

34-11 BEACH CHANNEL DRIVE SITE
34-11 BEACH CHANNEL DRIVE, FAR ROCKAWAY, NEW YORK 11691

**AMENDED CORRECTIVE MEASURES WORK
PLAN**

NYSDEC BCP Number: C-241141

Prepared For:
Rockaway Seagirt Limited Partnership
1044 Northern Blvd, 2nd Floor
Roslyn, NY 11576



Prepared by:
AMC Engineering PLLC
18-36 42nd Street
Astoria, NY 11105

MAY 2025



May 21, 2025

Mr. Christopher H. Allan
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Ref.: NYSDEC BCP# C241141
34-11 Beach Channel Drive
Queens, NY 11418
Amended Corrective Measures Work Plan & Response to CMR Comments

Dear Mr. Allan:

This 'Amended' Corrective Measures Work Plan (CMWP) has been prepared in response to comments issued by the Department (dated March 12, 2025). Following the field mobilization activities and the results identified in our Corrective Measures Report (CMR, dated December 2024), the Department has requested additional information located downstream of the treatment zone (East of the existing building).

Background Information and Summary

The Site underwent remedial activities under NYSDEC BCP Project# C241141. A Final Engineering Report (FER) and Site Management Plan (SMP) were issued at the end of 2016, which describes the scope of the remedy and future monitoring requirements, which included groundwater dewatering, in-situ chemical injections, excavation activities, and the implementation of Institutional and Engineering Controls (ICs/ECs) at the site.

A Corrective Measures Work Plan (CWMP) was prepared (April 2024) to determine whether the previously installed groundwater monitoring wells (15MW1, 15MW2, and 15MW3) were properly depicting the groundwater conditions and treatment results. The CWMP was prepared to address the following concerns: a) the wells do not extend down to determine whether the 37-39' contamination has been addressed, and b) the wells penetrate the clay layer (20-25' below grade) and they are screened within the two aquifers, which may have different groundwater flow directions (as per Remedial Investigation Report by FPM Group, dated February 2015, and Remedial Investigation Report by TRC, dated August 2015 for the adjacent site). Three (3) cluster wells were installed to investigate the groundwater flow and quality within the shallow (13-15'), intermediate (20-22'), and deep layers (37-39').



The results of the April 2024 CWMP can be found in the Corrective Measures Report (CMR, dated December 2024). The concentrations of contamination have significantly decreased when compared to onsite conditions prior to the 2016 chemical injection event and site remediation activities. The groundwater flow direction within the shallow and intermediate layers was found to be north-northeast, while prior existing data showed the groundwater flow direction to be generally Westerly. The groundwater flow direction within the deep layer is Westerly, consistent with results in prior reports.

Proposed Corrective Measures

To determine the downstream conditions in the shallow and intermediate layers, additional cluster wells are necessary in the downstream area, on the adjacent property. The following corrective measures are proposed:

1. Install two (2) new cluster wells on the adjacent property, as shown in the attached Figure. Each cluster consists of two wells (one screened for the 11-16' interval, and the second screened for the 19-24' interval), for a total of four (4) wells.
2. Install data loggers in all four newly proposed wells, in addition to four previously installed wells (total 8), to determine the effect of tidal influence and other factors that may influence the groundwater flow direction.
3. Survey top of casing of all onsite and offsite wells, relative to NAVD88 datum.
4. Collect groundwater samples from 25MW-4S, 25MW-4I, 25MW-5S, and 25MW-5I, to establish groundwater quality in the downstream location.

These corrective measures will be implemented to:

- Confirm the groundwater flow direction in the shallow layer;
- Confirm the groundwater flow direction in the intermediate layer;
- Establish current groundwater quality in the 13-15' and 20-22' intervals;

Based on the results of the groundwater sampling event and direction of groundwater flow, additional direction and guidance may be required from the Department.

The implementation of these proposed corrective measures will hinge on the Department's ability to secure access to the neighboring BCP Site (CPB Site, C241158). Once access is secured, additional discussions may be necessary between the two site owners.



Installation of New Monitoring/Cluster Wells

The installation of new cluster wells is necessary to confirm the groundwater flow direction within the shallow and intermediate layers, and collect groundwater samples to determine the groundwater quality in the downstream direction.

A total of two (2) cluster wells are proposed in the shallow and intermediate layers, on the adjacent property. Each cluster well will consist of two (2) monitoring wells, denoted as “Monitoring Well Shallow (MW-S)” and “Monitoring Well Intermediate (MS-I)”. For two clusters, this is a total of four (4) monitoring wells.

