Annual Report for Year 2 (2023-2024) of the Time Limited Water Quality Standard for Chloride

May 2024

Prepared by Morton Salt, Inc.

Calumet, IL

Morton Salt, Inc. is a member of the Chicago Area Waterways Chloride Workgroup/Lower Des Plaines Watershed Group

1.0 Introduction

Morton Salt, Inc. (Morton) is submitting this Annual Report for the second year (2023-2024) to report on progress in meeting the requirements for the Time Limited Water Quality Standard for Chloride for its Calumet bulk salt storage facility located in Chicago, IL. Morton's site is registered to discharge stormwater under the Time Limited Water Quality Standard for Chloride for the Chicago Area Waterways System and Lower Des Plaines River watersheds. This Annual Report has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride.

The water quality standard for chloride for the Chicago Area Waterway System (CAWS) was updated as part of the rulemaking process related to changing the designated use of the CAWS. The chloride standard was updated from 1,500 mg/L during the winter and 500 mg/L during the summer to 500 mg/L all year round. The change in the chloride water quality standard took effect in 2018. Because portions of the CAWS were not going to meet this new standard due to the need to maintain public safety on roads, highways, sidewalks and parking lots during the winter months, a joint submittal and supporting individual petitions were submitted between 2015 and 2018 to the Illinois Pollution Control Board for a variance from the chloride standard. The joint petition laid out best management practices that can be achieved by the petitioners to reduce their chloride use while maintaining public safety during winter storms. In addition to the CAWS, portions of the Lower Des Plaines River watershed were included as it receives water from the CAWS.

On November 4, 2021, the IPCB issued an Opinion and Order for a Time Limited Water Quality Standard (TLWQS) for Chloride for portions of the CAWS and Lower Des Plains River watersheds. The TLWQS for Chloride watersheds are defined in the Opinion and Order as the Des Plaines River watershed from the Kankakee River to the Will County Line (except for the DuPage River watershed) and the CAWS watershed (except the North Branch Chicago River watershed upstream of the North Shore Channel and those portions of the watershed located in Indiana). This is a watershed-based approach to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS for Chloride to create PMPs and implement specific best management practices based on their operations to reduce their chloride discharges.

2.0 Organization, Facility Information

Organization Name: Morton Salt, Inc.		
Facility Name: Calumet Site		Permit Number: ILG103029
Facility Address: 3443-3461 East 100th Street		
City: Chicago	State: Illinois	Zip Code: 60617

3.0 Best Management Practices

Details regarding Morton's implementation of the best management practices (BMPs) identified as part of the TLWQS for Chloride are included below.

Workgroup BMP

BMP	Organization Description of Current Implementation or Status Update to the Plan to Implement the BMP
The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	Morton is a member of the Chicago Area Waterways Chloride Workgroup. Morton has participated in Quarterly Large Group Membership meetings to discuss and propose chloride reduction approaches. During the annual period, Morton prepared and provided the second Annual Report for Year 2 (2023-2024) to the IEPA and workgroup.

