



## State of New Jersey

PHILIP D. MURPHY  
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AIR, ENERGY, AND MATERIALS SUSTAINABILITY

SHAWN M. LATOURETTE  
Commissioner

TAHESHA L. WAY  
Lt. Governor

Division of Air Quality and Radiation Protection  
Bureau of Release Prevention

### **Permit to Construct Two New Underground Storage Cavern Systems Including Central Complex**

#### **DRAFT**

**Program Interest (PI) 1032630  
Permit Application No. CAV230001**

Mailing Address	Facility Location
Harry Alexander Chief Executive Officer Delaware River Partners LLC 200 N. Repauno Ave Gibbstown, NJ 08027	Delaware River Partners LLC Gibbstown Logistics Center 200 N. Repauno Ave Gibbstown, NJ 08027

**Permit to Construct Approval Date: DRAFT**

**This permit to construct is not valid unless an authorizing signature appears.**

#### **Authority and Applicability**

The New Jersey Department of Environmental Protection (Department) approves and issues this Permit to Construct two new underground storage cavern systems including a central complex under the authority of and in accordance with the provisions of N.J.S.A. 58:10-35.1 et seq. ("Act"), N.J.S.A. 13:1K-19 et seq., N.J.S.A. 58:10-23.11 et seq., and N.J.A.C. 7:1F, Underground storage caverns.

The Department approves this permit to construct based on the evaluation of the certification information provided in the permit application materials that the construction regulated in this permit complies with all applicable State regulations. The facility shall construct the two underground storage cavern systems including central complex in accordance with the conditions of this permit. This permit does not cover or in any way authorize the operation, as defined at N.J.A.C. 7:1F-1.6, of the underground storage cavern systems.

### **Administrative hearing request**

If, in your judgment, the Department is imposing any unreasonable condition of approval, you may contest the Department's decision and request an adjudicatory hearing pursuant to N.J.S.A. 52:14B-1 et seq. and N.J.A.C. 7:1F-7.4. All requests for an adjudicatory hearing must be received in writing by the Department within 20 calendar days of the date you receive this letter. The request must contain the information specified in N.J.A.C. 7:1F-7.4 and the information on the Administrative Hearing Request Checklist and Tracking Form available at <https://dep.nj.gov/brp/caverns/#usc-forms>.

If you have any questions regarding this permit approval, please call Quddus Qayyum at 609-633-0610.

Approved by: \_\_\_\_\_  
Paul Komosinsky

**Permit to Construct Two New Underground Storage Cavern Systems Including  
Central Complex**

**DRAFT**

**DELAWARE RIVER PARTNERS LLC  
Program Interest (PI) 1032630  
Permit Application No. CAV230001**

Mailing Address	Facility Location
Harry Alexander Chief Executive Officer Delaware River Partners LLC 200 N. Repauno Ave Gibbstown, NJ 08027	Delaware River Partners LLC Gibbstown Logistics Center 200 N. Repauno Ave Gibbstown, NJ 08027

**Section I. Authorization to construct**

Pursuant to N.J.S.A. 58:10-35.1 et seq. (“Act”), N.J.S.A. 13:1K-19 et seq., N.J.S.A. 58:10-23.11 et seq., and N.J.A.C. 7:1F, Underground storage caverns, the Department hereby authorizes Delaware River Partners LLC, 200 N. Repauno Avenue, Gibbstown, Greenwich Township, Gloucester County, New Jersey, 08027 (“permittee”), to construct two new 640,000-barrel hard rock underground storage cavern systems, including a central complex consisting of a combination of underground tunnels and production, service, and ventilation shafts that connect to each underground storage cavern for their construction, subject to the conditions and requirements set forth herein. The application materials approved by this permit include the initial permit application submitted by the permittee, subsequent materials provided by the permittee, and the third-party evaluation reports and materials submitted by the third-party evaluator, and are listed in Attachment A. The permittee is the owner of the Repauno Port & Rail Terminal Facility (“facility”), also known as the Gibbstown Logistics Center, in Greenwich Township, Gloucester County, at which the approved construction shall take place. A general location map of the project area which depicts the surface footprint, defined as the area of land located directly above the underground storage caverns (including the central complex) approved for construction, is set forth in Attachment B. A map of the facility property boundary, the project area, and the area of review is set forth in Attachment C.

**This permit does not cover or in any way authorize the operation, as defined at N.J.A.C. 7:1F-1.6, of the underground storage cavern systems.**

The purpose of the two underground storage cavern systems is to store liquid-phase liquefied petroleum gas, as identified in the permit application, at ambient rock or chilled temperatures. This permit authorizes the construction of the two underground storage

cavern systems to store only liquefied petroleum gas, of the mixtures and grades specified in the permit application, particularly Section C of the permit application which includes the Cavern System Data. **The storage of liquefied natural gas is prohibited.**

Each of the two underground storage cavern systems approved for construction will be constructed as a series of intersecting galleries and crosscuts, leaving large pillars of intact rock to support the ground. The galleries and crosscuts are 20 feet in width and 35 to 40 feet in height, with rectangular pillars of 55-foot width and 90-foot (edge-to-edge) length between the galleries and crosscuts. The target depth horizon is 680 to 780 feet below ground surface with the complex vertically centered within this zone. The crown level of the 40-foot high cavern galleries is nominally 710 feet below ground surface.

