

STATE OF UTAH
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY
SALT LAKE CITY, UTAH 84114-4870

**Ground Water Discharge Permit
Permit No. UGW490010**

In compliance with the provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 1953, as amended, the Act,

**City of Provo Public Works (Provo)
1377 S 350 E
Provo, UT 84606**

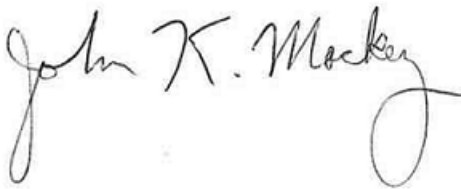
hereafter referred to as the Permittee, is granted a Ground Water Discharge Permit for two Aquifer Storage and Recovery (ASR) infiltration facilities at two locations in Provo, Utah; Rock Canyon and Riverview Park.

The facility shall be constructed and operated in accordance with conditions set forth in the permit and the Utah Administrative Rules for Ground Water Quality Protection (UAC R317-6).

This permit shall become effective on January 1, 2023,

This permit expires at midnight on December 31, 2028.

Signed this Eighth day of December, 2022.



John K. Mackey, P.E.
Director
Utah Division of Water Quality

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PART I. SPECIFIC PERMIT CONDITIONS

A. GROUND WATER CLASSIFICATION

Rock Canyon location water will be drawn from the existing culinary system via booster station/ pipeline and transferred to the infiltration area which consists of an existing dry streambed and existing channel features. Based on data submitted by the permittee, the upper most ground water under the site is defined as Class IA. Data used for this determination was from various monitoring wells near proposed discharge locations, specifically monitoring wells MW-RC1D, MW-RC2, and MW-RC3.

Riverview Park location water will be drawn from Provo River and West Union Canal to infiltrate in the existing constructed water feature in the park, following water feature modifications needed to facilitate long-term infiltration at this location. Based on data submitted by the permittee, the upper most ground water under the site is defined as Class IA. Data used for this determination was from various monitoring wells near proposed discharge locations, specifically monitoring wells MW-RV1, MW-RV2, and MW-RV3.

B. BACKGROUND GROUND WATER QUALITY

Based on samples taken from wells MW-RC1D, MW-RC2, MW-RC3, MW-RV1, MW-RV2, and MW-RV3 in 2020, background ground water total dissolved solids (TDS) is defined in Table 1. Based on samples taken from wells MW-RC1D, MW-RC2, and MW-RV2 in 2020, background ground water quality is defined in Table 2.

Table 1: Background TDS

Parameter	Rock Canyon Site Average of MW- RC1D, MW-RC2, and MW-RC3 (mg/l)	Riverview Park Site Average of MW-RV1, MW-RV2, and MW- RV3 (mg/l)
TDS	340	413

Table 2: Background Water Quality

Parameters	MW-RC1D (mg/l)	MW-RC2 (mg/l)	MW-RV2 (mg/l)
Fluoride	0.14	0.17	0.23
Nitrate	0.3	0.3	0.2
Sulfate	21.0	25.6	30.4
Arsenic	0.0076	ND	0.0013
Barium	0.071	0.032	0.078
Cadmium	0.0005	ND	ND
Chromium	0.024	ND	ND
Copper	0.0051	ND	ND
Lead	0.0051	0.0009	ND

Parameters	MW-RC1D (mg/l)	MW-RC2 (mg/l)	MW-RV2 (mg/l)
Mercury	ND	ND	ND
Selenium	ND	0.0009	ND
Silver	ND	ND	ND
Zinc	0.11	0.09	ND

C. GROUND WATER PROTECTION LEVELS

Table 3 provides Ground Water Protection Levels for compliance monitoring wells and influent monitoring locations. Protection Levels were set in accordance with Utah Administrative Code (UAC) R317-6-4.2 and UAC R317-6-2.1.

