STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

Permit Order
Denial of Water Quality Certification
U.S. Magnesium LLC
Canal Continuation Project
Certification Decision No.: DWQ-2022-08001

I. Introduction

On August 30, 2022, The Utah Department of Environmental Quality, Division of Water Quality ("DWQ"), received a Clean Water Act ("CWA") Section 401 Water Quality Certification ("401 WQC") request for the U.S. Magnesium Canal Continuation project ("proposed project") in Tooele County, Utah. The 401 WQC request was submitted by Tim Gribben on behalf of U.S. Magnesium LLC ("project proponent" or "U.S. Mag"). The U.S. Army Corps of Engineers ("USACE") originally determined the 401 WQC request was incomplete. *See* DWQ-2022-032236. On September 9, 2022, USACE determined a complete 401 WQC request had been submitted on September 2, 2022. *See* DWQ-2022-032237. As discussed in greater detail below, the USACE requires the Director to make a certifying decision no later than December 29, 2022.

The Director hereby denies the 401 WQC for the proposed project. DWQ requires additional information in order to make a certifying decision, but the response and evaluation of the necessary additional information would extend beyond the USACE established reasonable period of time and approved extension periods, discussed below.

II. Project Background

According to the project proponent, the proposed project would extend two intake canals in the Gilbert Bay of the Great Salt Lake to reach open water. The project proponent indicated the extension would maintain connectivity with the necessary source water for its evaporation facility. The proposed project would utilize hydraulic dredging to extend the canals. The existing P-0 Canal is 2.6 miles long and would be extended an additional 3.0 miles, with a 40-foot bottom width and maximum top width of 62 feet. The existing P-North Canal is 1.1 miles long and would be extended an additional 0.7 miles, with a 40-foot bottom width and maximum top width of 55 feet. Both canals would maintain conveyance of lake water intake flows of 100,000 gallons per minute from the Great Salt Lake to the intake pump stations. The proposed project would extend the canals to a bottom elevation of 4,185 feet and the construction corridor would be limited to 300-ft wide. The proposed project would be an initial phase in establishing long-term access to water from the Great Salt Lake (Gilbert Bay). The project proponent indicated dredging activity would be conducted adjacent to the existing canals to minimize impacts. According to the project proponent, dredged materials would be placed into the lakebed adjacent to the construction corridor in a manner that mimics existing conditions. The project proponent provided three (3) alternatives to dredging, which included facility modifications, a floating pipe system, and an upland trench system to convey north arm water to the facility. Facility modifications have been ongoing to maintain operations with lowered lake levels. The facility has been relying on stockpiled surplus to supplement the declining intake capacity but the project proponent anticipates the surplus will be depleted by next year. The floating pipe alternative would require

additional infrastructure including barges, pumps, and anchoring systems. This alternative would be at a higher cost and would be dependent on resource availability. The project proponent indicated the upland trench system would not meet the facility's immediate need to access the brine supply necessary to maintain its operations, but stated they may consider it in the future.

III. Water Quality Certification Review Process

On June 1, 2020, the Environmental Protection Agency ("EPA") Administrator signed the EPA's final "Clean Water Act Section 401 Certification Rule" (the "2020 Rule"), which became effective on September 11, 2020. The 2020 Rule supersedes the 1971 regulations which were controlling prior to the effectiveness of the 2020 Rule. The 2020 Rule makes a number of substantive changes related to DWQ's review of the project proponent's 401 WQC request. Specifically, the 2020 Rule implements a "reasonable period of time" within which certifying authorities must act on the certification request. The specific "reasonable period of time" on this application was ninety (90) days. Additionally, the 2020 Rule requires that the "reasonable period of time" begins when USACE determines the certifying authority received the "complete" certification application, rather than when the certifying authority determines it has received all necessary information to make a certifying decision.

On May 18, 2022, the project proponent requested a pre-filing meeting for the proposed project. *See* DWQ-2022-032213. DWQ attended a joint pre-filing meeting with USACE on June 2, 2022. *See* DWQ-2022-032214. USACE published public notice of the proposed project on August 5, 2022. *See* DWQ-2022-032231. According to Utah Admin. Code R317-15-4.7, "an application for Certification shall be made simultaneously with the application to the federal licensing or permit agency." The project proponent is required to wait thirty (30) days after the request for a pre-filing meeting before they can submit their 401 WQC request. The project proponent submitted its 401 WQC request and application for the proposed project to DWQ and USACE on August 30, 2022. *See* DWQ-2022-032221. On September 2, 2022, USACE determined the 401 WQC request was incomplete because it did not include the following statements: (1) "The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief"; and (2) "The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time." *See* DWQ-2022-032236. On September 2, 2022, the project proponent submitted the additional items requested. On September 9, 2022, USACE determined the 401 WQC request was complete and notified DWQ that the reasonable period of time for the project was ninety (90) days, requiring the Director to act by December 1, 2022. *See* DWQ-2022-032237.