This permit does not convey any mineral rights nor does it convey any contractual rights that may be necessary to construct the underground storage cavern systems subject to this permit.

This permit is based upon the representations made by the permittee and information provided by the third-party evaluator which are part of the administrative record. Based on the information submitted, the Department has determined that the proposed construction as set forth in the approved permit application conforms with the protections and requirements of the Act and N.J.A.C. 7:1F.

It is the responsibility of the permittee to read and understand all provisions of this permit.

Any person who violates the Act or any permit, approval, rule, or order adopted pursuant to the Act, is subject to enforcement action, including criminal penalties.

This permit shall become effective on TBD.

This permit shall expire if the approved activity authorized by the permit is not commenced within 12 months after the effective date of the permit. If the approved activity has not been initiated within 12 months after the effective date, the permittee may request an extension pursuant to N.J.A.C. 7:1F-4.5.

## **Section II. General permit conditions**

### **A. Effect of permit**

The permittee is allowed to engage only in those construction activities authorized by this permit, in accordance with the conditions of this permit and the permit application approved by the Department, as set forth in Attachment A. If the permittee undertakes any activity authorized under this permit, such action shall constitute the permittee's

acceptance of the permit in its entirety as well as the permittee's agreement to abide by the requirements of the permit and all conditions therein.

The permittee, as authorized by this permit, shall not operate the underground storage cavern systems until and unless the permittee obtains a permit to operate pursuant to N.J.A.C. 7:1F.

This permit does not authorize the permittee to engage in any activities that pose a risk to public health, public safety, or the environment. The Department reserves the right to suspend all construction activities onsite should the Department determine that the permittee has not taken proper precautions to ensure compliance with this permit or N.J.A.C. 7:1F.

The issuance of this permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit.

The issuance of this permit does not convey any property rights or any exclusive privilege.

This permit does not in any way relieve the permittee from the obligation to obtain all necessary permits from the Department and other State, Federal, and local governmental agencies, and to comply with all other applicable State, Federal, and local rules and regulations including Delaware River Basin Commission approvals.

#### **B. Severability**

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

#### **C. Duty to comply**

The permittee and its contractors and subcontractors shall comply with all conditions of this permit and the approved permit application. Any permit noncompliance constitutes a violation of the Act and the implementing rules at N.J.A.C. 7:1F and is grounds for enforcement action and/or revocation or termination of the permit and approval. The permittee is fully responsible for compliance with this permit.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the conditions of the permit.

All permit conditions and approved permit application shall remain in full force and effect so long as the activities approved by this permit are in existence, unless the permit is modified pursuant to N.J.A.C. 7:1F. All proposed modifications shall be reviewed by the third-party evaluator.

#### **D. Duty to prevent, minimize, and correct**

The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit. These steps shall be taken in consultation with the third-party evaluator and reported to the Department in accordance with this permit.

#### **E. Duty to report**

The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of the permit, and propose all necessary corrective actions, which shall be reviewed by the third-party evaluator. The Department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit.

If the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, the permittee shall promptly submit such facts or information. Failure to report may subject the permittee to enforcement action, including permit suspension or revocation.

#### **F. Noncompliance**

The permittee shall immediately inform the Department by telephone at (877) 927-6337 (WARN DEP hotline) of any noncompliance that may endanger public health, safety, and welfare, or the environment. The permittee shall inform the Bureau of Release Prevention by telephone at (609) 633-0610 of any other noncompliance within two working days of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this permit, the Act, or N.J.A.C. 7:1F. The written notice shall include:

1. A description of the noncompliance and its cause;
2. The period of noncompliance, including exact dates and times;

3. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and

4. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The steps shall be reviewed and approved by the third-party evaluator.

Any noncompliance with the permit constitutes a violation of the Act and N.J.A.C. 7:1F and is grounds for civil enforcement action seeking a restraining order and an injunction, criminal enforcement action seeking criminal penalty, administrative enforcement action ordering the permittee to comply, permit suspension, and/or permit revocation, pursuant to N.J.A.C. 7:1F-7.

### **G. Permit modification**

The underground storage cavern systems shall be constructed in adherence with the permit application approved by the Department. The permittee shall notify the Department, in writing, and submit an application to the Department in accordance with N.J.A.C. 7:1F-5.1 for a minor modification and N.J.A.C. 7:1F-5.2 for a major modification if a modification is required based on:

1. any report or information or any updated reports, site, design, and construction plans and specifications that the permittee must submit in accordance with this permit, and/or

2. information obtained during construction.

The permittee shall cease construction activities under this permit unless the permittee demonstrates to the Department that the construction activities to be continued are not affected by the proposed minor or major modification of the permit.

If the permittee reports a deviation from the design and/or construction plans and/or specifications in the approved permit application as part of its program report (see section II.I), the Department may require the permittee to submit updated site and/or design plans and/or specifications certified by a professional engineer and reviewed by the third-party evaluator for approval by the Department prior to continuing construction.

