1,153,017	7%
Total Capital Outlay	1,233,590	80,573	1,153,017	7%
Total	30,970,730	6,465,657	24,505,073	21%

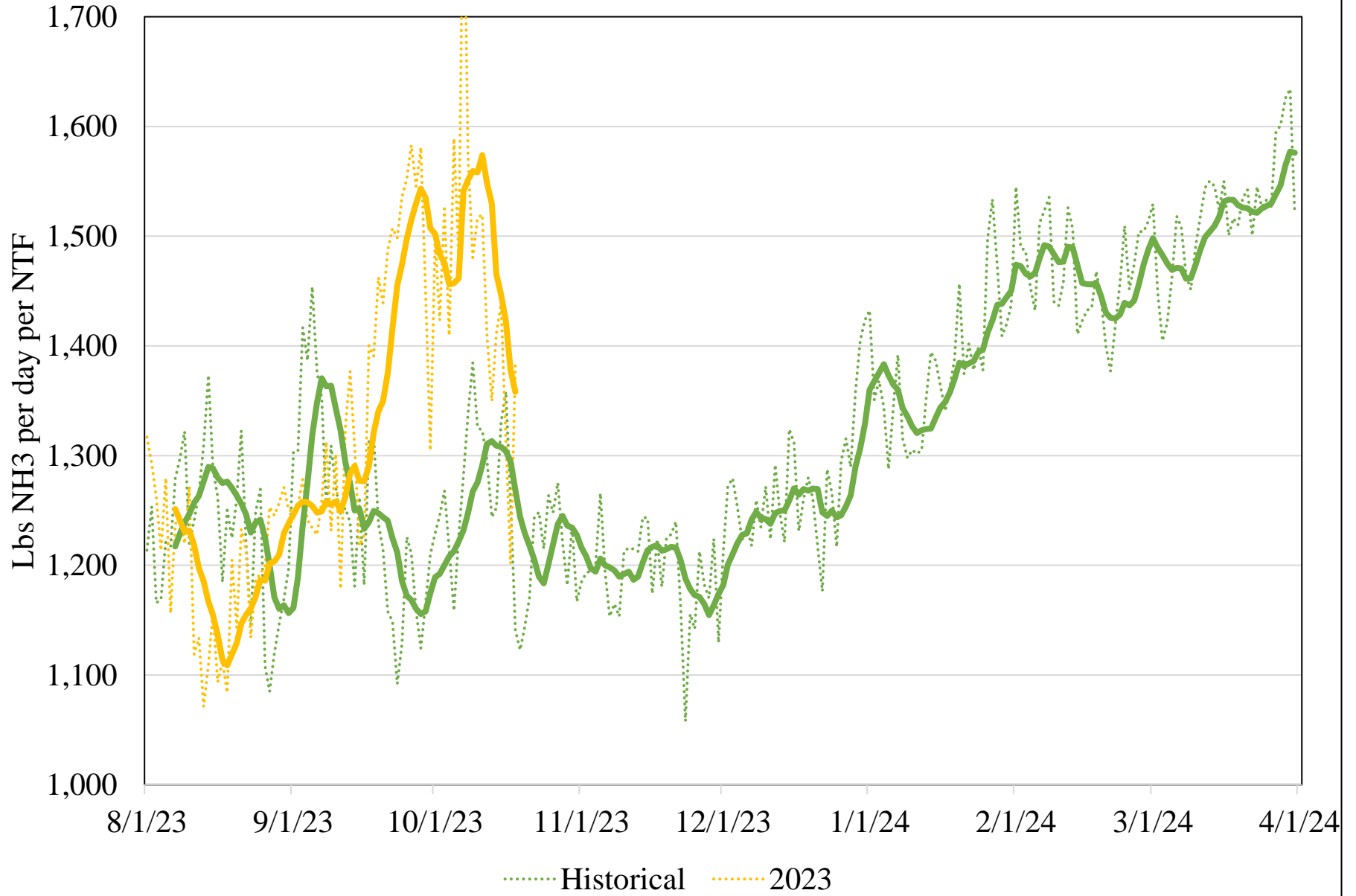
* Overtime/Premium Pays include Overtime Callback, Worked Holiday, Standby and Night Differential

** Non-contractual Benefits includes Medicare, Workers Comp, Unemployment and OPEB

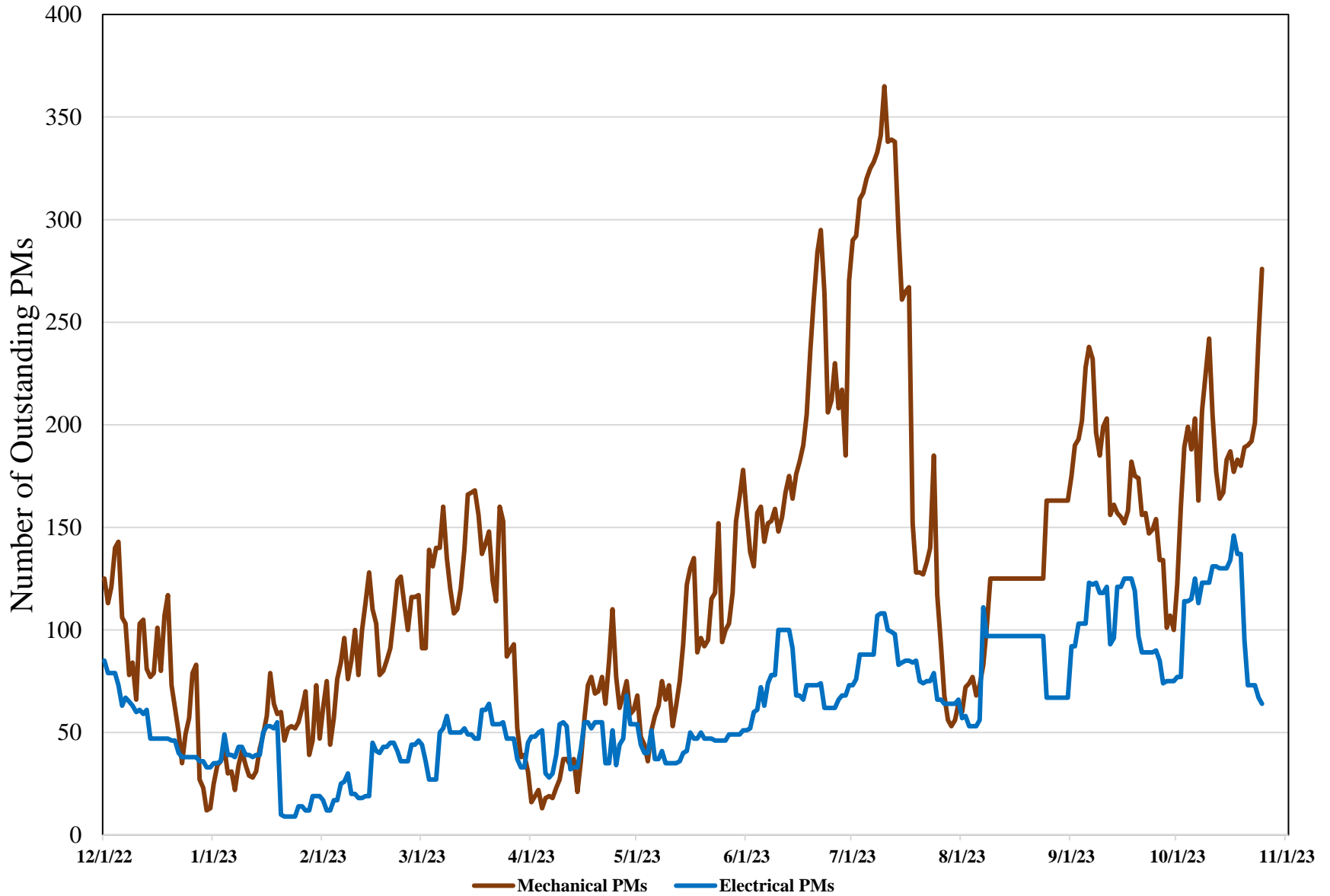
Item 6d - TMWRF Influent Flow Splits Q1-Q3 2023