On September 22, 2022, the Director provided public notice of a Draft 401 WQC decision for a thirty (30) day comment period. At the request of the public, the Director extended the public comment period for an additional fifteen (15) days and held a public hearing on October 19, 2022. On October 12, 2022, the Director requested an extension of the reasonable period of time and on October 20, 2022, USACE granted DWQ a fifteen (15) day extension, which extended the Director's certification date to December 15, 2022. *See* DWQ-2022-032239. The public notice and comment period ended November 14, 2022.

On November 2, 2022, the project proponent provided responses to public comments received by USACE as supplemental information ("Response to USACE Comments"). *See* DWQ-2022-032224, dated October 28, 2022. DWQ received seven hundred eighty-seven (787) comments on the Draft 401 WQC decision. *See*

DWQ-2022-032392. On November 15, 2022, the Director again requested USACE to extend the reasonable period of time to ensure sufficient time to process and consider all comments received. *See* DWQ-2022-032226 and DWQ-2022-032227. On December 2, 2022, USACE approved the additional fifteen (15) day extension, which extended the reasonable period of time for Director action to December 29, 2022. *See* DWQ-2022-032243.

After continued review of the 401 WQC request and after consideration of the comments received, DWQ determined additional information is required from the project proponent before the Director can make a certifying decision. On December 15, 2022, the Director once again requested an extension of the reasonable period of time for up to one (1) year, requiring the Director to act by September 1, 2023, to allow sufficient time for the project proponent to gather the information and for DWQ to consider the additional information. *See* DWQ-2022-032244 and DWQ-2022-032229. On December 21, 2022, USACE denied the Director's extension request. *See* DWQ-2022-032244. As such, the reasonable period of time for the Director to make a certifying decision is December 29, 2022.

IV. Regulatory Framework

In accordance with CWA Section 401 and Utah Admin. Code R317-15, the project proponent is required to receive certification from the Director that the discharge from a proposed project will comply with all applicable water quality requirements prior to a federal license or permit being issued. The project proponent must provide sufficient information to demonstrate compliance with Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA, as implemented by Utah Code § 19-5, Utah Admin. Code R317-2, and R317-15.

According to Utah's Water Quality Certification Rules, in making a certifying decision, the Director will ordinarily consider whether the proposed discharge "1. impairs the designated beneficial use classifications (e.g., aquatic life, drinking water, recreation) in Section R317-2-6; 2. exceeds water quality criteria, either narrative or numeric, in Section R317-2-7; [or] 3. fails to meet the antidegradation (ADR) requirements of Section R317-2-7." Utah Admin. Code R317-15-6.1.A.

The Water Quality Board has "group[ed] the waters of the state into classes so as to protect against controllable pollution the beneficial uses designated within each class." Utah Admin. Code R317-2-6. According to these classifications, Gilbert Bay has been classified as Class 5A. Utah Admin. Code R317-2-6.5(a). Below is a table summarizing the use class:

Beneficial Use Classes as described in UAC R317-2-6	
Use Class	Description of Protection
Class 5: The Great Salt Lake	
5A: Gilbert Bay	Protected for frequent primary and secondary contact recreation, waterfowl, shore birds and other water- oriented wildlife including their necessary food chain.
Geographical Boundary: All open waters at or below approximately 4,208-foot elevation south of the Union Pacific Causeway, excluding all of the Farmington Bay south of the Antelope Island Causeway and salt evaporation ponds.	

The Great Salt Lake only has Numeric Standards for selenium. The Narrative Standard states:

> [i]t shall be unlawful, and a violation of these rules, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures; or determined by biological assessments in Subsection R317-2-7.3.

Utah Admin. Code R317-2-7.2.

Utah's Antidegradation Policy requires that "existing instream water uses shall be maintained and protected. No water quality degradation is allowable which would interfere with or become injurious to existing instream water uses." Utah Admin. Code R317-2-3.1. DWQ must conduct an antidegradation review on all proposed federally regulated activities, including USACE 404 permits. Utah Admin. Code R317-2-3.5.1. Additionally, "[t]he Director may conduct an ADR on any projects with the potential for major impact on the quality of waters of the state. The review will determine whether the proposed activity complies with the applicable antidegradation requirements for the particular receiving waters that may be affected." Utah Admin. Code R317-2-3.5.a.1.