The Department may modify or impose additional conditions as necessary to protect public health, safety, welfare, and/or the environment.

The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of the permit.

### **H. Inspection and entry**

A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request.

The permittee shall allow the Department to enter the project area and facility, including any locations where associated monitoring equipment or records required by this permit or N.J.A.C. 7:1C are kept, for purposes of inspection, sampling, copying, or photographing. Such right of inspection shall not be conditioned upon any action by the Department, except the presentation of appropriate credentials, as requested. Owners, operators, employees, and representatives shall not hinder or delay, and shall, upon request, assist the Department in the performance of all aspects of any inspection. The permittee shall furnish to the Department within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking, reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of reports and information required to be kept by this permit.

Denial of access may subject the permittee to enforcement action, including suspension and/or revocation of the permit.

#### **I. Monitoring and recordkeeping**

The permittee shall provide monitoring results to the Department at the intervals specified in the permit. The permittee shall maintain all records in accordance with the permit.

#### **J. Progress reports**

The permittee shall submit quarterly progress reports to the Department describing:

1. the status of compliance with each permit condition
2. the status of construction activities
3. difficulties or problems encountered during the reporting period and corrective actions taken, including those required to be reported pursuant to this permit
4. activities planned for the next reporting period
5. an explanation of any noncompliance with this permit, including any activity undertaken by the permittee that deviates from the design and/or construction plans and/or specifications in the approved permit application and an explanation and reason for the deviation, and
6. an evaluation of all corrective measures taken.

The permittee shall include a certification by the third-party evaluator that the third-party evaluator has reviewed any off-design and/or off-specification actions taken by the permittee during construction, whether such actions require the permittee to submit an application to modify its permit, and whether such actions violate the permittee's duty to establish and maintain mechanical integrity.



#### **K. Duty to establish and maintain mechanical integrity**

The permittee shall ensure the mechanical integrity of each underground storage cavern system at all times. If the permittee acquires new data that is significantly different from the data used or assumed in the permit application and supporting documents approved by the Department, the permittee shall immediately notify the Department. If the new data shows a potential compromise of the mechanical integrity of one or both underground storage cavern systems approved for construction by this permit, the Department may order the permittee to immediately cease construction, suspend or terminate the permit, and/or order all corrective actions necessary to stabilize the rock formation, unless the permittee demonstrates the stability and mechanical integrity of the underground storage cavern systems and the demonstration is reviewed and agreed to by the third-party evaluator.

The separation between any individual underground storage cavern within the facility shall be a distance sufficient to ensure that all underground storage caverns are able to maintain mechanical integrity and can be safely operated, and that the migration of the regulated substance(s) between underground storage caverns is prevented.

#### **L. Surface and mineral rights**

The permittee shall maintain and control all of the surface and mineral rights of all privately owned land within 300 feet of the surface footprint of the underground storage cavern systems approved for construction by this permit.

#### **M. Permit transfer**

If the site and/or underground storage cavern system(s) authorized for construction by this permit are transferred to a new owner, all conditions of the permit shall be automatically transferred to the new owner and the permit transferred shall continue in effect, provided the permit is valid on the date of transfer to the new owner and within 30 calendar days after transfer of the ownership of the site and/or underground storage cavern systems(s), the new owner submits the following to the Department:

1. A completed permit application form available at <https://dep.nj.gov/brp/caverns/#usc-forms> that identifies information about the new owner, including name, address, and contact information
2. Documentation that the transfer will not alter any condition on which the permit was based and will not otherwise circumvent any requirement of N.J.A.C. 7:1F
3. Acknowledgement and agreement to assume control and all responsibilities of this permit and comply with all conditions and requirements of this permit

#### **N. Notices and correspondence**

Unless otherwise provided by this permit, all correspondence, submissions, and notices to the Department shall be submitted through the online portal.

## **O. Suspension or revocation**

The Department may suspend the permit if the permittee violates any requirements of the permit, Department order, or provisions of N.J.A.C. 7:1F, or the permittee falsifies, or makes false representations to the Department on any report, record, application requirement, or other permit requirement.

The Department may revoke the permit if the permit application contains false, inaccurate, or insufficient information, an authorized representative is denied access to the site, the permittee fails to comply with any requirement of the permit or N.J.A.C. 7:1F, and/or the permittee is performing, or has authorized, an activity that is not in compliance with the permit or N.J.A.C. 7:1F.

If the Department determines grounds exist to suspend or revoke the permit, the Department will inform the permittee of the permit suspension and duration of the suspension or permit revocation by notice. The notice shall include the specific grounds for the action taken. The Department shall provide the notice by certified mail or by personal service. The notice will include any conditions necessary to protect the waters of the State, and public health and safety.

Upon receipt of the notice, the permittee shall neither begin any activity proposed in its permit application nor continue any ongoing permitted activity unless otherwise provided in the notice.

The duration of a suspension is at the discretion of the Department and will be determined according to the severity of the violation. The Department will not reinstate a suspended permit until the entire suspension period has expired and the reasons for the suspension are eliminated and corrected.