Table 3: Ground Water Protection Levels

Locations	TDS, mg/L*	Nitrate, mg/L**	Chlorine, mg/L**	pH***
Rock Canyon Influent MW-RC1D MW-RC2	500	2.5	1.0	6.5- 8.5
Riverview Park Influent MW-RV2	500	2.5	1.0	6.5- 8.5

* Based on Class 1A requirements
 ** 0.25 times the Water Quality Standard
 *** Water Quality Standard

D. FACILITY

1. The facilities and methods authorized under this permit are listed in Table 4. Any new facilities or methods are not authorized without Director approval.

Table 4: Permitted Facility and Methods

Facility Name	Method	Latitude	Longitude	Discharge Volume (Max)
Rock Canyon North Side	ASR infiltration	40.265822	-111.622907	19 MGD
Rock Canyon South Side	ASR infiltration	40.264014	-111.627446	
Riverview Park	ASR infiltration	40.2947	-111.664764	6.5 MGD

2. Compliance Monitoring Wells – The Permittee shall monitor all compliance monitoring wells listed in Table 3 in accordance with the requirements under Part II.F below.
3. Protection of Monitoring Wells - All compliance monitoring wells must be protected from damage due to surface vehicular traffic or contamination due to surface spills, and shall be maintained in full operational condition for the life of this permit. Any compliance monitoring well that becomes damaged beyond repair or is rendered

unusable for any reason will be replaced by the Permittee within 90 days or as directed by the Director.

E. BEST MANAGEMENT PRACTICES

1. The Permittee shall operate the facilities such that the ground water quality standards (UAC R317-6-2) and ground water protection levels in Table 3 that were developed for this permit are not exceeded. Utah ground water regulations also contain standards for contaminants such as metals, pesticides and volatile organic compounds. Accordingly, the Permittee must not discharge these or any other contaminants that could impair beneficial uses of the ground water.

F. COMPLIANCE MONITORING REQUIREMENTS

1. General Provisions

- a) *Future Modification of the Monitoring Program* - If at any time the Director determines the monitoring program to be inadequate, Permittee shall submit within 30 days of receipt of written notice from the Director a modified monitoring plan that addresses the inadequacies noted by the Director.
- b) *Compliance Monitoring Period* - Monitoring shall continue upon issuance of this permit and throughout the term of this permit. For facilities that are constructed during the term of this permit, monitoring shall commence upon initiation of operation of the new facility.
- c) *Laboratory Approval* - All water quality analyses shall be performed by a laboratory certified by the State of Utah to perform such analysis.
- d) *Water Level Measurement* - In association with each well sampling event, water level measurements shall be made in each monitoring well prior to removal of any water from the well casing. These measurements will be made from a surveyed permanent single reference point clearly marked on the top of the well or surface casing. Measurements will be made to the nearest 0.01 foot.
- e) *Sampling Protocol* - Water quality samples will be collected, handled and analyzed in conformance with the current approved version of the *Water Quality Sampling, Handling, and Analysis Plan*. The results of ground water monitoring shall be reported in accordance with the schedule in Part II Section H.
- f) **Ground Water Analyses** - The following analysis shall be performed on all water samples collected from each **influent monitoring location and monitoring well** (MW-RC1D, MW-RC2, and MW-RV2):
 - i) Field Measurements: pH, specific conductance, temperature
 - ii) Laboratory Analysis:
 1. Total Dissolved Solids (TDS)
 2. Nitrate

3. Chlorine
4. Sulfate
5. Metals - arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver

- h) *Monitoring Frequency* – Ground water will be sampled and analyzed **quarterly** for TDS, nitrate, chlorine, pH, sulfate, and metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), for the term of the permit. Provo may request reduced frequency after one year of monitoring.

Sample collection, handling, and analysis shall be conducted in accordance with the most recently revised and approved version of *Water Quality Sampling, Handling, and Analysis Plan*.

- i) *Certified Laboratory* - All laboratory analyses shall be performed by a laboratory certified by the State of Utah in accordance with UAC R317-6-6.3.L.