Salt Storage and Handling BMPs

BMP	Organization Description of Current Implementation or Status Update to the Plan to Implement the BMP
All salt will be stored on an impermeable pad constructed to ensure that minimal stormwater comes into contact with salt.	Morton's stockpile is stored outdoors on an asphalt pad. Improvements to the stockpile pad are underway as further detailed below in the section for Additional BMPs.
Pads will be constructed to direct stormwater away from the salt pile. The permittee must consider directing any drainage that enters the pad to a collection point where feasible.	Stormwater runoff at the site is categorized as contact stormwater and non-contact stormwater. Contact stormwater refers to stormwater in direct contact with the pad and/or the salt stockpile. When no salt is on the pad, drainage is primarily influenced by the pad grading. Stormwater in contact with the empty pad will accumulate, evaporate, or potentially overflow following the current grade of the pad. When salt is partially stored on the pad, stormwater flows from the stockpile cover and is directed away from the pad. Non-contact stormwater refers to precipitation that falls on the stockpile covers or areas surrounding the pad, occurring when the salt is covered on the pad. Stormwater runs off the stockpile cover and is directed away from the pile along all sides beyond the concrete barriers. Stormwater flow may discharge to the outfalls or accumulate in the drainage areas depending on the direction of flow from the stockpile (see Figure 2).
Outdoor salt piles not stored under permanent cover must be covered by well-secured tarps at all times except when in active use. While working on the pile, fixed or mobile berms must be incorporated around non-working face to minimize stormwater contact. The permittee must stage tarp when starting final lift and tarp over the edge of the berm/pad where possible.	Morton's operations plan calls for the stockpile to be covered, except when it is being constructed or shaped, or when salt is being loaded out for shipment. The stockpile cover is properly maintained and inspected to ensure there are no tears or holes. Deficiencies are addressed as soon as possible to maintain proper coverage of the stockpile. Morton uses concrete blocks to delineate the boundary of salt storage along the non-working faces of the outdoor storage pad. The stockpile cover is installed over the concrete blocks to direct stormwater away from the pile.

Good housekeeping practices must be implemented at the site, including: • cleanup of salt at the end of each day or conclusion of a storm event; • tarping of trucks for transportation of bulk chloride; • maintaining the pad and equipment; • good practices during loading and unloading; • cleanup of loading and spreading equipment after each snow/ice event; • a written inspection program for storage facility, structures and work area; • removing surplus materials from the site when winter activity finished where applicable; • annual inspection and repairs completed when feasible; • evaluate the opportunity to reduce or reuse the wash water.	Morton implements good housekeeping BMPs to maintain a clean and orderly workplace to minimize the potential for salt mobilization that could impact stormwater. Good housekeeping practices include: • Cleaning up salt each day as needed in the loading/unloading/handling areas; • Trucks being loaded for off-site transport are covered to minimize the mobilization of salt while in transit; • Regularly inspecting the storage pad, facility equipment, and other systems that may affect the quality of stormwater. Equipment, stockpile covers (i.e., tarps) and structures (i.e., scale house) are inspected for signs of wear. If wear is identified, items are repaired or replaced; and • Completing routine inspections to review salt materials/residue that may come in contact with stormwater, leaks from equipment, temporary and permanent outdoor storage areas, offsite tracking of materials, tracking of materials, and control measures. Corrective actions are developed during the inspections if action is needed to address concerns.
Annual training must be conducted for employees responsible for loading/unloading/handling at docks and trucks at the facility.	Morton implements an annual training program in accordance with the Industrial General Permit. The training requirements are included in the SWPPP and are sufficient to address the training requirements of the PMP. Employees responsible for loading/unloading/handling (including the salt handling contractors) at the docks and trucks of the facility partake in the annual training.
An Annual Report must be completed as required by paragraph 3(B) of this order. The report must be standardized in excel, and must be submitted to the IEPA and to the watershed group.	Morton has prepared the TLWQS Annual Report for the second annual reporting period and submitted it to the IEPA and workgroup. The report addresses operations from May 1, 2023 through April 30, 2024.
For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow	Drainage away from the immediate working areas related to the salt storage pad is detailed above. Morton implements various practices to reduce the potential for salt being mobilized from the pad area including sufficient slope to direct stormwater away

melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.	from these working areas. Morton has completed design and engineering work to implement improvements to the stockpile pad and travel ways as detailed below. Morton received approval of the design improvements and has selected contractors to complete the work on the site.
The Permittee must make use of fixed and mobile berms where appropriate to redirect flow and tarp over the edge of the pad where possible to minimize stormwater contact.	Morton uses concrete blocks to delineate the boundary of salt storage along the northern, western, and eastern portions of the storage pad. The stockpile cover is installed over the concrete barriers to promote stormwater flow away from the pile. However, since concrete barriers are not present on the southern working face of the stockpile (to allow for truck/loader access), ballast is established where feasible to minimize flow of drainage under the cover along those portions of the stockpile. As part of design improvements as further detailed below in the section for Additional BMPs, Morton plans to replace the concrete blocks with asphalt haunches integrated into the pad which will prevent stormwater run-on to the pad.
The Permittee must consider retaining stormwater which contacts the salt from a 25-year/24- hour storm event where feasible. Such retention could be either within the berm or in a separate basin, or the impacted stormwater could be stored and used as pre-wetting brine.	Morton has evaluated the feasibility of retaining stormwater in contact with the salt and storage pad for a 25-year/24-hour storm event. Engineering design options for drainage have been prepared and evaluated in conjunction with improvements to the pad.