	January		February		March	
	Flow (MGD)	Percent	Flow (MGD)	Percent	Flow (MGD)	Percent
Reno	20.3	61.5%	20.0	61.8%	22.0	64.2%
Sparks	12.7	38.5%	12.3	38.2%	12.2	35.8%
Total	33.1		32.3		34.2	
	April		May		June	
	Flow (MGD)	Percent	Flow (MGD)	Percent	Flow (MGD)	Percent
Reno	22.2	65.5%	23.0	64.5%	21.9	62.7%
Sparks	11.7	34.5%	12.6	35.5%	13.0	37.3%
Total	33.9		35.6		34.8	
	July		August		September	
	Flow (MGD)	Percent	Flow (MGD)	Percent	Flow (MGD)	Percent
Reno	20.6	63.7%	19.5	62.2%	19.2	61.8%
Sparks	11.8	36.3%	11.9	37.8%	11.9	38.2%
Total	32.4		31.4		31.1	

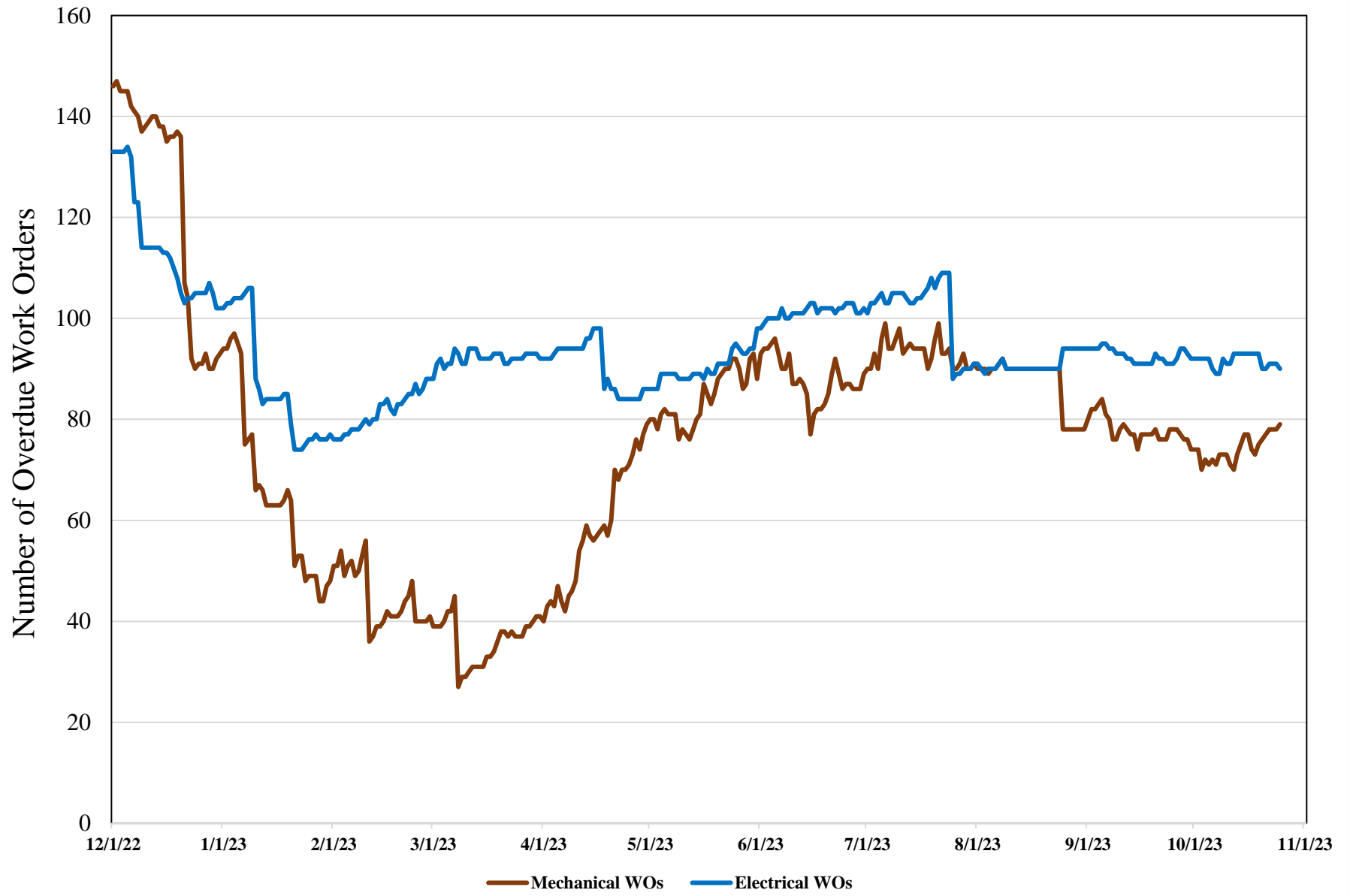
Item 6f - Winter 23-24 Tower Loading Preparations



Item 6g - Past Due Maintenance PMs



Item 6g - Past Due Maintenance Work Orders (WOs)



Agenda Item #7
November 1, 2023

To: Joint Coordinating Committee (JCC)

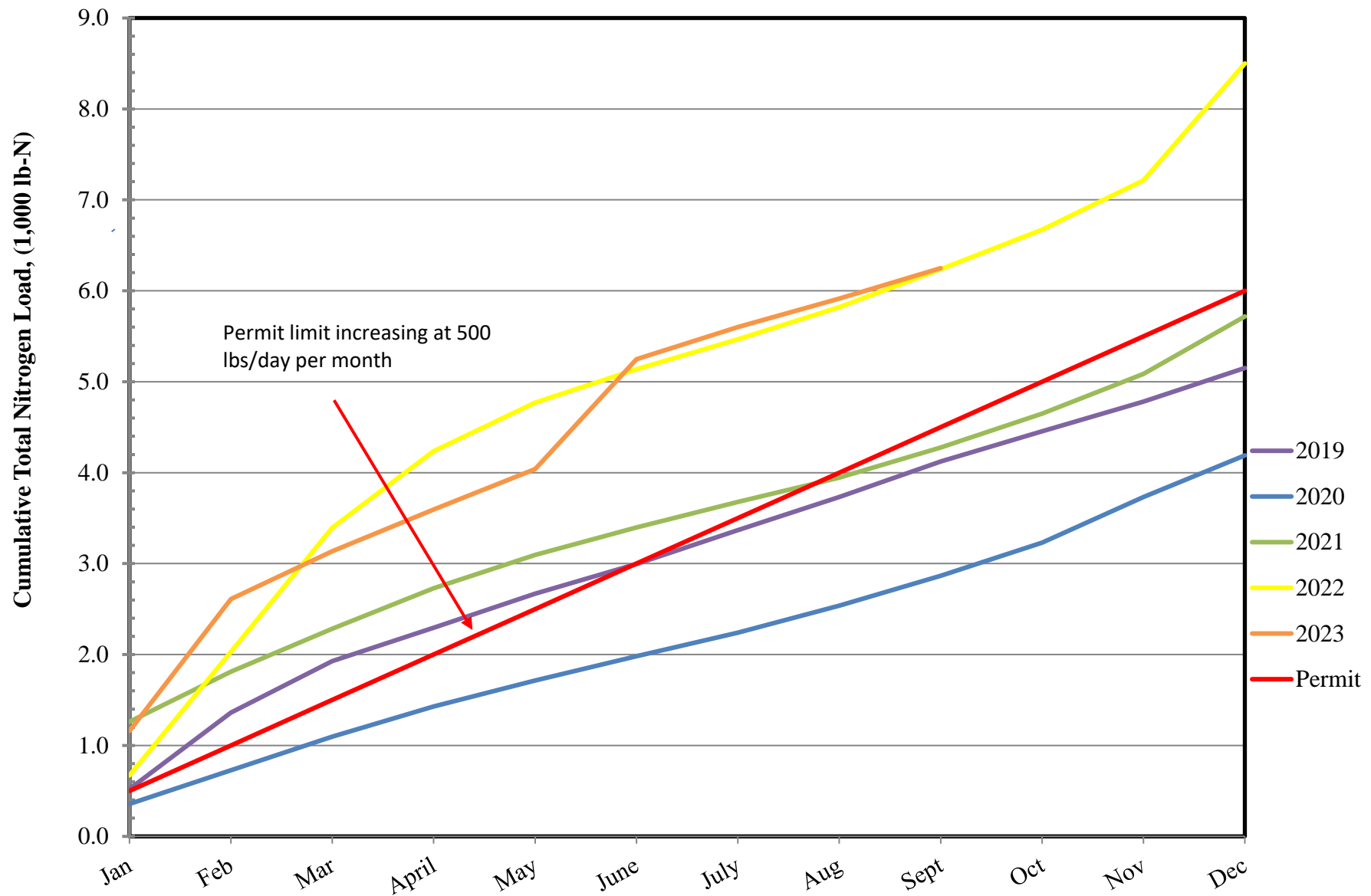
From: Casey Mentzer, P.E., Treatment Plant Manager
City of Sparks