The permittee may contest the Department's order to suspend or revoke the permit by requesting a contested case hearing pursuant to N.J.A.C. 7:1F-7.

## **P. Appeal of decision**

Any person who is aggrieved by this permit decision or any conditions imposed by this permit may submit an adjudicatory hearing request within 20 calendar days of publication of notice in the DEP Bulletin, subject to the limitations of the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. If a person submits the hearing request after this time, the Department shall deny the request. The hearing request must include a completed copy of the Administrative Hearing Request Checklist, available at <https://dep.nj.gov/brp/caverns/#usc-forms>. A person requesting an adjudicatory hearing shall submit the original hearing request to: NJDEP Office of Administrative Hearings and Dispute Resolution, ATTENTION: Adjudicatory Hearing Requests, Mail Code 401-07A, PO Box 420, 401 East State Street, Trenton, NJ 08625-0420. Additionally, a copy of the hearing

request shall be submitted to the Bureau of Release Prevention, Mail Code 22-03D, 401 East State Street, PO Box 420, Trenton, NJ 08625-0420.

### **Section III. Specific conditions for the design and construction of the central complex and underground storage cavern systems**

Unless otherwise stated below, all designs and plans required by this section shall be approved by a licensed professional engineer.

#### **A. Central complex requirements**

##### **1. Preconstruction requirements**

At least 30 days before initiation of construction of the central complex, the permittee shall submit the following:

- a. final shaft and well construction methods for the central complex
- b. final detailed noise control plan
- c. final soil erosion and sediment control plan
- d. final explosive management plan
- e. final dust management plan
- f. final ventilation design

##### **2. Construction requirements**

###### ***a. Additional core holes; evaluation and updates***

Within two months of construction initiation and before bedrock excavation or bedrock drilling of the central complex, the permittee shall drill two additional core holes and follow the sampling and testing protocols in accordance with the approved permit application, specifically, the Geologic/Geotechnical Feasibility Report for Construction of Hard Rock Caverns at Repauno Port and Rail Terminal (dated November 15, 2023), Appendix M “DRP Repauno Storage Caverns Supplemental Site Investigation Plan,” and the Schnabel Third-Party Evaluation Report (June 25, 2024).

The permittee shall analyze the core holes and associated cores to confirm underground storage cavern feasibility, identify if/where any geological structure is present that would account for the apparent variation in the foliation orientation, and obtain additional thermal testing on rock cores for modification of values used in the Inter-Cavern Thermal Analysis modeling.

The permittee shall evaluate the collected data and information and as necessary, update all relevant parts of the feasibility study and any design specifications and construction plans submitted to the Department and approved by this permit. The permittee shall specifically consider whether the following information must be updated based on the data and information gathered:

- i. acid rock drainage potential
- ii. downhole geophysical logging results
- iii. radiological analysis
- iv. horizontal stresses
- v. rock thermal properties
- vi. hydrogeological and geological design parameters for cavern and shaft construction, and
- vii. any figures or schematics.

The updated materials shall be reviewed by the third-party evaluator. The permittee shall submit the analysis from the core holes, associated cores, radiation testing results, all updated materials, and the third-party evaluator's report to the Department for Department review and approval.

#### ***b. Wireline logging***

The permittee shall notify the Bureau of Environmental Radiation when a Natural Gamma Ray wireline logging company is contracted. The permittee shall submit planned mobilization dates and work schedule to the Department at least 7 days prior to commencing work.

#### ***c. Radiological survey***

The permittee shall notify the Bureau of Environmental Radiation when a radiological survey company is contracted. The permittee shall submit planned mobilization dates and work schedule to the Department at least 7 days prior to commencing work.

### **B. Underground storage cavern preconstruction requirements**

The permittee shall comply with the following conditions before commencement of lateral mining and construction of each underground storage cavern approved by this permit.

#### **1. Construction methods**

The permittee shall submit a detailed grout plan and final construction methods for the underground storage cavern to be constructed, at least 30 days prior to commencing lateral mining for construction of each underground storage cavern.

#### **2. Radiation monitoring**

The permittee shall submit the findings of the Radiation Monitoring Plan (RMP) to the Bureau of Environmental Radiation for review and approval. The report shall include the written Guidelines for Underground Inspection handbook detailing radon sampling procedures and any further surveys/sampling suggested, as necessary. The permittee shall

submit the report to the Department at least 30 days prior to commencing lateral mining for construction of each underground storage cavern.

### **3. Contingency plan**

The permittee shall prepare and implement a contingency plan to address potential aquifer dewatering and groundwater inflow issues during construction of each underground storage cavern. The plan shall outline procedures and tools to be implemented as needed, including installation of a water curtain, if necessary, groundwater monitoring, treatment or disposal, real-time monitoring, emergency dewatering systems, grouting response protocols, structural stability measures, and incident reporting. The contingency plan shall be submitted to the Department at least 30 days prior to construction of each underground storage cavern.

### **4. Rock mass deformation monitoring plan**

The permittee shall prepare and implement a rock mass deformation monitoring plan to be used during the construction of each underground storage cavern and to ensure mechanical integrity as required by Section II.J of this permit. The plan shall include periodic surveying to verify the stability of key points inside each cavern, and as necessary, the use of extensometers or inclinometers. The plan shall be submitted to the Department at least 30 days prior to construction of each underground storage cavern.