2. **Damage to Monitoring Wells**

If a monitoring well is damaged, is otherwise rendered inadequate for its intended purpose, the Director shall be notified in writing within five days of the Permittee becoming aware of the condition.

G. NON-COMPLIANCE STATUS

1. **Probable Out-of-Compliance Status** - The permittee shall evaluate results of each ground water sampling event to determine any exceedance of the Ground Water Protection Levels found in Table 3 above. Upon determination that a Ground Water Protection Level has been exceeded in the ground water, the permittee shall:
 - a. Immediately re-sample the monitoring well found to be in probable out-of-compliance status for laboratory analysis of the exceeded protection level parameter(s). Submit the analytical results thereof, and notify the Director of the probable out-of-compliance status within 30 days of the initial detection.
 - b. Upon exceedance of any one parameter listed in Table 3 for two consecutive sampling events, immediately implement an accelerated schedule of monthly sampling analysis, consistent with the requirements of this permit. This monthly sampling will continue for at least two months or until the compliance status can be determined by the Director. Reports of the results of this sampling will be submitted to the Director as soon as they are available, but not later than 30 days from each date of sampling.
2. **Out-of-Compliance Status Based on Confirmed Exceedance of Permit Ground Water Protection Levels**
 - a. **Out of Compliance Status** shall be defined as follows:
For parameters that have been defined as detectable in the background and for which protection levels have been established, out-of-compliance shall

be defined as two consecutive samples exceeding the protection level and the mean background concentration by two standard deviations.

- b. Notification and Accelerated Monitoring - upon determination by the permittee or the Director, in accordance with UAC R317-6-6.17, that an out-of-compliance status exists, the permittee shall:
 - i) Verbally notify the Director of the out-of-compliance status or acknowledge Director that such a status exists within 24 hours of receipt of data, and
 - ii) Provide written notice within 5 days of the determination, and
 - iii) Continue an accelerated schedule of monthly ground water monitoring for at least two months and continue monthly monitoring until the facility is brought into compliance as determined by the Director.

- c. Source and Contamination Assessment Study Plan - within 30 days after the written notice to the Director required in Part II.G. 2.b.ii above, the permittee shall submit an assessment study plan and compliance schedule for:
 - i) Assessment of the source or cause of the contamination, and determination of steps necessary to correct the source.
 - ii) Assessment of the extent of the ground water contamination and any potential dispersion.
 - iii) Evaluation of potential remedial actions to restore and maintain ground water quality, and ensure that the ground water standards will not be exceeded at the compliance monitoring locations.

H. REPORTING REQUIREMENTS

- 1. Water Monitoring - monitoring required in Part II.F above shall be reported according to the schedule in Table 4 below, unless modified by the Director:

Table 5: Compliance Monitoring Report Schedule

Monitoring Period	Report Due Date
January – March	May 1
April – June	August 1
July- September	November 1
October -December	February 1

- 2. Ground Water Quality Sampling - reporting will include:
 - a. Field Data Sheets - or copies thereof, including the field measurements and

other pertinent field data, such as: sampling location name/number, date and time, names of sampling crew, type of sampling: pump or grab, volume of water purged before sampling.

- b. Water Level Measurements - water level measurements from ground water monitoring wells will be reported as measured depth to ground water from the surveyed casing measuring point, and ground water elevations as converted by casing measuring point elevations.
 - c. Laboratory Analytical Results - including date sampled, date received; and the results of analysis for each parameter, including: value or concentration, units of measurement, reporting limit (minimum detection limit for the examination), analytical method, and the date of the analysis.
3. Electronic Filing Requirements - The permittee will submit the required ground water monitoring data in the electronic format specified by the Director. The data may be submitted by electronic transfer, e-mail, PDF, compact disc, or other approved transmittal mechanism. In addition, a submittal of the hard copy data may be made if the Permittee prefers.

I. CLOSURE PLANS

When the useful life of the infiltration basins are over, the permittee will allow the basin's contents to evaporate to dryness. The accumulated salts and sediments (if any) will be tested for hazardous characteristics and will be disposed in an approved off-site disposal facility. The site will then be reclaimed or developed for other uses.

