



# LOWER MINNESOTA RIVER WATERSHED DISTRICT

## Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting

Wednesday, August 21, 2024

### **Agenda Item**

**Item 6. B. – 2024 T2 North Expansion Project – Rule D Amendment (LMRWD No.2024-006)**

### **Prepared By**

Linda Loomis, Administrator

### **Summary**

This project has previously been given to the Board for approval. Previous approvals granted by the Board excluded construction of impervious surfaces. The LMRWD has received additional information regarding the planned construction of impervious surfaces and reviewed the plans. Conditional approval, contingent upon the receipt of an executed maintenance agreement is recommended

### **Attachments**

Technical Memorandum - 2024 T2 North Expansion Project – Rule D Amendment (LMRWD No. 2024-006) dated August 14, 2024

### **Recommended Action**

Motion to conditionally amend LMRWD Permit No. 2024-006 to authorize construction of impervious surfaces in compliance with Rule D contingent upon the receipt of an executed maintenance agreement

# Technical Memorandum



**To:** Linda Loomis, Administrator  
Lower Minnesota River Watershed District (LMRWD)

**From:** Erica Bock, Water Resources Scientist  
Hannah LeClaire, PE, Water Resources Engineer

**Date:** August 14, 2024

**Re:** 2024 T2 North Expansion Project – Rule D Amendment (LMRWD No. 2024-006)

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The Metropolitan Airports Commission (MAC) is seeking an amendment to the individual project permit (Permit) for the Terminal 2 (T2) North Expansion Project, approved by the LMRWD Board of Managers at the June 20, 2024, Board meeting. The approval allowed for site preparation and mass grading activities under Rule B – Erosion and Sediment Control. The applicant’s engineers, Kimley-Horn and Associates, Inc. and TKDA, submitted the original permit application, associated application exhibits, and construction plans for the project. TKDA submitted additional stormwater management information to allow a review of the project under Rule D – Stormwater Management. The project amendment will authorize impervious surface construction.

The 2024 T2 North Expansion Project (T2 North) is located on the west-southwest side of the Minneapolis–Saint Paul (MSP) International Airport (Figure 1). The T2 North project is a multi-year project that will result in the overall expansion of Terminal 2 at the MSP International Airport. This project proposes construction of terminal expansion; concrete apron pavement work; pavement replacement; utility and parking lot replacement; and landscaping. The project proposes 9.3 acres of disturbance. There are currently 15.7 acres of impervious surfaces. The project proposes new, reconstruction, and removal of impervious surfaces. The final total impervious area for the project will be 15.4 acres. The project proposes construction between June 2024 and December 2026. The project is not located within a High Value Resource Area, Steep Slopes Overlay District, or 100-year floodplain of the Minnesota River. Because MAC does not have their municipal permit, the project requires an LMRWD individual project permit.

## SUMMARY

**Project Name:** 2024 T2 North Expansion Project  
**Purpose:** Building, pavement installation and replacement, and landscaping.

**Project Size:**

Area Disturbed	Existing Impervious Area	Proposed Impervious Area	Net Change in Impervious Area
9.3 acres	15.7 acres	15.4 acres	-0.3 acres

**Location:** Terminal 2, Minneapolis-Saint Paul (MSP) International Airport, Minneapolis, MN 55450

**LMRWD Rules:** Rule B – Erosion and Sediment Control  
 Rule D – Stormwater Management

**Recommended Board Action:** Conditional Approval of Amendment for Rule D

## DISCUSSION

The LMRWD received the following documents for review:

- LMRWD online permit application; received February 28, 2024.
- T2 North Project Bid Sets (dated February 12, 2024), MSP Drainage Areas (dated June 2021), and LMRWD Construction Permit Application Narrative (dated February 28, 2024) by Kimley-Horn; received February 28, 2024.
- The following exhibits were submitted by Kimley-Horn on March 19, 2024:
  - Revised LMRWD Construction Permit Application Narrative, dated March 20, 2024.
  - MSP Property Inventory Map, dated December 9, 2015.
  - MSP International Airport T2 North Expansion Pond 1, dated March 19, 2024.
  - MSP International Airport T2 North Expansion Drainage Areas, dated March 12, 2024.
  - National Pollutant Discharge Elimination System (NPDES) Permit MN0065404, issued May 29, 2024; expired April 30, 2019.
  - Section 32 92 19 Native Grasses and Forbs Planting, dated February 12, 2024.
  - Geotechnical Report, dated February 12, 2024.
  - T2 North Existing Conditions MIDS Model, dated March 19, 2024.
  - T2 North Proposed Conditions MIDS Model, dated March 19, 2024.
  - Draft Maintenance Agreement.
- The following exhibits were submitted by Kimley-Horn on April 10, 2024:
  - MSP Terminal 2 North Expansion Stormwater Management Summary, dated April 10, 2024.
  - XPSWMM model.
  - P8 model.
  - CAD files.
- The following exhibits were submitted by Kimley-Horn on May 6, 2024:
  - Updated T2 North Narrative, dated May 6, 2024.
  - NPDES Permit MN0002101, issued April 5, 2013; expired March 31, 2018.

- MSP International Airport 2001 Runway 17-35 Trunk Storm Sewer, PH3 Grading Final - MAC Pond #1, dated December 28, 2000.
- 2001 Runway 17-35 Trunk Storm Sewer Phase III - Water Quality Ponds, dated April 2, 2001.
- Pond 1 Piping Detail, dated September 2021.
- MSP International Airport 2001 Runway 17-35 Trunk Storm Sewer, PH3 - MAC Pond #1 Intake Structure, dated April 2, 2001.
- Pond Sediment Inspection Results and Notes.
- NPDES Stormwater Pond Maintenance Factsheet, dated January 2022.
- MSP International Airport Hydrologic/Hydraulic/Water Quality Models-2024 Status Update, dated May 2, 2024.
- MSP International Airport Terminal 2 North Expansion Drainage Area Map – Proposed Conditions.
- MSP International Airport Terminal 2 North Expansion Drainage Area Map – Existing Conditions.
- Revised Permit Application by Kimley-Horn; received May 13, 2024.
- Revised Stormwater Pollution Prevention Plan (SWPPP) by Kimley-Horn; received June 5, 2024.
- The following exhibits were submitted by TKDA on June 24, 2024:
  - MSP Hydrologic/Hydraulic/Water Quality Model Report, dated June 21, 2024.
  - LRMWD comment response letter, dated June 21, 2024.
  - Revised existing and proposed XPSWMM models, no date.
  - Revised P8 Model, no date.
  - Drainage calculations, dated June 24, 2024.
  - Drainage area maps, no date.
  - Flow routing maps, no date.
  - Drainage plans, no date.
- Rule D Compliance Narrative, dated July 11, 2024, by TKDA; received July 11, 2024.
- MIDS Design Sequence Flow Chart, by TKDA; received July 30, 2024.

The application was deemed complete on July 30, 2024, and the documents received provide the minimum information necessary for a Rule D permit review.

### ***Rule D – Stormwater Management***

The project proposes a total of 5.86 acres of new and reconstructed impervious area. The overall impervious surfaces will be reduced by 0.3 acres. An existing stormwater pond (MSP Pond 1) will be used for stormwater management of the project. Stormwater for the project site drains to storm sewer that discharges to MSP Pond 1, and ultimately discharges to the Minnesota River. The applicant submitted an XPSWMM Model of the existing and proposed site conditions.

Section 5.4.1 of Rule D requires applicants to demonstrate no increase in a project’s proposed runoff rates compared to existing conditions. The applicant proposes to meet the rate control requirement by routing stormwater from the site through the existing MSP Pond 1. The existing and proposed discharge rates are provided in Table 1.