Additional BMPs Identified for Organization/Facility

Morton has completed designing improvements to the pad and associated structures to maximize stormwater drainage away from the salt storage area. These improvements include regrading the paved surface, installation of drainage structures, and the installation of pavement “haunches” to replace the existing concrete blocks on the non-working faces of the stockpile. The improvements are intended to promote drainage flow away from the salt stockpile with an expected reduction in the quantity of chlorides discharged. During this reporting year, Morton continued to implement the use of silt fencing. hay bales, and silt socks to address sediment mobilized in stormwater.

3.1 Analysis of BMPs Implemented

Morton has determined that improvements to the site BMPs are needed. As such, Morton is currently in the process of completing these improvements as detailed above.

3.2 Analysis of Alternative Treatments or New Technology

Management of chlorides in stormwater discharges from a bulk salt storage facility is challenging. Despite implementation of extensive BMPs, there will inevitably be periods of time when stormwater will come into contact with the bulk stockpile. Although the stockpile is covered the vast majority of time, exposure to precipitation/stormwater is possible during marine vessel receipts, construction of the stockpile, shaping, and covering activities. Also, the working face of the stockpile is unavoidably exposed (albeit limited) during routine daily operations when loading out salt to state, municipal, and commercial customers.

Morton considers the management techniques currently in place to be standard best practices for the industry. Alternative options such as completely enclosing the storage operations or treating stormwater to remove chlorides are not economically feasible. As such, Morton has focused its attention on maintaining and improving existing BMPs where practicable to direct clean stormwater away from salt storage and handling areas.

4.0 Deicing/Anti-Icing Agents Used

Morton is a bulk salt storage facility and does not practice deicing or anti-icing agent operations at the facility. As such, materials used for the winter season are not applicable.

4.1 Application Rates

Morton is a bulk salt storage facility. As such, application rates are not applicable.

4.1.1 Application Rate Analysis

Morton is a bulk salt storage facility. As such, application rate analysis is not applicable.

4.2 Application Practices

Morton is a bulk salt storage facility. As such, practices to apply deicing and anti-icing materials is not applicable.

4.3 Call Outs

Morton is a bulk salt storage facility. As such, call outs related to winter weather conditions are not applicable.

4.4 Use of Liquids

Morton is a bulk salt storage facility. As such, the use of liquids for these operations are not applicable.

5.0 Training

Morton completed annual training for employees who are part of the materials storage, loading, unloading, and/or handling operations on November 28, 2023. A list of annual training topics by type of employee is attached as Appendix 1.

6.0 Deicing and Snow Removal Equipment

Morton is a bulk salt storage facility and does not practice deicing and snow removal operations at the facility. As such, the use of deicing and snow removal equipment is not applicable.

7.0 Equipment Washing and Wash Water Collection

Morton does not generate wash water from equipment or pad cleaning at the site. As such, the collection, disposal, or reuse of such water is not applicable.

8.0 Material Storage

Morton maintains one storage area. Information regarding the storage area is included in Appendix 2.

9.0 Capital Purchases

Morton has identified capital expenses (or purchases) to implement the BMPs and reduce chlorides in their operations over the first 5-year term of the TLWQS General Permit. The capital purchases are attached as Appendix 3.

9.1 Explanation of Capital Purchases Unable to Be Made According to the Reported Plan

The schedule for these improvements is dependent on a number of factors including local permit approvals, availability of contractors, salt storage at the end of the operating season, and the construction season.

