

**STATE OF NEVADA
DIVISION OF ENVIRONMENTAL PROTECTION**

Authorization To Inject

In compliance with the provisions of the Nevada Revised Statutes (NRS) 445A and the Underground Injection Control (UIC) Regulations in the Nevada Administrative Codes (NAC) 445A.810 to 445A.925, inclusive, the Permittee is authorized to inject and discharge from a facility described below in accordance with limitations, requirements and other conditions specified in the permit.

Permit Number: **UNEV2010204**

Facility Name: **Northwest Carson City Aquifer Storage and Recovery (ASR) Project**
Facility Address: **See legal description**

Permittee: **Carson City Public Works**
Permittee Address: **3550 Butti Way, Carson City Nevada 89701**

Property Owner: **Board of Regents UNR and Carson City**
Number of Permitted Wells: **Three (3): IW 10, IW 55, IW 51**

Legal Description: **IW 10: T.15N.,R19E., SE SE Section 1
IW 55: T.15N.,R19E., NE NE Section 12
IW 51 T.15N.,R20E., NW SW Section 7**

Latitude/Longitude: **39.012, -119.4718**

Annual Fee Due: **July 1st of each year**
Reporting Frequency: **Annual (see Part I.A.6)**

NOTE: Reference the permit fact sheet for specific details on the facility and wells, and permit history.

This permit shall become effective: October 9, 2026 (Tentative)
This permit shall expire at midnight: October 9, 2031 (Tentative)

Lisa Aleman | Environmental Scientist
Bureau of Water Pollution Control

Date

PART I. PERMIT SPECIFIC CONDITIONS

I.A. INJECTION LIMITATIONS, MONITORING AND OTHER REQUIREMENTS

I.A.1 Permitted Injection and rates - During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is **authorized to inject water piped through the distribution system to well(s) approved below.**

- a. Maximum flow rates are listed in **Table 1** below. The Permittee is required to notify the Division in accordance with part II.B.2 if the injection rate exceeds the maximum flow rate. Non-notification is a violation of this permit.

TABLE 1 – INJECTION WELL INFORMATION AND PARAMETERS			
Injection Wells	Associated Monitoring Wells	Requested Flow Rate	Maximum flow rate
10B	CC well 46	490	650
51	CC well 5	515	650
55	CC well 46	465	650

IA.2 New Wells - All wells to be used for injection must receive written approval prior to use. To receive written approval, the permittee shall submit the following for each newly constructed well (not listed above):

- a. Well location map
- b. Well construction details
 - i. Construction plans for any future wells
 - ii. As-builts for existing wells to be converted
- c. Water quality analysis
- d. Well use plan (UIC Supplemental Form U5-ASR)

I.A.3 Closed Systems - Extractions, conveyance, and injection must be accomplished in a completely closed system so as to not allow the introduction of any foreign materials to the treated water prior to injection.

I.A.4 Chemical additives - No chemical additives shall be added to the injection wells without prior written authorization from the Nevada Division of Environmental Protection (Division) using UIC Form U240.

I.A.5 Minimum Requirements for Sampling and Monitoring - The injectate and affected groundwater shall be limited and monitored by the Permittee as specified below and in Attachment 1, Tables 2, 3 and 4, and reported to the Division pursuant to Part I.A.6.

- a. All analysis shall conform to the schedule provided in Tables 2, 3, and 4. An aquifer sample shall be taken at the appropriate frequency (Table 3 and 4). Approved injection and associated monitoring wells are listed in Table 1.
- b. The Permittee is constrained to inject only water that meets all chemical, physical and biological drinking water standards after treatment and before injection and is below 2 ppm in chlorine residual. Injection practices shall not cause groundwater and/or injected water to surface at or near the injection points, not cause any surface or subsurface hazards, nor cause any physical, biological, or chemical degradation of groundwater (including trace metals and inorganic constituents) pursuant to UIC regulations – for this project since ground water meets primary and secondary standards - degradation means exceeding a primary or enforceable secondary standard.
- c. In the event the Permittee becomes aware of any constituent in the injected waters that exceeds a

drinking water standard or ground water degrades above a standard or baseline value, whichever is higher, the Permittee shall immediately cease injection and notify the Division by the end of the following working day.