All proposed wells will be constructed using a 2-inch diameter PVC riser/casing and 0.02-inch machine-slotted PVC screen. Each monitoring well will be installed within a 6” borehole, to create a 2” annulus around the wells. The well annuli will be backfilled with #2 well gravel/sand pack (or equal) to cover the screened interval. The sand pack above each screen will be sealed with a two-foot bentonite seal, and the balance of each annulus will be backfilled with the sand pack to grade elevation.

Shallow Wells

The shallow wells (25MW-4S and 25MW-5S) will be installed from grade elevation to 16’ below grade. Each shallow well will consist of an 11’ riser and 5’ screen. The shallow wells will represent groundwater conditions from 11-16’ below grade, which aims to capture the 13-15’ contamination zone found during the remedial investigation. The shallow wells represent the groundwater quality above the first clay layer.

Intermediate Wells

The intermediate wells (25MW-4I and 25MW-5I) will be installed from grade elevation to 24’ below grade. Each intermediate well will consist of an 19’ riser and 5’ screen. The intermediate wells will represent groundwater conditions from 19-24’ below grade, which aims to capture the 20-22’ contamination zone found during the remedial investigation. The intermediate wells represent the groundwater quality immediately below the first clay layer and also within the injection zone.

Well construction logs will be generated upon completion of the cluster well installation and submitted to the Department as part of the Corrective Measures Report.

The new cluster well installation will follow the sequence below:

1. Advance a soil boring to 25’ below grade and characterize the subsurface materials to note the intervals of clay present in each location.
2. Install the intermediate well (25MW-4I and 25MW-5I) such that the screen is not fully embedded in clay.**



3. Install the shallow well (25MW-4S and 25MW-5S) to 16' below grade.

**The terminal depth of the intermediate well will be determined by the qualified environmental consultant overseeing the cluster well installation. The final depths of each well may vary, but the objective is to capture the 13-15' and 20-22' intervals for the shallow and intermediate wells, respectively.

Installation of Data Loggers

Data loggers will be installed after well development in all four (4) off-site new wells and four (4) onsite existing wells. Data loggers (Level TROLL series by In-Situ Inc. or equal) will be installed to the bottom of the wells. Each data logger will be programmed to obtain one reading per minute for a total of seven (7) days, to determine the changes in the groundwater elevations over a week. This data will be used to determine whether tidal influence affects the respective aquifer. If the data is unclear, the data loggers may need to remain for a longer period.

Site Survey & Groundwater Flow Direction

The surveying of the onsite and off-site wells will be performed after all the data loggers have been removed. This is to ensure that the groundwater levels within the wells have stabilized, and all tidal influence can be accounted for, based on data obtained during the prior week. A summary of the surveying event and established groundwater flow direction will be submitted to the Department as part of the Corrective Measures Report.

Groundwater Sample Collection

Four (4) groundwater samples will be collected from 25MW-4S, 25MW-4I, 25MW-5S, and 25MW-5I, and analyzed for:

- Volatile Organic Compounds (VOCs) via EPA Method 8260

A summary of the groundwater sampling event will be submitted to the Department as part of the Corrective Measures Report.



Please feel free to contact me with any questions or concerns.