10.0 Environmental Monitoring Data

Chloride monitoring data is collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data is maintained by the workgroups. Chloride data for the CAWS is collected by MWRD for the CAWS watershed and provided to the workgroups as part of the annual reporting as required by the IPCB order. The Lower Des Plaines Watershed Group also maintains a USGS monitoring station in the Des Plaines River at Channahon, IL that collects continuous conductivity data to estimate chloride concentrations.

Chloride monitoring data reports are posted to https://www.cawswatershed.org/reports/ and https://ldpwatersheds.org/about-us/lower-des-plaines-watershed-group/our-work/chloride-tlwqs/.

10.1 Organization Specific Chloride Monitoring Data

Morton is subject to the NPDES General Permit (No. ILR00) for Stormwater Discharges from Industrial Activities (Industrial General Permit). Chloride monitoring may be completed based on visual evaluation results. Morton is required to complete quarterly visual evaluations of stormwater discharges in accordance with the Industrial General Permit. Additional analytical monitoring may be required based on the results of the visual evaluations. Throughout the subject period, Morton completed stormwater analysis for chlorides during four monitoring events. Chloride monitoring data from the subject period has been provided in Morton's report to IEPA as a condition of the referenced permit.

10.2 Changes to the Facility's NPDES Treatment Technologies for Chloride

Not Applicable.

11.0 Program Evaluation

11.1 Proposed Steps for the Coming Year

Morton has completed designing and planning to implement improvements at the site to further reduce the concentrations of chloride for the coming year as detailed above. Morton has selected a contractor for completing the work and is finalizing permitting associated with the work.

12.0 Workgroup Participation

Morton is a member of Chicago Area Waterways Chloride Workgroup. By participating and being a member of a workgroup, Morton has the opportunity to collaborate with others involved with salt management operations. As a member of the workgroup, Morton has attended and participated in Quarterly Large Group Membership meetings. Several topics discussed during these meetings included budgets, workshops, potential education and outreach opportunities, and salt use survey feedback. During the meetings, Morton provided input to the workgroup discussions and activities proposed on chloride reduction.

Morton has prepared and provided this second Annual Report for Year 2 (2023-2024) by July 1, 2024, to the IEPA and workgroup. Morton will continue to be a contributing member by assisting to meet specified deadlines and by reporting information to the workgroup as necessary.

APPENDICES

Appendix 1

Annual Training

Organization Name: **Chloride TLWQS Annual Report**
Morton Salt, Inc. - Calumet, IL **Appendix 1 - Annual Training**

Role in Operations	Training Topics Covered
Salt Handling Contractor	Annual Stormwater Pollution Prevention Training, including reviewing topics on: Purpose of the program; NPDES General Permit; Stormwater Pollution Prevention Plan (components and goals); Identifying potential pollutant sources; Best Management Practices; Spill response and prevention methods; Major storm emergency procedures; Good Housekeeping; Material management practices; Inspections and reporting; and Stormwater runoff monitoring.

Appendix 2

Equipment

Organization Name:
Morton Salt, Inc. - Calumet, IL

Chloride TLWQS Annual Report
Appendix 2 - Equipment

Location of Storage Area	Material Stored (Rock Salt, Salt Brine, etc)	Amount of Material Stored 2022-2023 (tons)	Amount of Material Stored 2023-2024 (tons)	Material stored under permanent cover? (yes/describe other)	Material stored in a fully enclosed structure? (yes/describe other)	Material stored on an impervious pad? (yes/describe other)	Good housekeeping practices followed at storage area? (yes/describe other)
Salt Storage Pad	Rock Salt	281,635	281,635	Other - The salt stockpile is covered with a well-secured tarp at all times, except when the stockpile is being constructed or shaped, or when salt is being loaded out for shipment.	Other - Concrete block wall and asphalt haunch	Other - Asphalt pad	Yes

Appendix 3

Capital Purchases

Organization Name: **Chloride TLWQS Annual Report**
Morton Salt, Inc. - Calumet, IL **Appendix 3 - Capital Purchases**

Capital Purchase Description	Plan/Schedule for Purchase
Re-establish the grades of the pad.	Purchases/installation of planned improvements to be made within subsequent reporting years dependent on local permit approvals, availability of contractors, salt storage at the end of the operating season, and the construction season.
Install drainage structures.	
Install asphalt haunches around the pad.	