Date: November 1, 2023

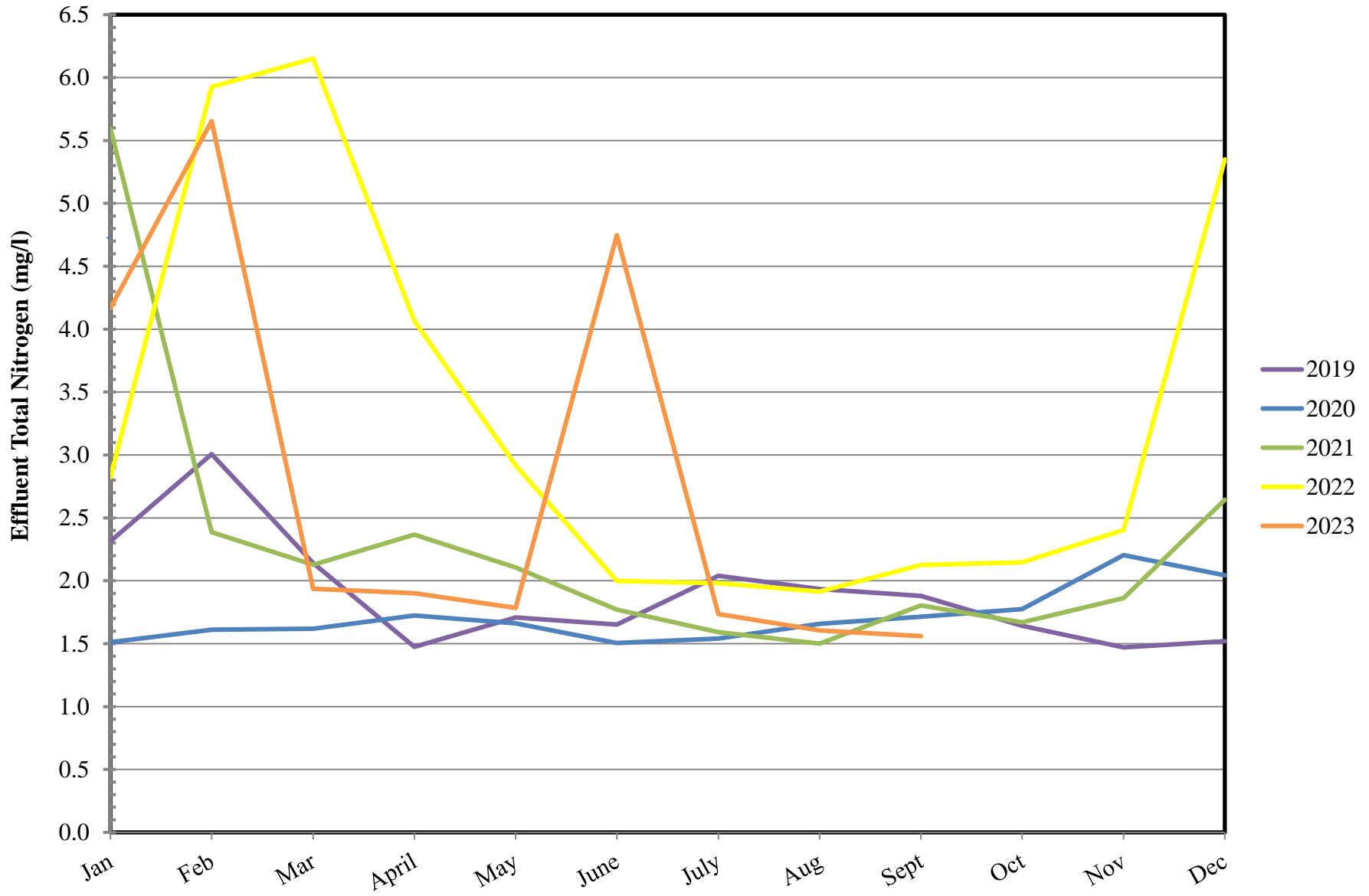
Re: Update and discussion regarding compliance with the allowable Total Nitrogen (TN), Total Phosphate (TP) and Total Dissolved Solids (TDS) discharges in accordance with the National Pollutant Discharge Elimination System permit issued by Nevada Division of Environmental Protection (NDEP) by the Plant Manager. (For Information Only)

1. Update and discussion regarding compliance with the allowable TN, TP and TDS discharges in accordance with the National Pollutant Discharge Elimination System permit issued by NDEP by the Plant Manager.
 - a. TMWRF Cumulative Total Nitrogen Discharge
 - b. TMWRF Effluent Nitrogen Concentration by Month
 - c. TMWRF Cumulative Total Phosphorus Discharge
 - d. TMWRF Effluent Phosphorus Concentration by Month
 - e. TMWRF Cumulative Total Dissolved Solids Discharge
 - f. TMWRF Effluent Total Dissolved Solids Concentration