*Table 1. Terminal 2 North Project MSP Pond 1 Discharge Rates Summary*

Rainfall Event (24-hour depth)	Existing (Cubic Feet per Second [CFS])	Proposed (CFS)	Difference (CFS)
2-year – 2.83”	159	159	0
10-year – 4.24”	186	186	0
100-year – 7.50”	214	214	0

The modeled runoff rates show no change from existing conditions for the 2-, 10-, and 100-year rainfall events, meeting the rate control requirements of Rule D. There was no change in the runoff rates from the pond because the project changed a negligible amount of impervious surface draining to the pond (-0.3 acres).

Section 5.4.2 of Rule D requires projects to retain 1 inch of runoff from the new and fully reconstructed impervious areas. The project proposes 5.86 acres of new and fully reconstructed impervious area. Therefore, the project must provide 21,272 cubic feet of volume retention to meet Rule D requirements. Additionally, section 5.4.3 of Rule D requires no net increase in total phosphorus (TP) or total suspended solids (TSS) to receiving waterbodies when compared to existing conditions.

The project will provide on-site stormwater management for 6,684 cubic feet of runoff by constructing a 50,000-gallon underground storage tank to be installed below the building to capture and store rainwater for use in non-potable building internal plumbing, such as flushing toilets. The gray-water reuse practice is a form of volume reduction because the water is routed to sanitary sewer and removed entirely from the storm sewer network.

The applicant is proposing to treat the remaining volume of runoff using existing MSP Pond 1. The applicant provided as-built grading information, pond maintenance and sediment removal information, and LiDAR data showing the existing conditions of MSP Pond 1. Currently, MSP is authorized to discharge stormwater under the airport’s NPDES Permit MN0002101. This permit requires monitoring and effluent limits for TSS and TP, which includes monitoring discharge from the MSP stormwater ponds to the Minnesota River. The effluent limits for TSS and TP are stricter than LMRWD rules. The charts in Attachment 1 show that the airport has remained under the effluent limits for both TSS and TP since their permit was issued in 2013.

As presented, MSP Pond 1 has been properly maintained throughout the years and reduces pollutant loading for both TSS and TP, meeting the requirements of Rule D.

### *Recommendations*

Based on review of the Project, we recommend conditional approval of an amendment to the Terminal 2 North Project to authorize construction of impervious surfaces in compliance with Rule D, contingent on receipt of the following:

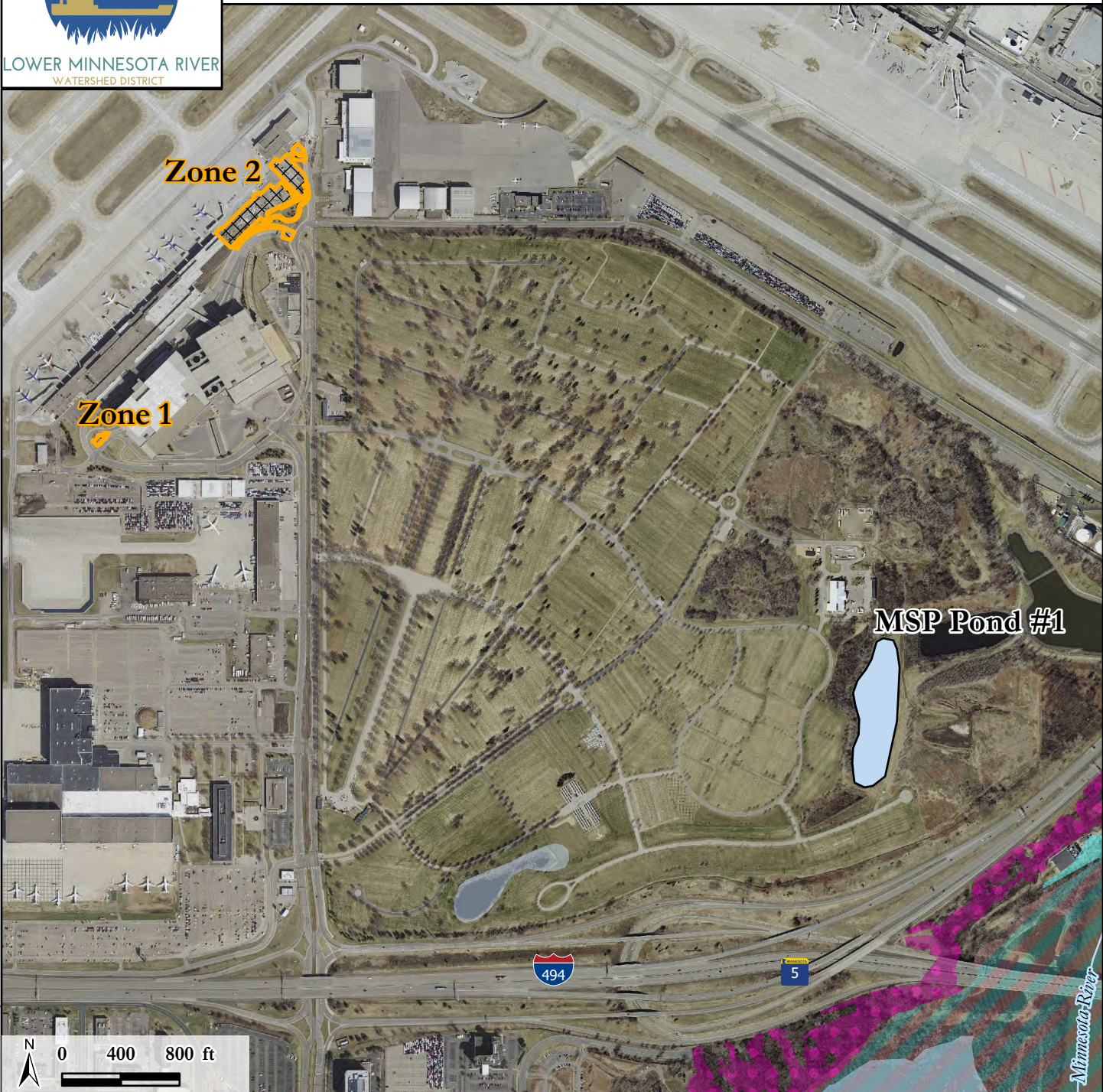
- Executed maintenance agreement.

### *Attachments*

- Figure 1—2024 T2 North Expansion Project Location (LMRWD 2024-006)
- Figure 2—2024 T2 North Expansion Zone #1
- Figure 3—2024 T2 North Expansion Zone #2
- Attachment 1—TSS and TP Effluent Limits Charts



Figure I: 2024 T2 North Expansion Project Location  
LMRWD No. 2024-006



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**Legend**

- Proposed Expansion Zones
- MSP Pond #1
- Public Waterbodies
- Steep Slope Overlay District
- 100-yr Floodplain
- Floodway
- Public Waters

**LMRWD Watershed Location Map**

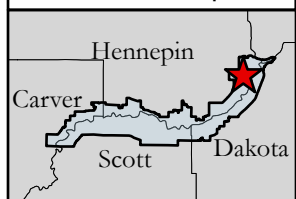
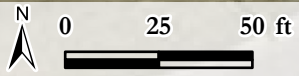





Figure 2: 2024 T2 North Expansion Zone #1  
LMRWD No. 2024-006



**Legend**

 Proposed Impervious

**LMRWD Watershed Location Map**








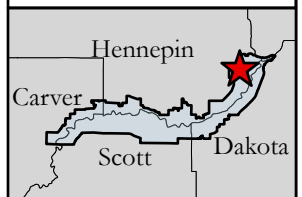
Figure 3: 2024 T2 North Expansion Zone #2  
LMRWD No. 2024-006