FIGURE 1

Site Location Map

U.S. Geological Survey Map
Scale: 1:24,000
Lake Calumet Quadrangle

TRITON ENVIRONMENTAL
Environmental Consulting & Engineering

FIGURE 1
SITE LOCATION MAP

MORTON SALT, INC.
3443-3461 EAST 100th STREET
CHICAGO, ILLINOIS

Base map is from www.usgs.gov map data center. Dated 2021
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FIGURE 2

Site Plan

REV.	DESCRIPTION	APP'D	DATE
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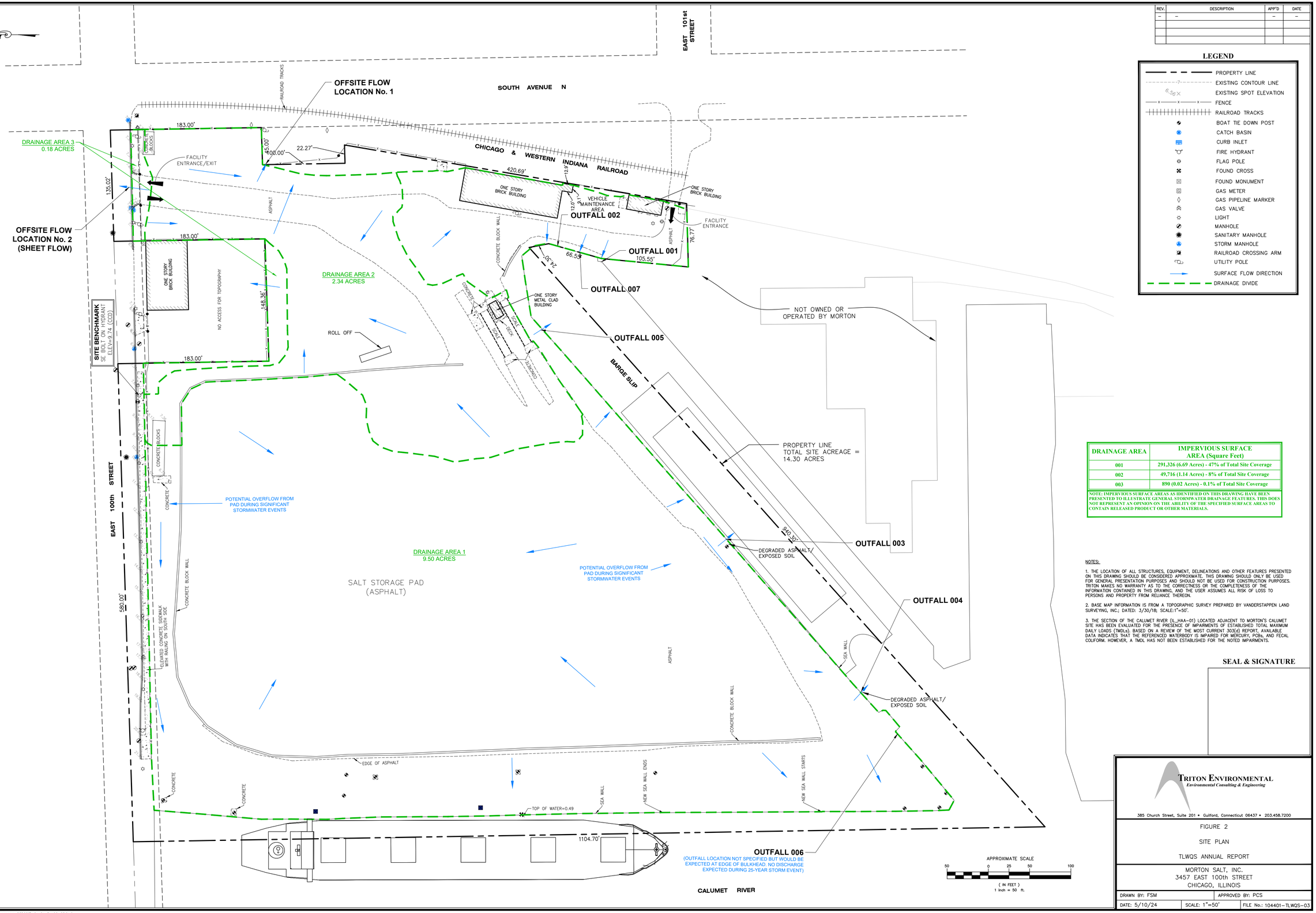