- d. For the NW Carson City ASR wells, based on the UIC application, the water level in the injection wells is required to remain **more than 20 feet from ground surface**. The injection rates shall not exceed that which may initiate new fractures or propagate existing fractures in the zone of injection or the confining formation between the zone for injection and any aquifer system.
- e. A laboratory certified by the State of Nevada must perform all analyses. Testing methods for constituents must be EPA or Division approved. **The UIC Program requires inorganic analyses of metals for “Total Metals” in which samples are not filtered and are preserved with an acid in the field. Any exceptions to this policy must be requested and pre-approved by the UIC program prior to sampling. It must be clearly stated on all reports which analyses were used.**
- f. The analytical method detection limits for all chemical constituents must be at least as low as primary or enforceable secondary drinking water standards when applicable.
- g. The Division may decrease or increase the monitoring of any parameter or frequency for good cause. Requests by Permittee to change any sampling and/or monitoring requirements must be done so in writing.
- h. The injection pressure and injection rate measurements shall be taken as close to the same time as possible.
- i. All UIC water samples shall be collected using UIC Form U230, and the completed U230 forms submitted for each water sampled with the UIC report.

I.A.6 Annual Reporting Requirements - The Permittee shall submit an **annual report by July 28th** of each year, for the **12-month reporting period ending June 30th**. Each report shall:

- a. Contain a completed UIC Monitoring Report Summary and Check List form from Attachment 1 attached to this permit; including all parameters listed as part of this checklist.
- b. Reporting shall be completed as specified in Part II.A.2.
- c. Monitoring results and other requirements obtained during the previous twelve months shall be reported no later than the last day of the month following the completed reporting period. Refer to the reporting checklist included as “Attachment 1” of this permit. Signed copies of this report, and all other reports required herein, shall be submitted to the following address:

Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Injection Monitoring Report
901 South Stewart Street, Suite 4001
Carson City, NV 89701

I.B. SCHEDULE OF COMPLIANCE

I.B.1 Pursuant to NAC 445A.888, this permit, when appropriate, may specify a schedule for compliance. The schedule for compliance must require compliance as soon as possible and in no case later than one (1) year after the effective date of the permit.

- a. The permittee shall achieve compliance with the conditions, limitations and requirements of the permit at the commencement of relevant activity.
- b. The Division may, upon the request of the permittee, and after public notice, revise or modify a schedule of compliance in an issued permit if he determines good and valid cause.