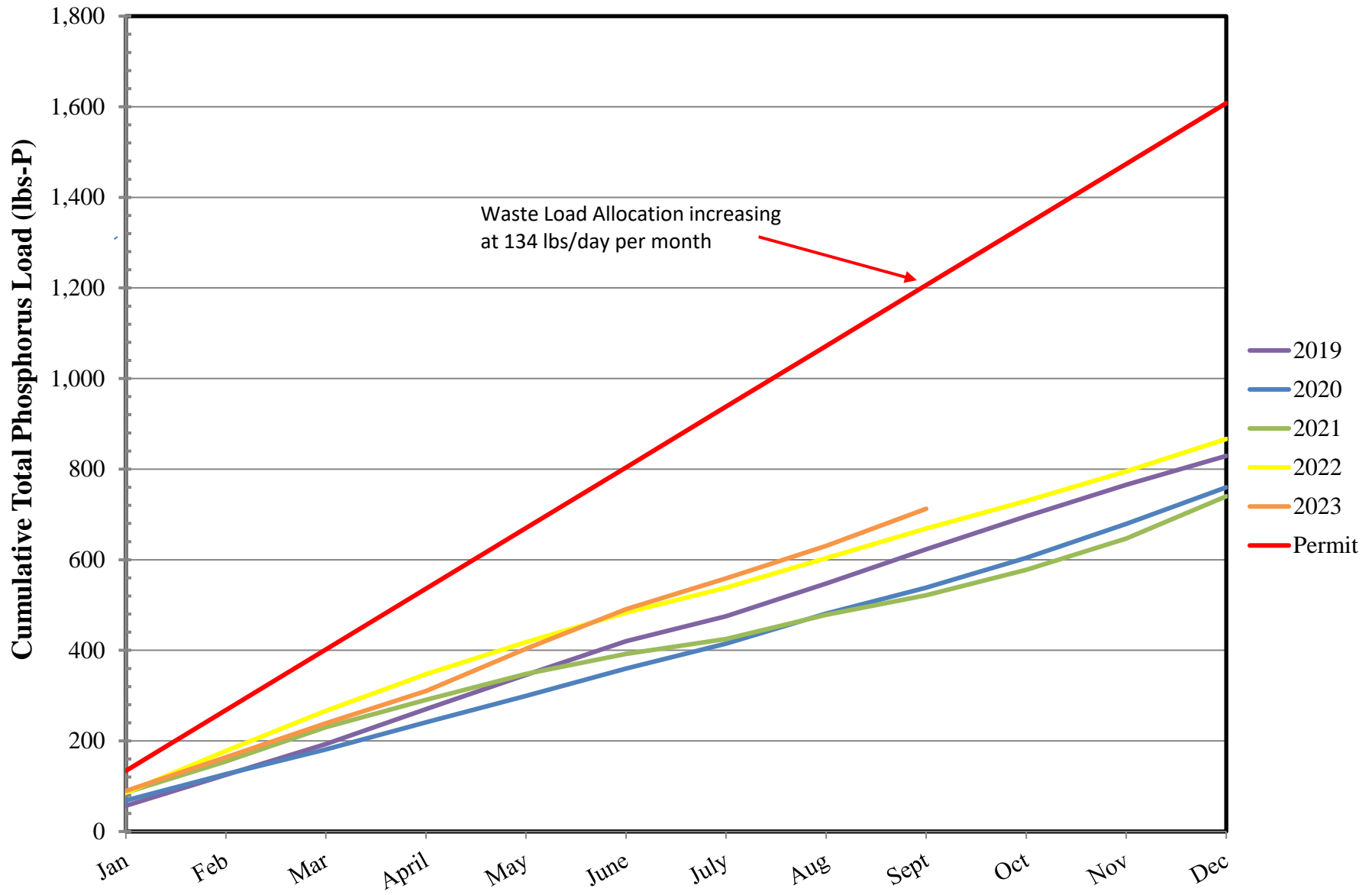
Item 7a - TMWRF Cumulative Total Nitrogen Discharge



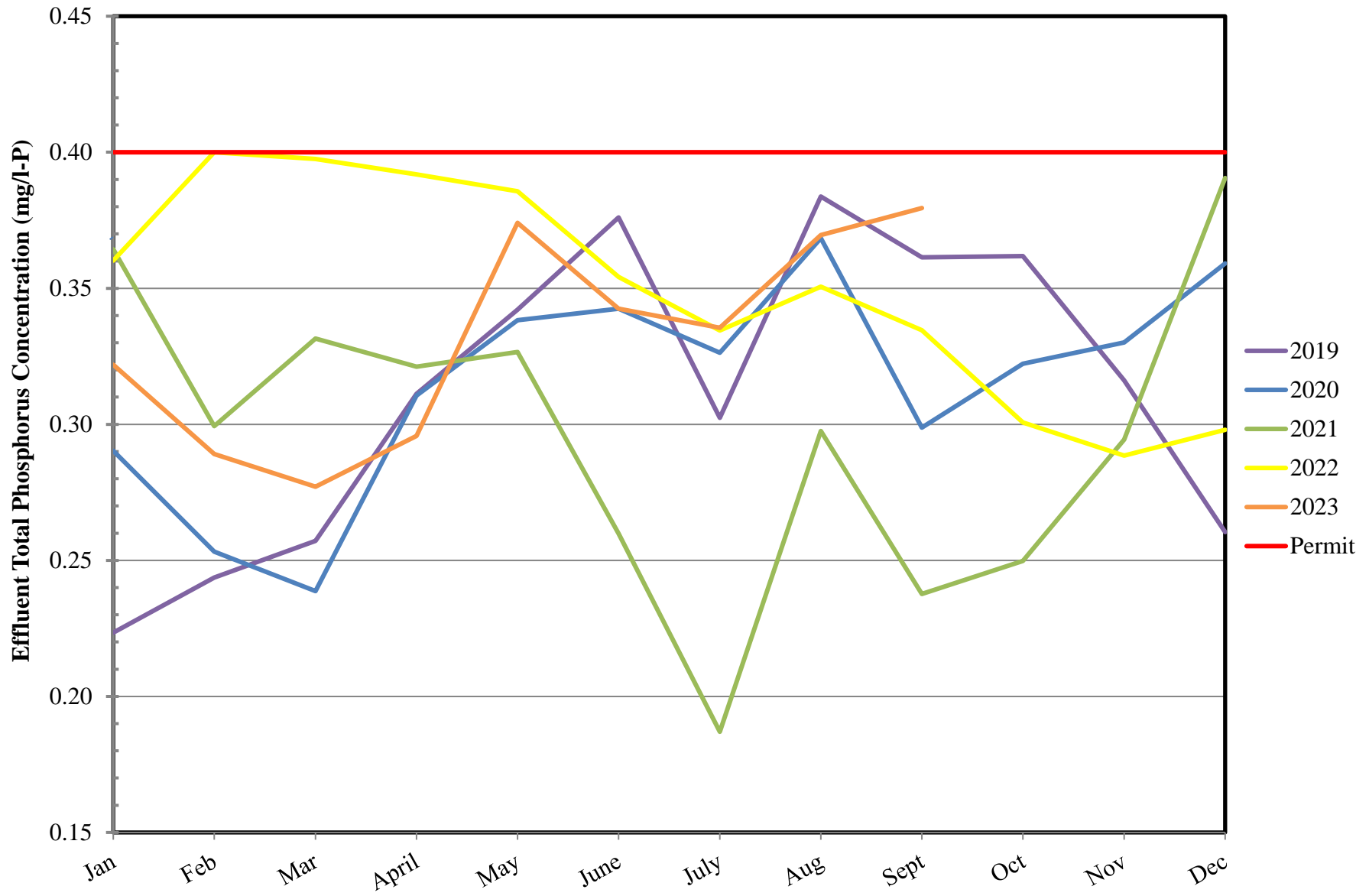
Item 7b - TMWRF Effluent Nitrogen Concentration by Month