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING SPOT ELEVATION
- FENCE
- RAILROAD TRACKS
- BOAT TIE DOWN POST
- CATCH BASIN
- CURB INLET
- FIRE HYDRANT
- FLAG POLE
- FOUND CROSS
- FOUND MONUMENT
- GAS METER
- GAS PIPELINE MARKER
- GAS VALVE
- LIGHT
- MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- RAILROAD CROSSING ARM
- UTILITY POLE
- SURFACE FLOW DIRECTION
- DRAINAGE DIVIDE

DRAINAGE AREA	IMPERVIOUS SURFACE AREA (Square Feet)
001	291,326 (6.69 Acres) - 47% of Total Site Coverage
002	49,716 (1.14 Acres) - 8% of Total Site Coverage
003	890 (0.02 Acres) - 0.1% of Total Site Coverage

NOTE: IMPERVIOUS SURFACE AREAS AS IDENTIFIED ON THIS DRAWING HAVE BEEN PRESENTED TO ILLUSTRATE GENERAL STORMWATER DRAINAGE FEATURES. THIS DOES NOT REPRESENT AN OPINION ON THE ABILITY OF THE SPECIFIED SURFACE AREAS TO CONTAIN RELEASED PRODUCT OR OTHER MATERIALS.

NOTES:

1. THE LOCATION OF ALL STRUCTURES, EQUIPMENT, DELINEATIONS AND OTHER FEATURES PRESENTED ON THIS DRAWING SHOULD BE CONSIDERED APPROXIMATE. THIS DRAWING SHOULD ONLY BE USED FOR GENERAL PRESENTATION PURPOSES AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES. TRITON MAKES NO WARRANTY AS TO THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION CONTAINED IN THIS DRAWING, AND THE USER ASSUMES ALL RISK OF LOSS TO PERSONS AND PROPERTY FROM RELIANCE THEREON.

2. BASE MAP INFORMATION IS FROM A TOPOGRAPHIC SURVEY PREPARED BY VANDERSTAPPEN LAND SURVEYING, INC.; DATED: 3/30/18; SCALE:1"=50'.

3. THE SECTION OF THE CALUMET RIVER (IL_HAA-01) LOCATED ADJACENT TO MORTON'S CALUMET SITE HAS BEEN EVALUATED FOR THE PRESENCE OF IMPAIRMENTS OF ESTABLISHED TOTAL MAXIMUM DAILY LOADS (TMDLs), BASED ON A REVIEW OF THE MOST CURRENT 303(d) REPORT, AVAILABLE DATA INDICATES THAT THE REFERENCED WATERBODY IS IMPAIRED FOR MERCURY, PCBs, AND FECAL COLIFORM. HOWEVER, A TMDL HAS NOT BEEN ESTABLISHED FOR THE NOTED IMPAIRMENTS.

APPROXIMATE SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

SEAL & SIGNATURE

TRITON ENVIRONMENTAL
Environmental Consulting & Engineering
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FIGURE 2

SITE PLAN

TLWQS ANNUAL REPORT

MORTON SALT, INC.
3457 EAST 100th STREET
CHICAGO, ILLINOIS

DRAWN BY: FSM	APPROVED BY: PCS	
DATE: 5/10/24	SCALE: 1"=50'	FILE No.: 104401-TLWQS-03

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