## **C. Underground storage cavern construction requirements**

### **1. Rock support**

The permittee shall validate rock support measures after initial blasting and spoil removal. The permittee shall submit the validation data to the Department 30 days after start of construction of each underground storage cavern.

### **2. Construction procedures**

The permittee shall submit final procedures for the construction of each underground storage cavern to the Department 30 days after start of the construction. The final procedures shall include, at a minimum, the following:

- a. a Geotechnical Baseline Report (GBR) which defines the subsurface physical conditions anticipated to be encountered during construction of the cavern
- b. stability problems and support requirements, and
- c. drainage and pumping of seepage water.

### **3. Dewatering**

If construction requires temporary groundwater and/or surface water control (dewatering) diversions in excess of 100,000 gallons of water per day, the permittee shall obtain a Dewatering Allocation Permit, Dewatering Permit-by-Rule, or Short-Term Permit-

by-Rule depending on the duration of the diversion and the method employed. The permittee shall refer to the Bureau of Water Allocation & Well Permitting Construction Related Dewatering Guidance document.

#### **4. Groundwater**

The permittee shall analyze, treat, discharge, and dispose of all groundwater pumped from any shaft or underground storage cavern during construction in accordance with State and Federal regulations, including but not limited to the Water Pollution Control Act, N.J.S.A. 58:10A-1, et seq. and its implementing regulations.

#### **5. Discharge to surface water**

If necessary, the permittee shall obtain a NJPDES Discharge to Surface Water General Permit (BGR – General Groundwater Remediation Clean-up Permit ([http://www.nj.gov/dep/dwq/gp\\_bgr.htm](http://www.nj.gov/dep/dwq/gp_bgr.htm))) for surface water discharge from construction related dewatering. See N.J.A.C 7:14A Pollutant Discharge Elimination System Regulations, at <https://www.state.nj.us/dep/dwq/714a.htm>. To obtain a permit, the permittee must submit a summary of the contaminants of concern, where the data was collected no more than 12 months prior to the submittal of the application.

If treatment is required, a Treatment Works Approval (TWA) from the Bureau of Environmental, Engineering and Permitting may be required for the construction of the treatment system.

#### **6. Excavated material**

This permit is issued subject to compliance with the terms and conditions of Division of Land Resource Protection permits #0807-16-0001.2, WFD160001, WFD160002, FHA160001, FHA160002 and CSW160001, and #0807-16-0001.5, LUP220001. If excavated material does not meet the standards of clean fill in accordance with Department requirements, the permittee is prohibited from placing the excavated material on site unless the permittee tests and remediates the material to meet the clean fill standards. Any excavated material that does not meet the clean fill standards, either before or after remediation, must be transported offsite by the permittee to an authorized location.

### **Section IV. Specific conditions for groundwater monitoring and sampling**

The permittee shall comply with the following conditions for groundwater monitoring and sampling. The Department may require soil vapor and additional groundwater monitoring wells and/or a revised sampling procedure based upon data submitted and any revised dimensions and orientation of the central complex and/or underground storage cavern systems.

## **A. Central complex preconstruction requirements**

The permittee shall comply with the following conditions prior to construction of the central complex.

### **1. Groundwater monitoring network plan**

For each underground storage cavern, the permittee shall develop a detailed plan for the design and installation of a groundwater monitoring network, and procedures for obtaining groundwater quality samples and measuring static groundwater levels. The plan and procedures shall be submitted to the Department for review and approval. Upon approval of the plan and procedures and prior to construction of the central complex, the permittee shall install the groundwater monitoring well network for the first underground storage cavern to be constructed. A “monitoring well” means a borehole used to observe the elevation of the water table or potentiometric surface, or to measure water quality. A “borehole” means a hole made by driving, jetting, coring, drilling, use of an auger, or other means into the ground for the purpose of constructing a shaft or well.

All well construction, development, groundwater level measurements, and groundwater sampling shall be in accordance with N.J.A.C. 7:9D and the most recent version of the NJDEP Field Sampling Procedures Manual (FSPM). The plan shall include a table summarizing the proposed monitoring well locations, depths, screened/open intervals, diameters, construction, and grouting information.

The groundwater monitoring network plan shall include and comply with the following.

#### ***a. Minimum number of wells and sampling locations per cavern***

There shall be a minimum of 16 bedrock and 4 overburden water level and water quality sampling locations per cavern, as follows:

- i. Each cavern shall have a minimum of four Potomac-Raritan-Magothy (PRM) formation/overburden monitoring wells, drilled to and screened at the base of the PRM formation/overburden.
- ii. Each cavern shall have a minimum of four sets of nested or clustered bedrock monitoring well groups. Each well group shall include at least four individual monitoring wells, each screening distinct water-bearing zones in the bedrock/Wissahickon Formation.

#### ***b. Location of wells per cavern***

The four overburden and four nested/clustered bedrock monitoring well groups shall be located as follows.