PART II. PERMIT MANAGEMENT AND RESPONSIBILITIES

II.A. MONITORING AND RECORDKEEPING REQUIREMENTS

- II.A.1 Submission of Contents** – The permittee shall submit all reports and contents required by this permit using Division provided forms wherever a form exists for the action. All UIC forms can be found at the NDEP-BWPC-UIC Forms web page provided at the following link:
<https://ndep.nv.gov/water/water-pollution-control/permitting/underground-injection-control-uic/forms>
- II.A.2 Sampling and Test Procedures** - Samples and measurements taken as required herein shall be representative of the volume and/or nature of the subject of interest. Test Procedures for the analyses of required constituents shall comply with applicable analytical methods cited and described in tables IA - IE of 40 CFR part 136 or in appendix III of 40 CFR part 261, under which such procedures may be required, unless the Division approves other procedures. A laboratory certified by the State of Nevada shall perform all analyses conducted pursuant to permit requirements.
- II.A.3 Recording of Results** - For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information pursuant to NAC 445A.922:
- a. The exact place, date, and time of sampling;
 - b. The dates the analysis was performed;
 - c. The person(s) who performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of all required analyses; and
 - f. The precision and accuracy of the analytical data (accessible through laboratory).
- II.A.4 Additional Monitoring by Permittee** - If the permittee monitors any constituent at the locations(s) designated herein more frequently than required by this permit, or monitors additional constituents than required by this permit, using approved analytical methods as specified above, the results of such monitoring results shall be made available to the Division upon request in accordance with NAC 445A.886.
- II.A.5 Records Retention** - All records and information resulting from the monitoring activities required by this permit, including all records and analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer if required by the Division pursuant to NAC 445A.922.
- II.A.6 Modification of Monitoring Frequency, Location and Sample Type** - After considering monitoring data, stream flow, discharge flow and receiving water conditions, the Division may, for just cause, modify the monitoring frequency, location and/or sample type by issuing a minor modification to the permittee pursuant to NAC 445A.902.
- II.A.7 Certification of Documents Submitted to the Division** - All applications, reports and information submitted to the Division shall be signed and certified to be correct and true by the owner and/or the operator pursuant to NAC 445A.859.
- II.A.8 Availability of Reports** - Except for data determined to be confidential under NRS 445A.665, all reports prepared in accordance with the terms of this permit shall be available for public inspection. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.

II.B MANAGEMENT REQUIREMENTS

- II.B.1 Changes in Injection or Discharge** - All Injection or discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any constituent identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or treatment modifications which will result in new, different, or increased Injection or discharges must be reported by submission of a new application or, if such changes will not violate the limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any constituents not previously limited.
- II.B.2 Noncompliance Notification** - If for any reason, the permittee does not comply with or will be unable to comply with the conditions, requirements and limitations specified in this permit, the permittee shall provide the Division pursuant to NAC 45A.889:
- a. Written notification shall be provided as soon as possible but no later than twenty-four (24) hours after the event of noncompliance.
 - b. **5-Day Report:** A written Report shall be submitted to the Underground Injection Control Program of the Division within five (5) days if, for any reason, the permittee is unable to or does not comply with the conditions, requirements and limitations specified in this permit. The permittee shall provide the Division with the following information:
 - i. The exact dates, times, and duration of noncompliance
 - ii. The specific cause of noncompliance and exact location
 - iii. An estimated volume unauthorized discharge if applicable
 - iv. Identification of which injection well(s) are affected
 - v. The corrective actions taken and anticipated time of continuance. Steps taken or planned to reduce, eliminate, and prevent recurrence of noncompliance
- II.B.3 Spills** - The permittee is responsible for carrying out notification in the event of a spill. If the permittee has acknowledged that a spill greater than 25 gallons or 3 cubic yards has occurred, notify the Division by calling the **NDEP Spill Hotline, 1-888-331-6337 or an online submission on the NDEP web page** as soon as possible and no later than one working day from the time of discovery. The permittee shall promptly notify the Division in writing of each spill, in accordance with the procedure specified in Part II.B.2 above
- II.B.4 Facilities Operation** – Pursuant to NAC 445A.906, the Permittee shall always be maintained in good working order and operate as efficiently as possible, all treatment or control facilities, devices or systems installed or used by the Permittee to achieve compliance with the terms and conditions of this permit and shall be in conformance with the plans and specifications filed with the Division. All solid, toxic or hazardous waste shall be disposed of in accordance with the rules and regulations of this Division. All spills and releases shall be reported as required by Nevada Revised Statutes.
- II.B.5 Adverse Impact** – Pursuant to NAC 445A.906, the permittee shall take all reasonable steps, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying Injection or discharge, to minimize any adverse impact to waters of the State resulting from noncompliance with any limitations specified in this permit.
- II.B.6 Bypassing** - Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited except where unavoidable to prevent loss of life or severe property damage. The Division will have the final authority in the determination of whether a discharge is deemed unavoidable. The permittee shall promptly notify the Division in writing of each such diversion or bypass, in accordance with the procedure specified in Part II.B.2 above.
- II.B.7 Annual and Renewal Fees** - The Permittee shall submit the annual review and services fee in accordance with NAC 445A.872 no later than **July 1st** of every year thereafter following permit

issuance until the permit is terminated. This fee applies to the forthcoming State fiscal year. A renewal fee is due along with the renewal application 180 days prior to permit expiration.