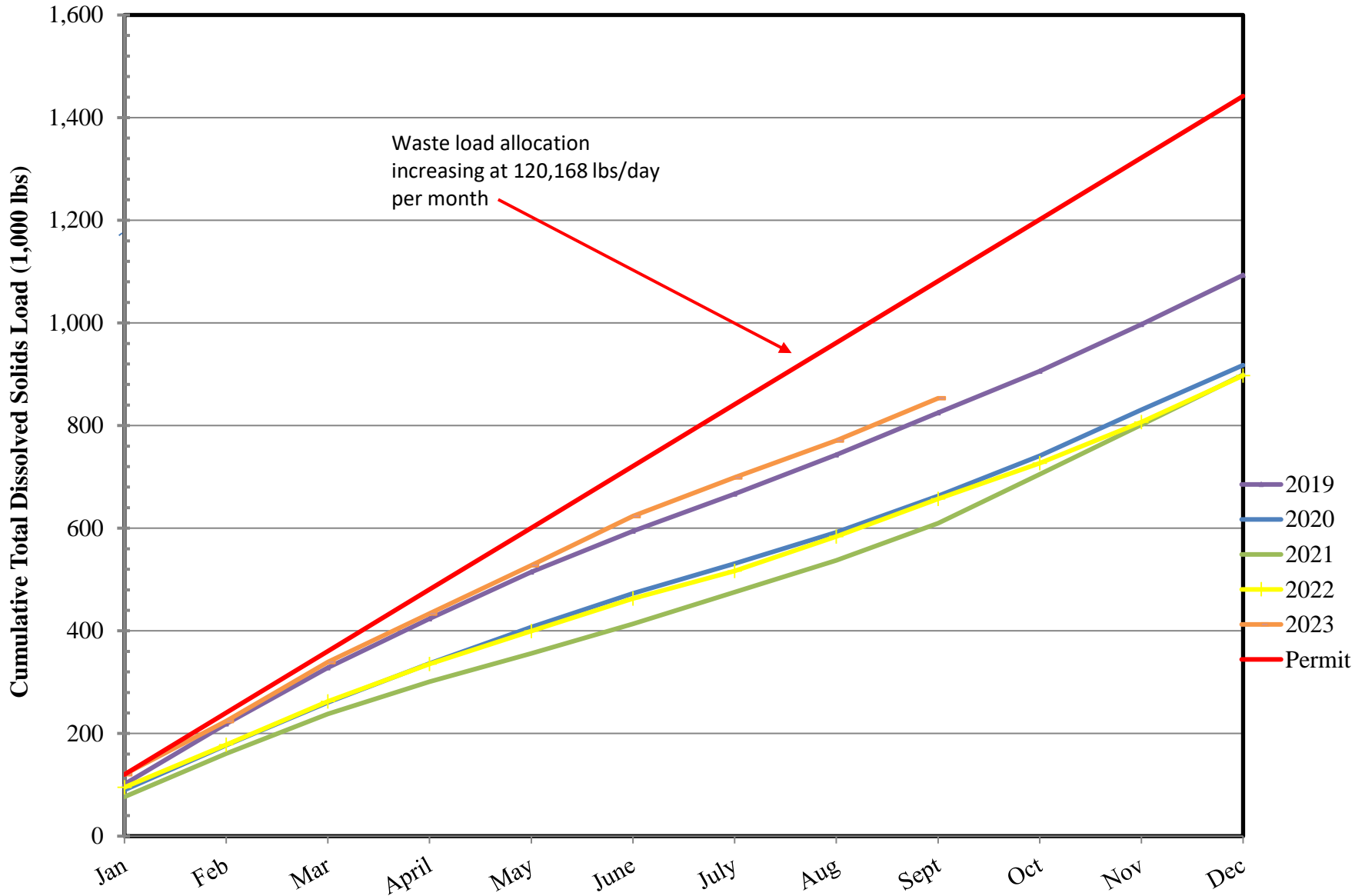
Item 7c - TMWRF Cumulative Total Phosphorus Discharge



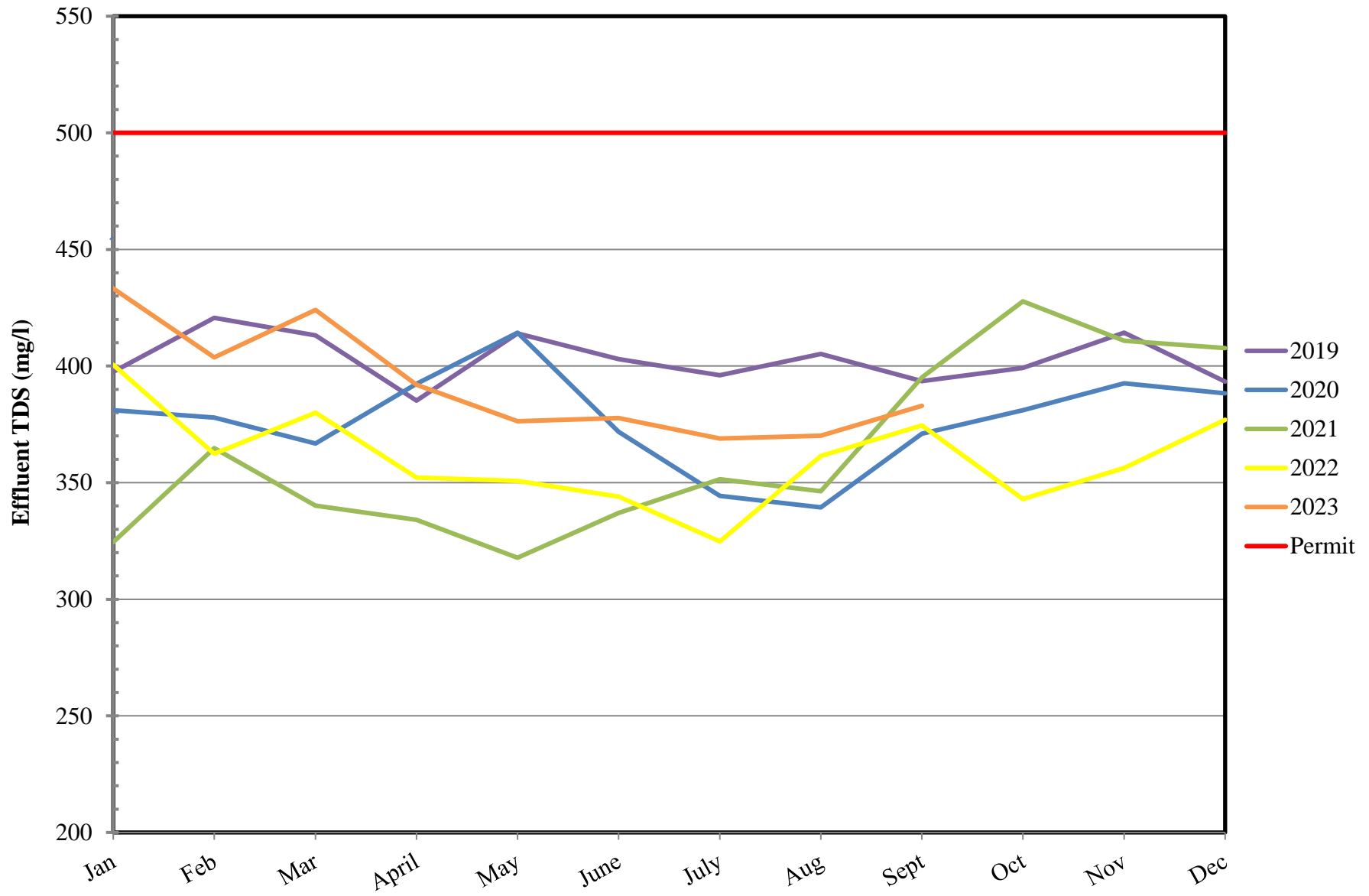
Item 7d - TMWRF Effluent Phosphorus Concentration by Month



Item 7e - TMWRF Cumulative Total Dissolved Solids Discharge



Item 7f - TMWRF Effluent Total Dissolved Solids Concentration



Agenda Item #8
November 1, 2023

TO: Joint Coordinating Committee (JCC)

FROM: Matt Smith, P.E., Senior Civil Engineer--City of Reno Utility Services
Department

DATE: November 1, 2023

RE: Update, discussion, and presentation on the TMWRF Capital
Improvement Program (CIP) progress and pilot testing by the TMWRF
CIP Program Manager

TMWRF Capital Improvement Program Update Summary:

The TMWRF Capital Improvement Program currently encompasses eighteen projects, including engineering evaluation/design, construction, and pilot studies. All but one of the approved projects are progressing on-time and within budget. One construction project was delayed due to material shortages and supply chain issues.