- i. Each of the four Potomac-Raritan-Magothy (PRM) formation/overburden monitoring wells shall be located above the cavern.

ii. One nested/clustered bedrock monitoring well group shall include one monitoring well that extends to the depth of the floor of the proposed cavern, located at least 50 feet (but not greater than 100 feet) horizontally from the proposed cavern walls. The remaining monitoring wells in this group shall be designed to screen distinct water-bearing zones above the cavern horizon as identified by downhole geophysical data.

iii. Two nested/clustered bedrock monitoring well groups shall be located on different sides of the proposed cavern and one nested/clustered bedrock monitoring well group shall be located above the center of the proposed cavern. The deepest monitoring well in each group shall extend to a depth of approximately 50 feet above the cavern roof. The remaining monitoring wells in each well group shall be designed to screen distinct water-bearing zones above the cavern horizon, as identified by downhole geophysical data.

### ***c. Design specifications***

i. The monitoring wells must be of sufficient diameter and appropriate construction to accommodate water quality and static water level sampling equipment, including a submersible pump, sampling equipment, and water level dataloggers/automated data recorders (ADR).

ii. The design specifications of each monitoring well shall be determined based on the borehole geophysical data collected at each well group location. Geophysical data shall include but are not limited to caliper log, natural gamma ray log, fluid conductivity, fluid temperature, spontaneous potential (SP), single point resistance (SPR), acoustic televiewer (ATV) or optical televiewer (OPTV).

### ***d. Collection procedures***

i. The procedures shall include detailed information on the collection of groundwater quality samples in accordance with the most recent version of the NJDEP Field Sampling Procedures Manual (FSPM), Chapter 6 Subchapters 6.9 “Groundwater Sampling” and for the parameters identified in N.J.A.C. 7:1F-3.3(b).

ii. The procedures shall include detailed information on the collection of static water levels in accordance with the most recent version of the NJDEP Field Sampling Procedures Manual (FSPM), Chapter 6 Subchapters 6.9 “Groundwater Sampling.”

## **2. Groundwater quality sampling**

In accordance with the approved groundwater quality sampling procedures pursuant to section IV.A.1 above and prior to construction of the central shaft complex, the permittee shall establish background water quality by collecting groundwater samples from each of the approved monitoring wells for the first underground storage cavern to be constructed. Samples shall be analyzed by a laboratory certified under N.J.A.C. 7:18 and analyses shall include a minimum of the LPG products to be stored during operation, pH,



specific conductance (SC), dissolved oxygen, turbidity, and for those constituents with specific groundwater quality criteria listed in Table 1 of the Appendix in N.J.A.C. 7:9C.

The permittee shall submit the groundwater sampling analysis results, supporting documentation, and summary report and tables to the Department within 90 days of sampling. The information submitted shall be in accordance with NJDEP Field Sampling Procedures Manual (FSPM), subchapter 1.8 “Electronic Submission of Data for Site Remediation and Waste Management.”

### **3. Static water level**

The permittee shall use automated data recorders to collect and record hourly static water level measurements from each monitoring well for the first underground storage cavern to be constructed. Manual measurements shall be taken weekly. Data collection shall begin at least 14 days before construction of the central shaft complex begins and continue throughout the construction period.

All static water level data required to be collected, including raw data logger (ADR) files, shall be submitted to the Department along with supporting documentation and a summary report no later than 30 days after the last day of the month for which data are being reported.

### **4. Groundwater quality sampling and static water level for second cavern**

Prior to the construction of the second underground storage cavern and in accordance with section IV.A.1. above, groundwater quality sampling and static water levels shall be collected and reported pursuant to sections IV.A.2 and IV.A.3 above for the monitoring wells associated with the second cavern.

## **B. Construction requirements**

### **1. Water quality sampling**

During construction of each cavern, the permittee shall collect semi-annual water quality samples from each monitoring well in accordance with the approved sampling procedures. Samples shall be analyzed by a laboratory certified under N.J.A.C. 7:18 and analyses shall include a minimum of the LPG products to be stored during operation, pH, specific conductance (SC), dissolved oxygen, turbidity, and for those constituents with specific groundwater quality criteria listed in Table 1 of the Appendix in N.J.A.C. 7:9C.

The permittee shall submit the groundwater sampling analysis results, supporting documentation, and summary report and tables to the Department within 90 days of each semi-annual sampling. The information submitted shall be in accordance with NJDEP Field Sampling Procedures Manual (FSPM), subchapter 1.8 “Electronic Submission of Data for Site Remediation and Waste Management”. After two semi-annual sampling events, the

permittee may submit a written request to modify this condition. The request must include adequate justification and supporting information for the Department's review and approval.

## **2. Static water level**

For each cavern, the permittee shall submit static water level data as required at section IV.A.3 above. The permittee shall notify the Department within seven days if the static groundwater level in any monitoring well falls by 10 feet or more within a 24-hour period or by 15 feet or more cumulatively within any 7-day period and what actions are implemented.