Utah's Antidegradation Review Implementation Guidance provides that "Utah's surface waters are assigned to one of three protection categories that are determined by their existing biological, chemical and physical integrity, and the interest of stakeholders in protecting current conditions."[1] Division of Water Quality, Utah Antidegradation Review Implementation Guidance, p. 3 (2019). Category 1 Waters are "[w]aters which have been determined by the Board to be of exceptional recreational or ecological significance or have been determined to be a State or National resource requiring protection, shall be maintained at existing high quality through designation, by the Board after public hearing, as Category 1

Waters." Utah Admin. Code R317-2-3.2. Category 2 Waters "are designated surface water segments which are treated as Category 1 Waters except that a point source discharge may be permitted provided that the discharge does not degrade existing water quality." Utah Admin. Code R317-2.3.3. Category 3 Waters are "all other waters of the state" and "point source discharges are allowed and degradation may occur, pursuant to the conditions and review procedures outlined in Section 3.5." Utah Admin. Code R317-2-3.4.

For Category 3 Waters, an Anti-degradation Level II review ("Level II ADR") is generally not required where the conditions outlined in Utah Admin. Code R317-2-3.5.b are present. This includes when "[w]ater quality will not be lowered by the proposed activity or for existing permitted facilities, water quality will not be further lowered by the proposed activity," and when "the water quality effects of the proposed activity are expected to be temporary and limited." Utah Admin. Code R317-2-3.5.b.1. and R317-2-3.5.b.4.

Utah's Antidegradation Policy provides guidance on the factors to be considered in determining whether a discharge should be considered "temporary and limited." Utah Admin. Code R317-2-3.5.b.4. These factors include: the length of time the water quality will be lowered, percent changes in ambient concentrations of pollutants of concern, pollutants affected, likelihood for long-term water quality benefits to a segment, potential for any residual long-term influences to existing uses, and if there is potential for impairment of fish spawning, survival and development of aquatic fauna excluding fish removal efforts. Utah Admin. Code R317-2-3.5.b.4.

V. Basis for Denial

DWQ continued to review the 401 WQC request materials concurrently with the public notice and comment period for the Draft Section 401 Water Quality Certification Decision. *See* DWQ-2022-08001. After careful review of the 401 WQC request, public comments, and the Response to USACE Comments, the Director determined that the project could not be certified because the Director requires the results of a Level II ADR before he can make a certifying decision.

A Level II ADR is required because, based on the submitted information, DWQ cannot determine whether water quality will not be further lowered by the proposed activity; the length of time the water quality would be lowered; whether there is potential for any residual long-term influences to existing uses; whether there is potential impairment of the fish spawning, survival and development of aquatic fauna, and ultimately whether the project could be considered temporary and limited. DWQ requests the project proponent to prepare and submit a Level II ADR for DWQ review and public participation, including the requirements listed in Utah Admin. Code R317-2-3.5.

The following information should be considered, analyzed and provided in the Level II ADR:

1.) **Beneficial Uses.** Consider the beneficial uses of Gilbert Bay. Gilbert Bay is assigned beneficial use classes 5A, which is "protected for frequent primary and secondary contact recreation, waterfowl, shore birds and other water- oriented wildlife including their necessary food chain." Utah Admin. Code R317-2-6.5.a. Impacts to Gilbert Bay should not prevent the lake from meeting beneficial use designations. The Level II ADR should provide details as to how the beneficial uses will be maintained. Please note that because the beneficial uses include ". . . waterfowl, shore birds and other water-oriented wildlife *including their necessary food chain*," this requires an evaluation of

all impacts from the activity including to brine flies and brine shrimp, including loss of habitat and food, and the impact that possible loss of brine fly and brine shrimp habitat and food would have on waterfowl, shore birds, and other migratory birds that rely on the unique ecosystem of Gilbert Bay. *Id*.

a.) **Lake Level and Salinity Analysis.** In the Response to USACE Comments, the project proponent provided information on the percentage of the current Great Salt Lake volume (south arm only) U.S. Mag's withdrawal constituted now, and the percentage change after the proposed project was completed. Please evaluate this further and identify changes in Gilbert Bay volume, salinity, and exposed shoreline in the five (5) years post project completion, assuming continued lake level trends. Please include the following:

i.) For each year after project completion, the percent of Gilbert Bay's volume removed by U.S. Mag's withdrawal, and the resulting anticipated lake level;

ii.) A comparison of anticipated lake levels with and without the proposed project;

iii.) A comparison of shoreline exposed with and without the proposed project;

iv.) A comparison of projected salinity levels with and without the proposed project; and

v.) Perform any necessary analyses to demonstrate that the proposed project will meet antidegradation requirements including maintaining beneficial uses and meeting the narrative standard. Any resubmission should elaborate on how the beneficial uses are maintained and how the analyses performed supports the conclusion.