The permittee shall comply with any other applicable regulations, which are in effect at the time of closure. Proposed closure plans shall be submitted to DWQ for approval at least six months before the start of closure operations.

PART II MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. REPRESENTATIVE SAMPLING
Samples taken in compliance with the monitoring requirements established under Part I shall be representative of the monitored activity.
- B. ANALYTICAL PROCEDURES
Water sample analysis must be conducted according to test procedures specified under UAC R317-6-6.3.L, unless other test procedures have been specified in this permit.
- C. PENALTIES FOR TAMPERING
The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. REPORTING OF MONITORING RESULTS
Monitoring results obtained during each reporting period specified in the permit, shall be submitted to the Director, Utah Division of Water Quality at the following address no later than the 15th day of the month following the completed reporting period:

State of Utah
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870
Attention: Ground Water Protection Section

Electronic document submission: <https://deq.utah.gov/water-quality/water-quality-electronic-submissions>.

- E. COMPLIANCE SCHEDULES
Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- F. ADDITIONAL MONITORING BY THE PERMITTEE
If the permittee monitors any pollutant more frequently than required by this permit, using approved test procedures as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted. Such increased frequency shall also be indicated.
- G. RECORDS CONTENTS
Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.

H. RETENTION OF RECORDS

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

I. TWENTY-FOUR HOUR NOTICE OF NONCOMPLIANCE REPORTING

1. The permittee shall verbally report any noncompliance which may endanger public health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Utah Department of Environmental Quality 24 hour number, (801) 536-4123, or to the Division of Water Quality, Ground Water Protection Section at (801) 536-4300, during normal business hours (Monday through Friday 8:00 am - 5:00 pm Mountain Time).
2. A written submission shall also be provided to the Director within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
3. Reports shall be submitted to the addresses in Part II.D, Reporting of Monitoring Results.

J. OTHER NONCOMPLIANCE REPORTING

Instances of noncompliance not required to be reported within 24 hours, shall be reported at the time that monitoring reports for Part II.D are submitted.

K. INSPECTION AND ENTRY

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

PART III COMPLIANCE RESPONSIBILITIES

- A. DUTY TO COMPLY
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- B. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS
The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under Section 19-5-115(2) of the Act a second time shall be punished by a fine not exceeding \$50,000 per day. Nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. DUTY TO MITIGATE
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. PROPER OPERATION AND MAINTENANCE
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

PART IV GENERAL REQUIREMENTS

- A. PLANNED CHANGES
The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when the alteration or addition could significantly change the nature of the facility or increase the quantity of pollutants discharged.
- B. ANTICIPATED NONCOMPLIANCE
The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. PERMIT ACTIONS
This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. DUTY TO REAPPLY
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a permit renewal or extension. The application should be submitted at least 180 days before the expiration date of this permit.
- E. DUTY TO PROVIDE INFORMATION
The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. OTHER INFORMATION
When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. SIGNATORY REQUIREMENTS
All applications, reports or information submitted to the Director shall be signed and certified.
1. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. Changes to Authorization. If an authorization under Part IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part IV.G.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. PENALTIES FOR FALSIFICATION OF REPORTS

The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

I. AVAILABILITY OF REPORTS

Except for data determined to be confidential by the permittee, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director. As required by the Act, permit applications, permits, effluent data, and ground water quality data shall not be considered confidential.

J. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

K. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

L. TRANSFERS

This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

M. STATE LAWS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, penalties established pursuant to any applicable state law or regulation under authority preserved by Section 19-5-117 of the Act.

N. REOPENER PROVISION

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. If new ground water standards are adopted by the Board, the permit may be reopened and modified to extend the terms of the permit or to include pollutants covered by new standards. The permittee may apply for a variance under the conditions outlined in R317-6-6.4.D.
2. If alternative compliance mechanisms are required.
3. If subsequent ground water monitoring data reveals the background water quality values in Part I Table 1 and 2 are not accurate.