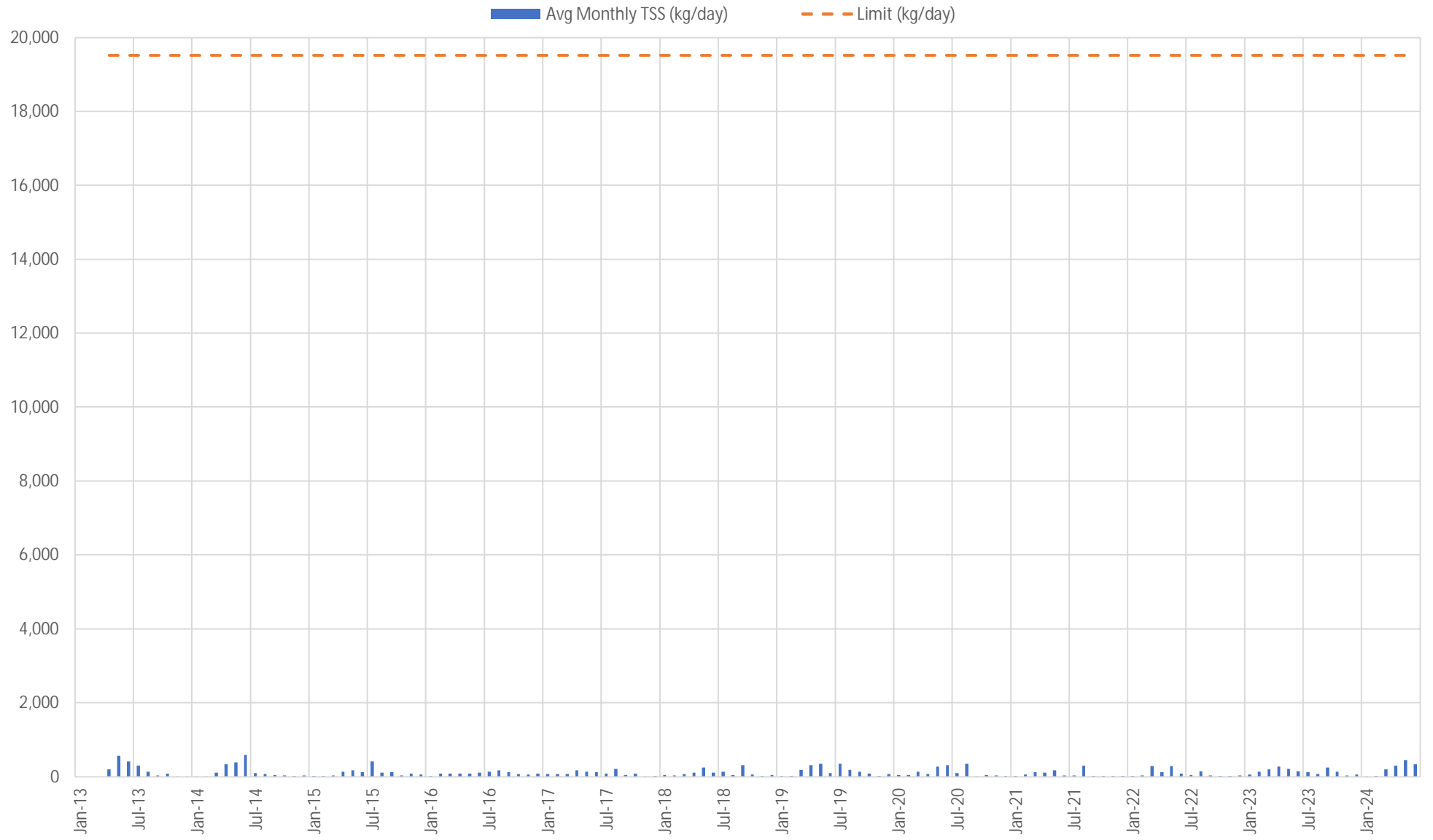
**Legend**

 Proposed Impervious

**LMRWD Watershed Location Map**



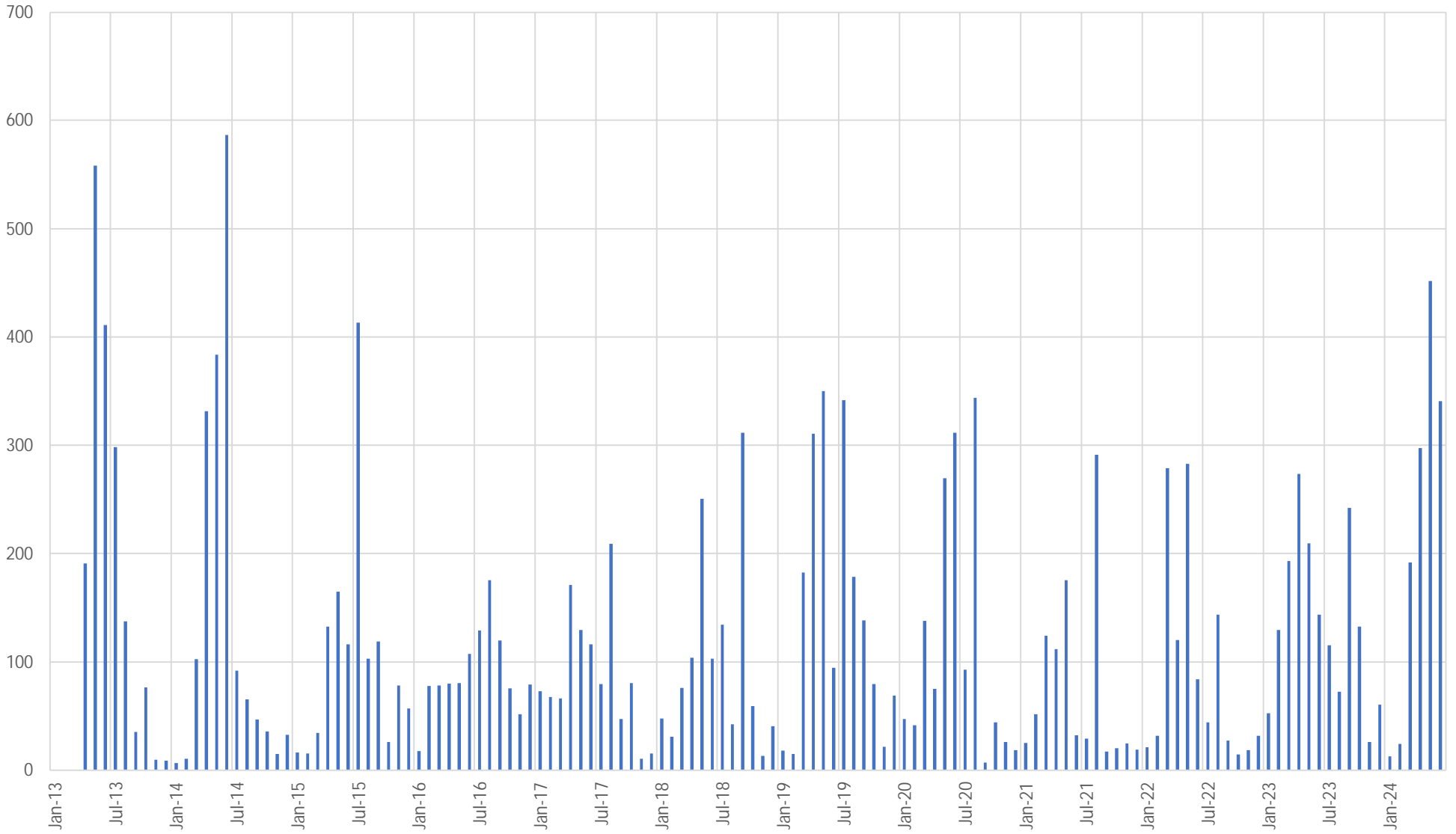
### MSP - TSS Compliance Summary (19,520 kg/day calendar month average limit)



# MSP - TSS Compliance Summary

(19,520 kg/day calendar month average limit)

■ Avg Monthly TSS (kg/day)



# MSP - Total Phosphorus Compliance Summary

(1,134 kg/yr 12-month rolling sum limit)

12- Month Rolling Total Phosphorus (kg/yr)      Limit (kg/yr)