TMWRF Capital Improvement Program Project Updates:

Fourteen engineering projects and evaluations are underway:

- Heat Loop Improvements Project: This project is progressing on time and within budget. Carollo completed sixty percent (60%) design drawings and technical specifications, and a workshop was held at the end of October to go over TMWRF staff comments. The next milestone is 90% design drawings and technical specifications.
- Digester #4 Membrane Cover: The design phase of this project is progressing on time and within budget. The 60% design documents were reviewed and TMWRF staff discussed the safety concerns associated with pursuing a membrane cover for Digester #4. A recommendation letter from Brown & Caldwell is anticipated the beginning of this month.
- Gas Conditioning System Improvements Design: This project is progressing on-time and within budget. Stantec staff are progressing the 90% design plans and technical specifications.

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- **Nitrification Tower #1 Rehabilitation Project:** This project is delayed until more information is gathered regarding the nitrification tower process upsets. No additional update at this time.
- **Aeration Tank 1A Improvements:** This project is progressing on time and within budget. Carollo submitted 60% design documents and a review workshop was held last week. Carollo is progressing the design to 90% incorporating TMWRF's comments.
- **Electrical Systems and Expansion Study:** The evaluation and pre-design phase of this project is progressing on time and within budget. This project is wrapping up pending AECOM meeting with NV Energy regarding redundant power feeds. The final Basis of Design Report and project close out are anticipated shortly after the meeting.
- **Fluidized Bed Reactor (FBR) and Nitrification Pump Station Evaluation:** This project is progressing on time and within budget. Brown & Caldwell met with TMWRF staff to review their recommendations on progressing the FBR improvements project. The alternative selected is to design/construct common improvements for the existing FBR facility to increase hydraulic capacity and solids capture and build two new FBR cells for future capacity expansion. Brown & Caldwell is progressing towards 30% design documents.
- **Dewatering Building Evaluation/Pre-Design/Detailed Design:** This project is progressing on time and within budget. The pre-design portion of the project is almost finished, the remaining scope includes geotechnical investigations and utility potholing. For the detailed design portion, Jacobs and TMWRF have attended the kick-off meeting and the first workshop to begin the process of advertising, selecting, and onboarding a CMAR for this project.
- **Disinfection and Filtration Evaluation and Pre-Design:** This project is progressing on time and within budget. Carollo has provided TMWRF with their draft Preliminary Design Report, and final versions and a comment response matrix for the previously review Technical Memoranda. City of Reno and TMWRF staff are reviewing these documents and a review workshop is scheduled for next week.
- **Sewer Manhole (SSMH) 'E' Remediation Project:** This project is progressing on time and within budget. Informal bids were solicited last month, and the construction bids were significantly higher than expected. Construction for this project has been deferred in order to encompass additional manhole rehabilitation based upon the findings from the Plantwide Sewer Manhole and Drain Facility Assessment Project.

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- Plantwide Sewer Manhole and Drain Facility Assessment Project: This project is progressing on time and within budget. Atkins has completed their final report for the plantwide inspection of manholes and catch basins. TMWRF staff are currently reviewing their report.
- Sodium Bisulfite Storage Tank Improvements: This project is progressing on time and within budget. Brown & Caldwell (B&C) has completed the 90% design documents and both B&C and TMWRF staff met for a design review meeting. B&C is working towards 100% documents and construction is anticipated to occur this fiscal year.
- Primary Sludge Screening & APD Valve/Piping Improvements: This project is progressing on time and within budget. Keller and TMWRF staff had the first project workshop to review Keller's two Technical Memoranda, each covering the preliminary design criteria for the Primary Sludge Screen improvements and the Acid Phase Digester Valve and Piping improvements. Due to preliminary cost estimates, the APD Valve and Piping improvement portion of this project has been deferred.
- Totalizing Reuse Meter Vault: This project has completed the bidding process with TNT Industrial as the intended awardee as the lowest, responsive bidder. Both the construction contract and the engineering services during construction agreement are anticipated to be presented to both City Councils this month.

Three CIP construction projects are underway:

- Secondary Clarifier 2A Rehabilitation Project: This project is progressing within budget and on schedule. Work is ongoing in both of the Centrate Storage Tanks and Secondary Clarifier 2A.
- MCC 16 and 17 Replacement Project: This project is progressing within budget. Despite the initial delay in procuring equipment, the contractor has completed a majority of the work for this project. The remaining items are scheduled to be completed this month along with project closeout.
- Effluent Reuse Pump Station Project: This project was awarded last year with completion to occur in August of 2023. Treated effluent pumping began in March 2023. The project is progressing on-time and within budget. Final punchlist items have been signed off, and project closeout is expected to be completed this month.

One CIP pilot project is underway:

- Mobile Organic Biofilm (MOB) Pilot Study: Nuvoda, Jacobs, and the University of Nevada, Reno (UNR) are all under contract for this project. Multiple coordination meetings have been held since the initial kickoff meeting in August. All the equipment is onsite and installed, and equipment testing is underway. A final coordination meeting is scheduled to finalize the kenaf delivery and start up of the full pilot.

TMWRF Capital Improvement Program Completed Projects Update:

No construction projects have been completed since the last JCC meeting.

Three engineering projects have been completed since the last JCC meeting.

- Secondary Clarifier 2A Rehabilitation Design – BJB completed the bid drawing set and specifications for this project. The construction for this project was awarded to Farr Construction dba Resource Development Company, and BJB is providing Engineering Services During Construction.
- TWAS Near-Term Improvements Design – HDR completed the bid drawing set and specifications for this project. The construction for this project was awarded to TNT Industrial Contractors, and HDR is providing Engineering Services During Construction.
- Aeration Tank Evaluation – Carollo completed the Preliminary Design Report for this project and is progressing into design for Aeration Tank 1A.

No piloting projects have been completed since the last JCC meeting.

Status of Capital Project Funding:

Total authorized funding for open projects:	\$39,023,741
Authorized funding encumbered (as of Oct 26, 2023)	\$22,063,237
% Total authorized funding encumbered:	57%
Encumbered funding expended (as of Oct 26, 2023):	\$9,846,675
% Total encumbered funding expended:	45%

Total authorized funding encumbered includes projects that were approved in previous fiscal years that are still open.

Discussion:

Staff is presenting this report to the Committee for information and discussion.

Agenda Item #9
November 1, 2023

To: Joint Coordinating Committee (JCC)

From: Matt Smith, P.E., Senior Civil Engineer--City of Reno Utilities Services
Department

Date: November 1, 2023

Re: Review and approval of the Proposed 1-Year Capital Improvement Program
reallocation #2 for fiscal year 2024 or direction thereon. (For Possible Action)

As the larger capital improvement projects have progressed through engineering design, more cost estimating has been completed. Additionally, TMWRF staff have identified near-term priorities with the plant's digestion facilities and participated in an abbreviated version of the paired comparison to rank-order the projects this year. The TMWRF CIP Manager will lead a discussion on a proposed reallocation of project funding and discuss project drivers for the proposed projects and contingency.

Staff seeks direction and possible approval of the proposed TMWRF FY24 1-Year CIP Reallocation #2.