II.C PERMITTEE RESPONSIBILITIES

II.C.1 Right of Entry and Inspection of Premises - To enforce the provisions of any regulation, order or permit issued thereunder, the Division or authorized representative of the Department may, upon presenting proper credentials, pursuant to NRS 445A.655.

- a. Enter any premises in which any act violating NRS 445A.300 to 445A.730, inclusive, originates or takes place or in which any required records are required to be maintained
- b. At reasonable times, have access to and copy any records required to be maintained
- c. Inspect any equipment or method for continuing observation
- d. Have access to and sample any discharges or injection of fluids into waters of the State which result directly or indirectly from activities of the owner or operator of the premises where the discharge originates or takes place or the injection of fluids through a well takes place.

II.C.2 Transfer of Ownership or Control - In the event of any change in ownership or control, the Permittee shall notify the succeeding owner of the existence of this permit and enter into a written agreement containing a specific date for the transfer, a copy of which shall be submitted to the Division. Until notice is given by the Division that the permit is transferred, the most recent owner or operator is responsible for complying with permit conditions, pursuant to NAC 445A.881. The following shall proceed:

- a. The new Permittee shall complete and file a UIC Change of Ownership Form and submit proof of financial responsibility at least thirty (30) days before the transfer is made.
- b. The Division may require modification, or revocation with subsequent reissuance of the permit, to change the name of the permittee and incorporate such other requirements as may be deemed necessary.

II.C.3 Compliance with Regulations - The Permittee shall comply with all provisions of the UIC regulations, Nevada Administrative Code (NAC) 445A.810 through 445A.925, and all other pertinent laws and regulations. Nothing in this permit relieves the permittee from responsibilities, liabilities or penalties established by any other State, Federal or local jurisdiction.

II.C.4 Permit Modification, Suspension or Revocation - After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition which requires either a temporary or permanent reduction or elimination of the Injection or discharge.

II.C.5 Plugging and Abandonment - The holder of a permit shall notify the Division of the intent of the Permittee to abandon or close the injection well at least thirty (30) days, or in the case of a newly drilled injection well at least five (5) working days, before the abandonment or closure of the well. Plugging shall be completed in accordance with NAC 534.420 – 534.426.

- a. The Permittee shall notify the Division by submitting a UIC *Well Pre-Closure Form* found on the UIC forms page.
- b. Before abandonment, an injection well must be plugged with cement in a manner which will not allow the movement of fluids into or between underground sources of drinking water.
- c. All cavities in the well bore not plugged with cement must be filled with heavy drilling fluids in a state of static equilibrium with the weight of the fluid equalized from top to bottom.

- d. Upon completion of the procedure for the plugging and abandonment of an injection well, the holder of a permit shall certify to the Division that the condition of the permit relating to plugging and abandonment has been satisfied.

II.C.6 Civil and Criminal Liability

- a. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
- b. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.
- c. The issuance of this permit does not convey any property rights, in either real or personal property, 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.

ATTACHMENT 1
UIC Monitoring Requirements and Check List
(Submit Checklist with every UIC report)