## **Section V. Specific conditions for well construction and maintenance**

The permittee shall comply with the following conditions applicable to the construction and maintenance of any well, in accordance with the requirements of the New Jersey Well Construction and Maintenance; Sealing of Abandoned Wells rules, N.J.A.C. 7:9D. A well is defined at N.J.A.C. 7:9D-1.5 as a hole or excavation larger than four inches in diameter or a hole or excavation deeper than 10 feet in depth that is drilled, bored, cored, driven, jetted, dug, or otherwise constructed for the purpose of removal or emplacement of, or investigation of, or exploration for, fluids, water, oil, gas, minerals, soil, or rock, or for the installation of an elevator shaft.

A well includes, but is not limited to, ventilation, service, and production shafts, including shafts associated with the central complex; monitoring/observation wells for groundwater or vapor monitoring; and geotechnical borings and core holes.

### **A. Central complex preconstruction requirements**

#### **1. Licensed well driller**

The permittee and the New Jersey licensed well driller of the proper class shall sign and obtain a valid New Jersey well permit from the Department prior to drilling, constructing, or installing any well.

There shall be one licensed well driller of the proper class on site for each well drilling rig on site.

#### **2. Grouting and drilling fluids/additives**

All grouting materials for the wells and drilling fluids or additives used shall meet the requirements of N.J.A.C. 7:9D-2.2 (a)4, N.J.A.C. 7:9D-2.9 and N.J.A.C. 7:9D-2.10 and all water used shall be of potable quality as required by N.J.A.C. 7:9D-2.2(a)2. If the permittee proposes to use any grout or other material that does not expressly conform to the requirements of N.J.A.C. 7:9D, the permittee shall submit a request for a deviation from

Construction Standards for review and consideration of approval by the Department and the New Jersey State Well Drillers and Pump Installers Examining and Advisory Board in accordance with N.J.A.C. 7:9D-2.8.

### **B. Construction requirements**

The permittee shall ensure that any well, including any boreholes or shaft drilled or constructed, and grouting materials and drilling fluids or additives used meet the requirements of the New Jersey Well Construction and Maintenance; Sealing of Abandoned Wells rules, N.J.A.C. 7:9D.

The permittee shall ensure that the as-built location of any well or borehole located on the site and/or owned by the permittee has the correct coordinates provided on the final well record as specified in N.J.A.C. 7:9D-1.15(a)(4).

A Classification Exception Area (CEA)/Well Restriction Area (WRA), Department Program Interest (PI) #008225, has been established for the DuPont Repauno Site, 200 N. Repauno Ave, Gibbstown NJ, due to groundwater contamination of the Potomac Raritan Magothy (PRM) aquifer. Any well or borehole drilled or constructed within CEA/WRA footprint shall comply with the Department's Instructions for the CEA/WRA Fact Sheet Form requirements. All drilling fluids, displaced water, and cuttings shall be handled in accordance with N.J.A.C. 7:26G, Hazardous Waste Regulations.

### **C. Decommissioning requirements**

The permittee shall ensure that any well or borehole located on the site and/or owned by the permittee and that is not currently being used is properly decommissioned in accordance with N.J.A.C. 7:9D Subchapter 3. For wells that are known to exist, but which cannot be located or for which decommissioning reports cannot be identified, the permittee shall follow the procedures specified in N.J.A.C. 7:9D-3.5 and the Guidance for Damaged, Destroyed, or Lost Wells document.