TMWRF FY2024 One-Year Capital Improvement Program *Reallocation* #2
Replacement and Rehabilitation of TMWRF Infrastructure Systems
For Possible Approval at the November 1, 2023 Joint Coordinating Committee Meeting

New Project

Risk Rank	Process: Description of Activity	FY 24 Reallocation #1 2 August 2023	Δ	FY 24 Reallocation #2 1 November 2023	Notes
12	Clarifier Basin Concrete and Steel Rehabilitation	\$0		\$0	Operational conflicts with Mobile Organic Biofilm Pilot Project.
N/A	SBS Tank Venting Improvements	\$50,000		\$50,000	
	Pump Station Paving Project	\$70,000		\$70,000	
	Manhole "E" Rehabilitation	\$30,000	(\$30,000)	\$0	Bids came in high, lumping into larger Manhole rehab project
	Pump Station Safety Improvements	\$50,000		\$50,000	
	Totalizing Reuse Meter	\$200,000	\$200,000	\$400,000	Bid came in higher than previously approved funding.
16	Manhole Rehabilitation Project Phase 1 (Design)	\$0	\$150,000	\$150,000	
10	Gas Conditioning System Improvements (Construction)	\$1,000,000		\$1,000,000	
9	Fluidized Bed Reactors Improvements (Design)	\$3,000,000	(\$3,000,000)	\$0	Filters are the bottleneck between these two processes.
4	Filter Process Improvements (Design)	\$0	\$2,000,000	\$2,000,000	
3	Digester #4 Membrane Cover (Construction)	\$4,000,000	(\$4,000,000)	\$0	Digester #2 is higher priority.
2	Digester #2 Cover Improvements (Design)	\$0	\$1,000,000	\$1,000,000	New cover and seal design warranted.
7	Heat Loop Improvements (Construction Ph1/Ph2)	\$2,200,000	\$800,000	\$3,000,000	New cost estimate came in higher.
5	Primary Sludge Screens	\$3,000,000	\$1,000,000	\$4,000,000	
6	Aeration Basin Rehabilitation Tank 1A (Construction)	\$2,000,000	(\$2,000,000)	\$0	Operational conflicts with Mobile Organic Biofilm Pilot Project.
1	New Dewatering Facility (Design)	\$5,000,000		\$5,000,000	
	Contingency	\$427,000	\$573,000	\$1,000,000	Added funding in case Dewatering CMAR comes in higher.
	Total (not including previous FY CIPs)	\$21,027,000	(\$3,307,000)	\$17,720,000	
	Reno Portion (68.63%)	\$14,430,830			
	Sparks Portion (31.37%)	\$6,596,170			
	Risk Rank #8 is Acid Phase Digester, and cannot be done operationally this FY.				
	Risk Rank #11 is Aeration Piping Improvements and cannot be done operationally this FY				

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project Manhole Rehabilitation Phase 1

Project Description

TMWRF's drainage infrastructure is nearing 60 years old in some areas of the plant. An evaluation of all of the manholes at the plant is underway. This project seeks to construct improvements and repair multiple existing manholes in severe, degraded condition as the first phase of rehabilitating all of the plant drain manholes.

Risk Assessment Rating

- CONSEQUENCE RATING : Severe consequence/Major disruption
- PROBABILITY RATING: Unknown

Failure Consequence/Impact

- A collapsed manhole will cause serious disruptions to critical infrastructure at the plant.

Critical Milestones/Schedule

- Design for multiple phases is projected for FY24 through FY27.
- Construction for the phased rehabilitation is projected for FY25 through FY27.

Potential Permit Ramification

- Little potential for adverse impacts to permit compliance

Strategic Plan Impact

- Supports strategic initiatives asset management and rehabilitation of infrastructure

Cost Est:

FY24: \$150,000 Design

FY25: \$100,000 Design

\$300,000 Construction

FY26: \$100,000 Design

\$200,000 Construction

FY27: \$100,000 Design

\$200,000 Construction

➤ Project Photo



TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project Filter Process Improvements

Project Description

TMWRF's filter building has been in-service since 1989 and has had no repairs since it has been constructed. The pre-design for a full filter process expansion is underway; however, due to cost limitations, alternative improvements need to be considered. The filter backwash system is the current bottleneck for capacity and an evaluation is underway to confirm the available capacity if the bottleneck were removed. This project encompasses the design for improvements to the filter process to mitigate the current process bottleneck.

Risk Assessment Rating

- CONSEQUENCE RATING : Serious consequence/Significant Disruption
- PROBABILITY RATING: Possibility of repeated events

Failure Consequence/Impact

- TMWRF relies upon its filters to remove particulate matter and other constituents. Without this removal, TMWRF may violate the discharge permit.

Critical Milestones/Schedule

- Design to begin in FY24, and construction to begin in FY25

Potential Permit Ramification

- Filtration is required for TMWRF's discharge permit.

Strategic Plan Impact

- Supports strategic initiative of compliance with the Operating Permit discharge limitations and for asset management

Cost Est:

FY24: \$2,000,000

FY25: \$10,000,000

➤ Project Photo



FY24 Risk Rank:

6/33 – High

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Digester #2 Cover

Project Description

The cover for Digester #2 was rehabilitated in 2020. The design and ultimately how the cover and seal were constructed for this previous rehab required that the cover of Digester #2 not move from its starting location. Being a semi-fixed cover, this poses potential problems; therefore, the improvements include a new cover and seal design.

Risk Assessment Rating

- CONSEQUENCE RATING : Major Consequence/Major Disruption
- PROBABILITY RATING: Possibility of isolated events

Failure Consequence/Impact

- Failure of the digester cover through corrosion will limit the ability of the facility to properly treat process solids and capture of gases to aid in heating and power operations of the plant. Additional operational costs would be incurred during cover failure and repair. Safety hazard for plant staff if not repaired.

Critical Milestones

- Design of improvements scheduled for FY24

Potential Permit Ramification

- Treatment of hydrogen sulfide emissions from digester operations is required by the air quality permit
- Potential impact to ability of TMWRF to dewater solids if digesters are not operating efficiently.
- Potential for generation of gas to be hindered, resulting in loss of digestion, ability to generate power, and loss of heating at the plant.

Strategic Plan Impact

- Supports strategic initiative of compliance with the Operating permit and Asset Management initiatives

Cost Est:

FY24: \$1,000,000

➤ Project Photo



TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

PROJECT

Heat Loop System Improvements

Project Description

The heat loop has been in service since 1966, and the majority of the boilers and sludge heaters have been in service since before 1990. Much of the system is approaching the end of its useful design life. The system does not have redundant heating capacity and recent facility improvements have increased heating requirements. This project includes a detailed design to provide improvements to the heat system including additional heating capacity for full redundancy in meeting current and future heating demands.

Risk Assessment Rating

- CONSEQUENCE RATING: Serious consequence/Impact /Disruption
- PROBABILITY RATING: Possibility of isolated incidents

Failure Consequence/Impact

- Potential personnel injury, permit violations and extended key process shutdown

Critical Milestones/Schedule

- Design Phase 1 funded in FY23 and Design Phase 2 to be funded in FY26
- Construction to be funded over FY24 (Phase 1) & FY27 (Phase 2)

Potential Permit Ramification

- Failure to provide proper heating can cause freezing of equipment and chemicals, impacting treatment processes and increasing maintenance costs. Failure to maintain proper temperature in sludge will impact digestion of sludge and critical methane gas generation. Failure of the heat loop has a high potential to cause a permit violation.

Strategic Plan Impact

- Supports strategic initiatives related to personnel safety and operational reliability

Cost Est:

FY24: \$3,000,000
FY26: \$800,000
FY27: \$4,500,000

➤ Project Photo



FY24 Risk Rank:

7/40 - High

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Primary Sludge Screen Improvements

Project Description

TMWRF's primary sludge system has had some failures recently that has required repairs by plant maintenance. This project seeks to replace obsolete primary sludge screens and inoperable sludge valves.

Risk Assessment Rating

- CONSEQUENCE RATING : Severe consequence/Major disruption
- PROBABILITY RATING: Unknown

Failure Consequence/Impact

- Inability to screen sludge before digestion could cause excessive buildup of rags in the digester and could bind pumps and valves.

Critical Milestones/Schedule

- Design and construction to begin in FY24.