TABLE 2 – INJECTED WATER/INJECTION WELL SCHEDULE

	<u>PARAMETER</u>	<u>LOCATION</u>	<u>MONITORING FREQUENCY</u>	<u>LIMITATIONS</u>
a.	electrical conductivity, pH, temperature, dissolved oxygen (DO) (all collected in the field as close together as possible)	injectate, at each injection wellhead	day 1 of injection, monthly until end of injection.	pH - $\geq 6.5 \leq 8.5$ baseline = 6.9
b.	constituents as listed under Attachment “2” of this permit	injectate, one sample for all wells	day 1 of injection	not exceed primary and enforceable secondary drinking water regulations
c.	total trihalomethanes (TTHMs)	injectate, at each injection wellhead	day 1 and monthly during injection cycle	not exceed primary drinking water regulations
d.	chlorine concentration & total organic carbon (TOC)	injectate, one sample for all wells	day 1 and monthly during injection cycle	chlorine may not exceed 2.0 mg/L
e.	groundwater elevations and depth to water level within well	wells 10b, 51 & 55	Daily with manual liquid level sound meter	Depth to water level not to exceed 20 feet below ground surface
f.	average, lowest, and highest injection rate (gallons per minute) and cumulative volume injected (gallons per month)	totalizing flow meter with instantaneous flow rate; meter to be located on injection pipe line between injection pump and wellhead.	continuous during recharge, report lowest injection rate, not zero if injection did not occur	monitor and report

TABLE 3 – MONITORING WELL SCHEDULE

	<u>PARAMETER</u>	<u>LOCATION</u>	<u>MONITORING FREQUENCY</u>	<u>LIMITATIONS</u>
a.	constituents as listed under Attachment “2” of this permit	well 46 well 5	Each well sampled - 1) in June, and 2) in September	not exceed primary and enforceable secondary drinking water regulations
b.	total trihalomethanes (TTHMs)	well 46 well 5	Each well sampled - 1) in June, and 2) in September	not exceed primary drinking water regulations
c.	groundwater elevations and depth to water level within well.	wells 3, 5, 6, 46, 53	day 1 & weekly during injection cycle, with manual liquid level sound meter	monitor and report

TABLE 4 – PRODUCED WATER SCHEDULE

	<u>PARAMETER</u>	<u>LOCATION</u>	<u>MONITORING FREQUENCY</u>	<u>LIMITATIONS</u>
a.	constituents as listed under Attachment “2” of this permit	produced water from ASR wells 10b, 51, 55, taken at sample port at each well’s wellhead	day 1 & 7 of pump back	not exceed primary and enforceable secondary drinking water regulations
b.	total trihalomethanes (TTHM’s); haloacetic acids (HAA5); chlorine concentration	produced water from ASR wells 10b, 51, 55, taken at sample port at each well’s wellhead	day 1 & 7 of pump back	not exceed primary drinking water standards, chlorine < 2 ppm
c.	gross alpha & beta; uranium	produced water from ASR wells 10b, 51, 55, taken at sample port at each well’s wellhead	day 1 of pump back, if values above MCL on day 1, resample within 14 days	monitor and report
d.	average, lowest, and highest production rate (gallons per minute) and cumulative volume produced (gallons per month)	totalizing flow meter instantaneous flow rate; meter to be located on injection pipe line between injection pump and the wellhead.	continuous during production	monitor and report
Note: If an ASR well is never injected into the previous season, then only day 1 sample is required for that well.				

Annual report is due by July 28th for the 12-month period ending June 30th with the following:

- _____ The results of chemical and physical analyses as required by Attachment 1 and associated Tables for the injectate during recharge, including copies of UIC Form U230.
- _____ The results of chemical and physical analyses as required by Attachment 1 and associated Tables for the aquifer (produced or monitoring well water) during production.
- _____ The results from any and all biological and organic testing of treated water during the year. This data is required to be collected from routine drinking water sampling of distribution water and submitted with the UIC report.
- _____ For each month, the total volume of fluid injected (in gal/month) for each well.
- _____ For each month, the average, lowest and highest injection rate for each well reported in gpm. Lowest shall be lowest operating rate, not zero if not operational, unless the well did not run at all during month.
- _____ For the reporting period, a graph of the water levels for each recharge well. This graph shall cover at least a one-year period and indicate the beginning and end of each injection and production period.
- _____ A table showing all required water level measurements, on a monthly frequency, for the recharge wells and all monitoring wells.
- _____ Summary narrative analysis of monitoring activities for that 12 month period. Narrative shall include, but not be limited to, any problems encountered that could or did affect the recharge well or the water quality, and the type of action taken, any spills or releases at the site, all tests performed on the wells within the project area, reasons wells could not be sampled, etc.