## **Section VI. Decommissioning plan**

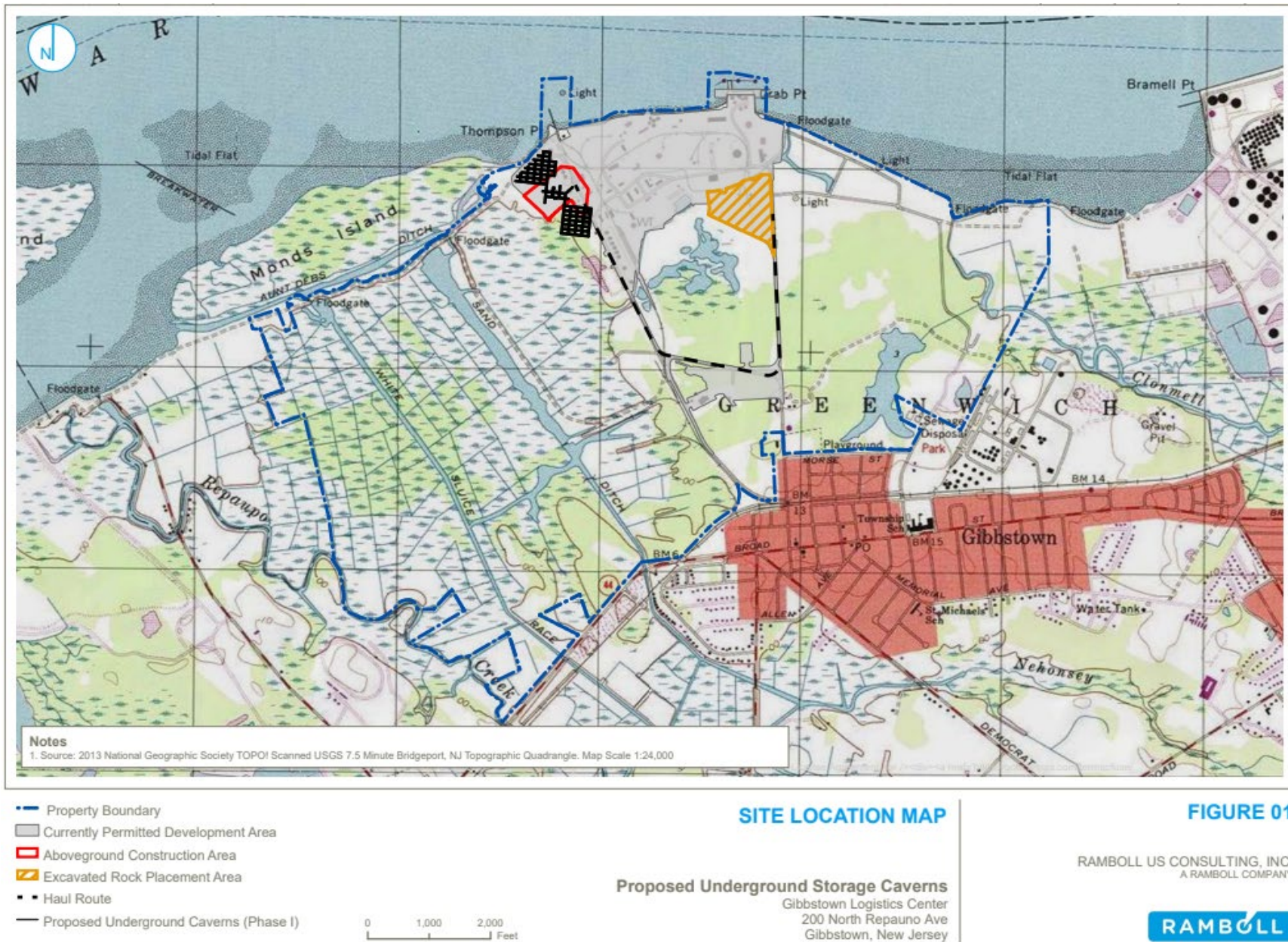
The permittee shall develop a decommissioning plan for each underground storage cavern system approved for construction by this permit. The decommissioning plan shall include a demonstration and maintenance of financial responsibility in the event the underground storage cavern system needs to be sealed for any reason, including cessation of construction activities pursuant to this permit. The permittee shall submit the decommissioning plan to the Department for approval prior to construction of the underground storage cavern to which the decommissioning plan applies.

## **Attachment A**

The permit application materials, including the initial permit application submitted by the permittee, subsequent materials provided by the permittee, and the third-party evaluation reports and materials submitted by the third-party evaluator, which are part of the administrative record and approved by this permit, are listed below.

1. Initial application: December 14, 2023 (January 3, 2024, electronic version)
2. March 13, 2024 (applicant's response to the Department's Notice of Administrative Deficiency dated February 12, 2024, with Exhibits 1 through 10)
3. March 22, 2024 (applicant's supplemented response to Notice of Administrative Deficiency - Item No.1 with Qualifications, Conflict of Interest Statements, and Certification pages)
4. April 24, 2024 (applicant's final report for the Slaking Test performed on various rock types in response to Item #3 of the Department's Notice of Administrative Deficiency dated February 12, 2024)
5. May 31, 2024 (third-party evaluation report "Repauno Port and Rail Terminal Proposed Gas Cavern Storage Facility Delaware River Partners, LLC Gibbstown, New Jersey," Schnabel Reference 24720019.000)
6. June 14, 2024 (email correspondence from DRP to Schnabel including a clarification document to the May 31, 2024, third-party evaluation report (DRP-Cavern 6.7.24 DRAFT E-mail to Schnabel re\_ TPE Report (10786354.7) and two attachments)
7. June 25, 2024 (revised third-party evaluation report "Repauno Port and Rail Terminal Proposed Gas Cavern Storage Facility Delaware River Partners, LLC Gibbstown, New Jersey," Schnabel Reference 24720019.000)
8. September 19, 2024 (applicant's Radiation Monitoring Plan (RMP) with procedures for supplemental core drilling, Supplemental Core Drilling Plan revised to refer to the RMP and procedures, and logging tool specification)
9. October 22, 2024 (applicant's response to Department's Notification of Technical Deficiencies dated September 24, 2024, with Exhibits A through C)
10. November 19, 2024 (applicant's response to Department's Notification of Technical Deficiencies dated November 1, 2024, including a copy of the Front-End Engineering Design (FEED) Report, revision 13)
11. November 20, 2024 (applicant's Technical Memorandum: "DRP – Repauno: Bulkhead Design")
12. January 10, 2025 (applicant's response to Department's December 24, 2024, memorandum concerning Delaware River Partners LLC's October 22, 2024, and November 19, 2024, responses, including Exhibit A)

## Attachment B





## Attachment C

Proposed caverns “NW Cavern” and “SE Cavern” are within the area designated by the coordinates (264000E, 369000N), (264000E, 367000N), (268000E, 369000N), 268000E, 367000N) - Coordinate System: New Jersey State Plane, US Feet Survey (NAD83)