Potential Permit Ramification

- Moderate potential for adverse impacts to permit compliance

Strategic Plan Impact

- Supports strategic initiatives asset management and rehabilitation of infrastructure

Cost Est:

FY24: \$4,000,000

➤ Project Photo



FY24 Risk Rank:

4/40 – Very High

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Totalizing Reuse Meter

Project Description

The TMWRF Reuse system has meter vaults throughout the Reno System and Sparks System. Historically, some meters have been in disrepair and unable to give flow monitoring. This project seeks to provide redundancy for the Reno and Sparks systems, so that if a meter in either Reno or Sparks failed, either city would be able to calculate the flow as required by the NDEP.

Risk Assessment Rating

- CONSEQUENCE RATING : Low consequence/Low disruption
- PROBABILITY RATING: Unknown

Failure Consequence/Impact

- A failure of a meter in the reuse system will not allow TMWRF to accurately provide discharge management reports to the NDEP.

Critical Milestones/Schedule

- Design and construction to begin in FY24.

Potential Permit Ramification

- Moderate potential for adverse impacts to permit compliance

Strategic Plan Impact

- Supports strategic initiatives asset management and rehabilitation of infrastructure

Cost Est:

FY24: \$400,000

➤ Project Photo



FY24 Risk Rank:

Not Ranked

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Sodium Bisulfite Tank Venting

Project Description

TMWRF's sodium bisulfite tanks do not have adequate venting. When trucks deliver the chemical, the tanks vent sulfur dioxide into Chemical Building 1. Sulfur dioxide can be inhaled and is readily absorbed by the lungs where it becomes sulfurous acid and can be especially irritating for persons who are already prone to respiratory issues such as asthma. This project seeks to rectify this known safety hazard.

Risk Assessment Rating

- CONSEQUENCE RATING : Staff safety hazard
- PROBABILITY RATING: Known issue, happens frequently

Failure Consequence/Impact

- A failure is not anticipated. Staff safety is the project driver. This safety issue will have an impact on the plant if staff are injured on the job.

Critical Milestones/Schedule

- The work will be completed this fiscal year under informal bidding protocols.

Potential Permit Ramification

- No permit impacts.

Strategic Plan Impact

- Supports strategic initiatives for staff safety.

Cost Est:

FY24: \$50,000

➤ Project Photo



TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

TMWRF Effluent Reuse Pump Station Paving

Project Description

TMWRF's new effluent reuse pump station building is complete. The paving in the area locked in the surrounding surface improvements and made the drainage of the facility a challenge that was ultimately pulled from the contract because of budget issues.

Risk Assessment Rating

- CONSEQUENCE RATING: Minor consequence
- PROBABILITY RATING: Unknown

Failure Consequence/Impact

- The road is already failed pavement. The north side of the building has a driveway apron that is unusable.

Critical Milestones/Schedule

- Design will be completed in-house, offering cost savings and a fit for purpose final product. The paving improvements will be constructed this fiscal year with the construction happening next calendar year in the spring/early summer.

Potential Permit Ramification

- Little potential for adverse impacts to permit compliance

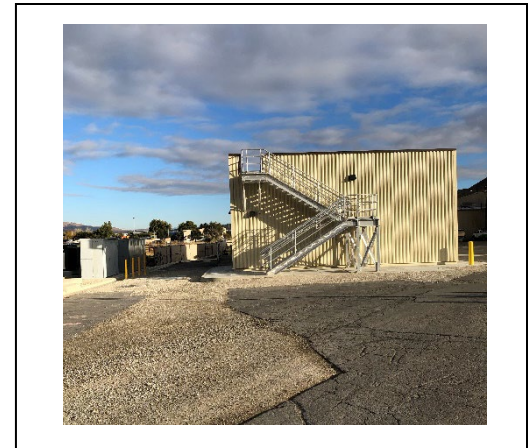
Strategic Plan Impact

- Supports strategic initiatives asset management and rehabilitation of infrastructure

Cost Est:

FY24: \$70,000

➤ Project Photo



TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Effluent Reuse Pump Station Safety Improvements

Project Description

TMWRF's newly constructed pump station has a hand railing that has shown signs of failure. The existing contractor did not have this work in their scope. This project seeks to replace the existing handrail inside the pump station.

Risk Assessment Rating

- CONSEQUENCE RATING : Safety hazard to plant staff
- PROBABILITY RATING: Unknown

Failure Consequence/Impact

- A failed hand rail could cause significant injury to plant staff and cause operational issues. Without reliable access into the pump station, there could be maintenance issues.

Critical Milestones/Schedule

- The construction of these improvements will occur this fiscal year.

Potential Permit Ramification

- Little potential for adverse impacts to permit compliance

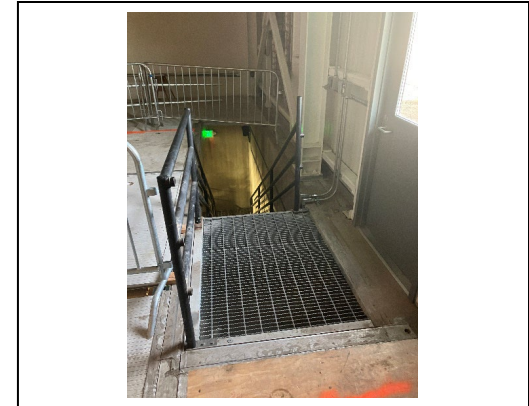
Strategic Plan Impact

- Supports strategic initiatives asset management and rehabilitation of infrastructure

Cost Est:

FY24: \$50,000

➤ Project Photo



TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Gas Conditioning System Improvements

Project Description:

The gas conditioning system has several single points of failure, and the system at large is a single point of failure for the heat loop and digestion process. The gas conditioning drainage has corroded sidewalk concrete and structural supports and has created an unsafe condition.

Risk Assessment Rating

- CONSEQUENCE RATING : Severe consequence/impact disruption
- PROBABILITY RATING: Possibility of recurring events

Failure Consequence/Impact

- If the gas conditioning system could not operate, the heat loop would not be able to generate heat. Without heat, the digesters would not function, and the entire heating system of the plant would be compromised.

Critical Milestones/Schedule

- Construction is scheduled to begin FY24.

Potential Permit Ramification

- Cascading issues could cause a violation.

Strategic Plan Impact

- Supports strategic initiatives related to personnel safety and operational reliability

Cost Est:

FY24: \$1,000,000

➤ Project Photo



FY24 Risk Rank:

3/40 – Very High

TMWRF CAPITAL IMPROVEMENT PROGRAM FY 2024 Reallocation

Project

Dewatering Building

Project Description

The dewatering process at TMWRF is an important part of water recovery and biosolids disposal. The equipment is undersized and lacking in redundancy and efficiency. A seismic report identified that this building has structural deficiencies that would render the building and process inoperable should a large enough earthquake occur. This project includes the detailed design of a new dewatering facility.

Risk Assessment Rating

CONSEQUENCE RATING : Serious consequence/impact Disruption

PROBABILITY RATING: Possibility of recurring incidents

Failure Consequence/Impact

- Failure of the dewatering facility will require mobilization of temporary dewatering facilities to the site and around the clock trucking of solids offsite at significantly increased cost.

Critical Milestones

- Evaluation and pre-design to be completed FY24
- Design has begun in FY24
- Construction is tentatively scheduled for FY26

Potential Permit Ramification

- Minimal, assuming temporary equipment can be quickly mobilized to the site.

Strategic Plan Impact

- Supports strategic initiative of compliance with the Operating permit and Asset Management initiatives

Cost Est:

FY24: \$5,000,000

FY26: \$45,000,000

➤ Project Photo



FY18 Risk Rank: 6/35 - HIGH

FY19 Risk Rank: 6/35 - HIGH

FY20 Risk Rank: 2/31 - VERY HIGH

FY21 Risk Rank: 1/30 - HIGHEST

FY22 Risk Rank: 1/32 - HIGHEST

FY23 Risk Rank: 1/33 - HIGHEST

FY24 Risk Rank:

1/40 - Highest