ATTACHMENT 2 – Adjusted UIC Sample List 2*Note: crossed out items in gray are not required*

Nevada Division of Environmental Protection						
Underground Injection Control Program - Sampling and Monitoring Report Form						
Facility Name :			Depth of sampled water's origin :			
Facility Owner:			County:			
NDEP UIC Permit # :			Location :		Latitude	Longitude
Well ID # :			Sampler :			
Type of Well : Monitor Production Injection			Date Sampled :			
<u>Modified UIC Sample List 2- Inorganic Extended</u>			Name of Laboratory :			
Parameter	Units	DW Standards	Initial Measured Values	Method		Method Description
total dissolved solids	mg/L	500 - 1000		EPA 160.1		
pH	standard units	6.5 - 8.5		EPA 150.1		
chloride	mg/L	250 - 400		EPA 300.0		Ion Chromatography
fluoride	mg/L	4		EPA 300.0		Ion Chromatography
sulfate	mg/L	250 - 500		EPA 300.0		Ion Chromatography
nitrate (as nitrogen)	mg/L	10		EPA 300.0		Ion Chromatography
nitrite (as nitrogen)	mg/L	1		EPA 300.0		Ion Chromatography
aluminum	mg/L	0.05-0.2		EPA 200.8		ICP-MS
antimony	mg/L	0.006		EPA 200.8		ICP-MS
arsenic	mg/L	0.01*		EPA 200.8		ICP-MS
barium	mg/L	2		EPA 200.8		ICP-MS
beryllium	mg/L	0.004		EPA 200.8		ICP-MS
cadmium	mg/L	0.005		EPA 200.8		ICP-MS
chromium	mg/L	0.1		EPA 200.8		ICP-MS
copper	mg/L	1.0-1.3		EPA 200.8		ICP-MS
lead	mg/L	0.015		EPA 200.8		ICP-MS
iron	mg/L	0.3 - 0.6		EPA 200.7		ICP
magnesium	mg/L	125 - 150		EPA 200.7		ICP
manganese	mg/L	0.1		EPA 200.8		ICP-MS
mercury	mg/L	0.002		EPA 245.1		AA Cold Vapor
nickel	mg/L	0.1		EPA 200.8		ICP-MS
selenium	mg/L	0.05		EPA 200.8		ICP-MS
silver	mg/L	0.05		EPA 200.8		ICP-MS
thallium	mg/L	0.002		EPA 200.8		ICP-MS
zinc	mg/L	5		EPA 200.8		ICP-MS
adjusted gross alpha**	pci/L	15		EPA 900		
gross beta	mrem	4		EPA 900		
alkalinity (CaCO3)	mg/L	-		SM 2320 B		
bicarbonate	mg/L	-		SM 2320 B		
boron	mg/L	-		EPA 200.8		
calcium	mg/L	-		EPA 200.7		
carbonate	mg/L	-		SM 2320 B		
color	color units	-				
dissolved oxygen	% saturation	-				
EC	umhos/cm	at 25 degC		SM 2510 B		
hardness	mg/L	-		EPA 200.8		
hormide	mg/L	-				
potassium	mg/L	-		EPA 200.8		
sodium	mg/L	-		EPA 200.7		
temperature	°F					
total suspended solids	mg/L	-		EPA 160.2		
turbidity	NTU	-				
Comments:						

Rev 7/2008

Note: Detection limits must be at least as low as primary or secondary drinking water standards where applicable.

Please indicate detection limit instead of stating "Non-Detect". Initial Measured Values are the first values collected under the application.

Metals shall be sampled and analyzed as total metals. **Adjusted gross alpha particle activity doesn't include radon and uranium activity.