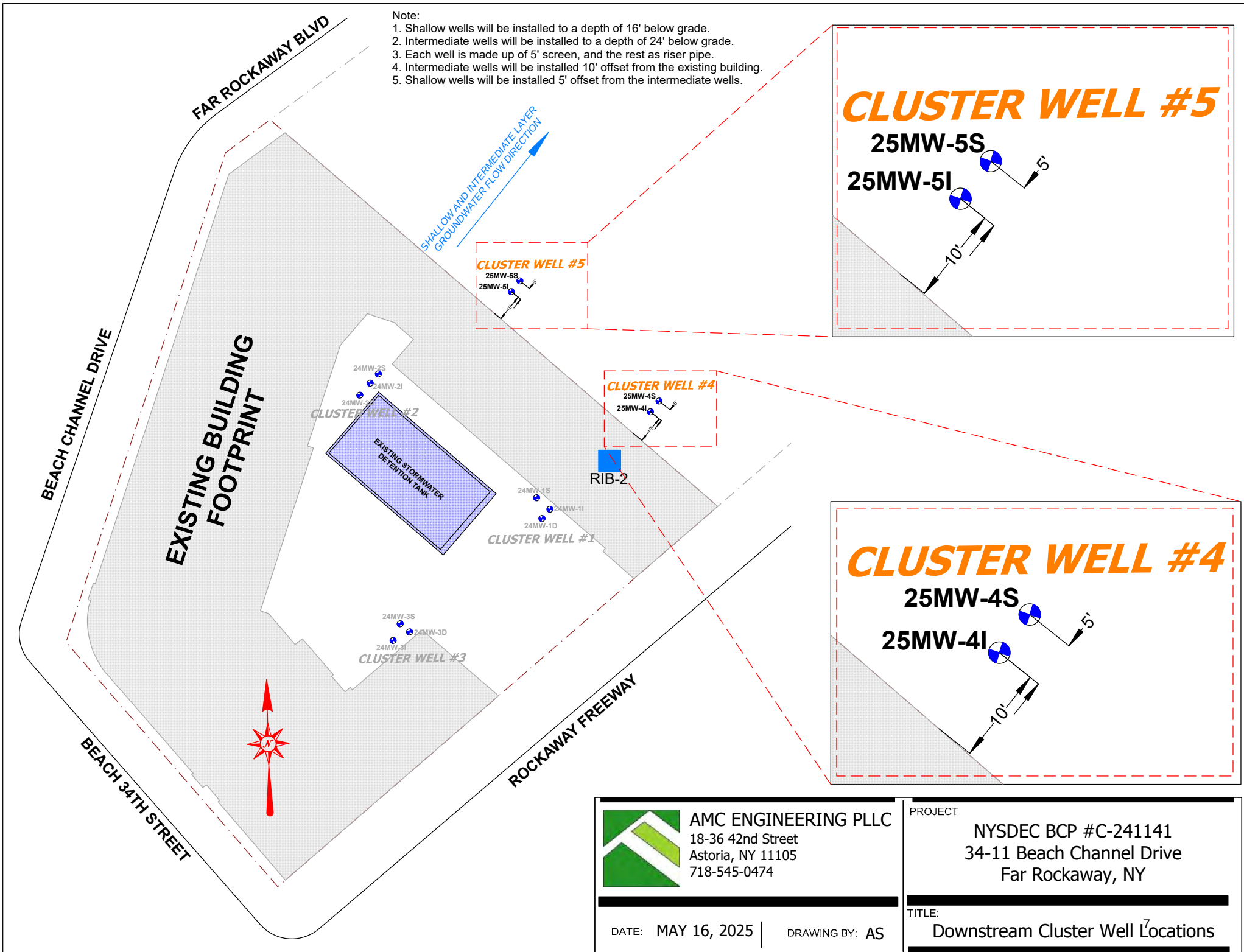
Sincerely,



Ariel Czemerinski, PE
AMC Engineering, PLLC

Attachments

1. Downstream Cluster Well Installation Plan
2. Copy of Department Comments Letter



March 12, 2025

Daniel Moritz
Rockaway Seagirt Commercial LLC
1044 Northern Blvd, 2nd Floor
Roslyn, NY 11576-1588

Re: 34-11 Beach Channel Drive, Far Rockaway
Queens County, Site No.: C241141
Corrective Measures Report (CMR) Comments

Dear Daniel Moritz:

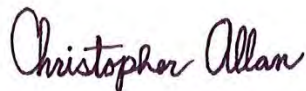
The New York State Department of Environmental Conservation (the NYSDEC) has completed its review of the Corrective Measures Report (CMR) dated December 2024, which was prepared by AMC Engineering PLLC on behalf of Rockaway Seagirt Limited Partnership (the Volunteer).

The 3 cluster wells installed at the site as part of the Corrective Measures have clarified the groundwater flow direction, which had been in question previously. The shallow and intermediate groundwater flow direction is to the north-northeast, while previously installed wells showed the groundwater direction to be generally to the west. Given this, the groundwater downgradient of the shallow and intermediate treatment zones has never been properly monitored.

NYSDEC is working on securing access to the neighboring BCP site (CPB Site, site no. C241158) so that you may install shallow and intermediate wells downgradient of the treatment zone. Within 30 days of the date of this letter, please submit an amendment to the Corrective Measures Work Plan to install monitoring wells downgradient of the treatment zone at the neighboring site.

If you have any technical questions regarding this matter, please contact me at (718) 482-4065 or christopher.allan@dec.ny.gov.

Sincerely,

A handwritten signature in dark ink that reads "Christopher Allan". The signature is written in a cursive, flowing style.

Christopher Allan
Project Manager

ec: J. O'Connell, C. Maycock – NYSDEC
S. McLaughlin, S. Wagh – NYSDOH
A. Czemerinski, A Sung – AMC Engineering
J. Dunston – Rockaway Seagirt Limited Partnership