b.) **Microbialite Survey and Analysis.** DWQ requires a microbialite survey as part of the Level II ADR. Microbialites and their microbial mats are the primary food source for brine shrimp and brine flies, so a microbialite survey is necessary to determine whether the beneficial uses in Gilbert Bay will be maintained (Utah Geological Survey, 2021[1]). If microbialites are identified in the proposed project area, please detail how the impact to microbialites will be reduced and mitigated. If microbialites are observed in the proposed project area, provide a percent estimate of microbialite habitat proposed to be impacted by the dredging of the canals in relation to estimated available microbialite habitat in Gilbert Bay. In addition, along with the evaluation required in item 1(a) above, please estimate the percent of microbialite habitat expected to be exposed over a five (5) year period with U.S. Mag's withdrawals after project completion and without U.S. Mag's water withdrawals, assuming current lake level trends continue. Perform any necessary analyses to demonstrate that the proposed project will meet antidegradation requirements including maintaining beneficial uses and meeting the narrative standard. Any resubmission should elaborate on how the beneficial uses are maintained and how the analyses performed supports the conclusion.

[1] Utah Geological Survey. (2021, July 15). *Drought negatively impacting Great Salt Lake Microbialites and ecosystem.* Utah Geological Survey. Retrieved December 27, 2022, from https://geology.utah.gov/drought-negatively-impacting-great-salt-lake-microbialites-and-ecosystem/

2.) **Alternatives Analysis.** The Level II ADR requires the evaluation of whether there are any other reasonable non-degrading or less degrading alternatives for the proposed activity. The alternatives analysis that was provided in the 401 WQC request does not provide sufficient detail to demonstrate that the proposed project is the only practicable alternative. Please review Utah Admin. Code R317-2.3.5 for evaluation considerations. There may be less degrading alternatives available to the project proponent that were not evaluated.

3.) **Timeline.** Please provide a detailed timeline of the proposed dredging of the canals, including anticipated months of work and timeframe to complete the work.

4.) **Environmental Assessment.** DWQ requires the results of a completed Environmental Assessment ("EA"). If the EA results in a Findings of No Significant Impact, the project proponent must ensure DWQ has the most up to date details on the proposed project and a copy of the determination. If USACE determines an Environmental Impact Statement ("EIS") is required, the project proponent must ensure DWQ has the most up to date details on the project, and DWQ will need to evaluate the Draft EIS as part of the Level II ADR review. If a Draft EIS is required, it is advised the project proponent does not reapply until the Draft EIS is available, to ensure DWQ has sufficient information and time to make a certifying decision within the reasonable period of time.

5.) **Additional Relevant Information.** Provide any additional information, studies, or analysis U.S. Mag believes may be relevant for DWQ's evaluation of its proposed project.

VI. Order

The Director hereby denies the 401 WQC due to insufficient information. The Director cannot determine if the proposed project will comply with water quality requirements and applicable provisions of the CWA Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards), which includes Utah's Antidegradation Policy and narrative standards. A Level II ADR and the surveys and analysis involved are necessary to determine whether the proposed project will maintain the beneficial uses of Gilbert Bay and Utah's Antidegradation Policy, including whether the impacts from the project are temporary and limited.

As discussed above, DWQ requested an extension of the reasonable period of time for up to one year, allowing the Director to make a certifying decision September 1, 2023. USACE denied that request on December 21, 2022. To ensure the Director has the necessary information to make a certifying decision, it is necessary to deny the 401 WQC request. The denial ensures that DWQ will receive the necessary information and have sufficient time to complete DWQ's administrative process. This denial does not preclude the project proponent from submitting a new certification request after the necessary information identified above is gathered.

VII. Notice

This denial constitutes a final Permit Order as defined in Utah Admin. Code R305-7-102(1)(m)(i). *See also* Utah Admin. Code R317-15-6.5. U.S. Magnesium, LLC may contest this Permit Order by filing and serving a timely written Petition for Review as provided for in Utah Code § 19-1-301.5(6), Utah Admin. Code R305-7-104 and R305-7-203. This Permit Order is effective on the date of issuance as defined in Utah Admin. Code R305-7-105(4). Failure to file a timely Petition for Review within 30 days of the date of issuance waives any right to contest this Permit Order or to seek judicial review. Utah Admin. Code R305-7-203(5)-(6).

John K. Mackey

John K. Mackey, P.E.
Director

12/29/2022

Date