

Mr. Michael Belveg, PE  
Assistant Engineer (Environmental)  
New York State Department of Environmental Conservation  
Region 7  
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Syracuse, New York 13204

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Date: October 12, 2022  
Our Ref: 30055628  
Subject: **Well Abandonment Work Plan**  
Northern Cold Springs Terminal  
Hillside Road, Lysander, New York

Dear Mr. Belveg:

On behalf of the Northern Terminal Group, Arcadis U.S., Inc. (Arcadis) is submitting this *Well Abandonment Work Plan* (Work Plan) to abandon select monitoring wells at Northern Cold Springs Terminal, New York (Site) (see Figures 1 and 2).

As documented, the quarterly groundwater monitoring outlined by the Supplemental Characterization and Interim Remedial Action Work Plan (Arcadis, February 21, 2018) and the Northern Terminal Focused Investigation Summary Report (Arcadis, September 28, 2018), respectively approved by New York State Department of Environmental Conservation (NYSDEC), email dated February 23, 2018 and letter dated October 24, 2018, has been completed with the submission of the 1Q2020 quarterly monitoring report (Arcadis, June 12, 2020). In the 1Q2020 report Arcadis, on behalf of the Northern Terminal Group, concluded that the monitoring was completed and future monitoring of a group of 18 wells was no longer needed. These concepts were discussed in a Northern Terminal Group / NYSDEC meeting on June 29, 2020. During that meeting all participants agreed monitoring was complete, would be halted, and that a group of 16 wells would be permanently abandoned.

This work plan provides a proposal for the permanent abandonment process of the following wells: BMW2, BMW3, BMW6, BMW7, BMW8, BMW9, MW-201, MW-202, MW-203, MW-205, MW-206, MW-207, MW-209, MW-210, MW-211, and PZ106S.

Arcadis proposes to undertake well abandonment activities at the site in November 2022.

## Proposed Well Abandonment Activities

Arcadis will subcontract a New York licensed driller to abandon the 16 monitoring wells at locations presented in Figure 2. Construction details of these wells are included in Table 1.

Monitoring wells will be abandoned in accordance with the NYSDEC Groundwater Monitoring Well Decommissioning Policy via the following steps:

- removal of the surface materials;
- over drilling of the well column and removal of subsurface well construction materials;

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- filling open borehole with a cement-bentonite grout via the “tremie” method to ground surface; and
- restoration of surface conditions.

All spoils will be spread at grade, no waste soil or water will be containerized during this process based on the previously reported investigative findings for these wells. Well materials of construction will be disposed of as general construction debris.

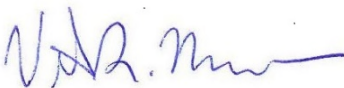
## Reporting

After completion of well abandonment activities, a report will be submitted to the NYSDEC documenting the following:

- Identification of abandoned wells;
- Well demolition details of abandoned wells;
- Procedures and materials used; and
- Method and procedures for disposal of any well construction materials.

Arcadis will perform activities upon NYSDEC approval of this Work Plan and will notify NYSDEC of the abandonment schedule two weeks prior to initiation of field activities. If you have any questions pertaining to this Work Plan, please do not hesitate to contact me.

Sincerely,  
Arcadis U.S., Inc.



Vincent S. Maresco  
Principal Geologist/Project Manager

Email: vin.maresco@arcadis.com  
Direct Line: 315.671.9256

CC. Krista Manley, Buckeye Pipeline Company, L.P.  
James Schaeffer, bp

### Enclosures:

- Table 1 – Construction Details of Wells Proposed for Abandonment
- Figure 1 – Site Location Map
- Figure 2 – Proposed Well Abandonment Locations

**Table 1**  
**Construction Details of Wells Proposed for Abandonment**



**Well Abandonment Work Plan**  
**Northern Cold Springs Terminal**  
**Lysander, New York**

S.No.	Well ID	Northing	Easting	Borehole Depth (ft bgs)	Screened Interval (ft bgs)	Stick-up/Flush Mount
1	BMW2	1141472.09	909051.25	34.00	15.3-34.0	Stick-up
2	BMW3	1141323.86	908969.02	29.00	3.5-29.0	Stick-up
3	BMW6	1141286.17	908914.24	30.0	10.0-30.0	Stick-up
4	BMW7	1141347.84	908824.60	15.0	5.0-15.0	Stick-up
5	BMW8	1141420.52	908826.55	20.0	5.0-20.0	Stick-up
6	BMW9	1141334.24	909181.88	15.0	5.0-15.0	Stick-up
7	MW-201	1141290.74	908861.62	24.0	14.0-24.0	Stick-up
8	MW-202	1141329.17	908898.17	16.5	6.0-16.5	Stick-up
9	MW-203	1141307.55	909013.86	20.0	5.0-20.0	Stick-up
10	MW-205	1141543.83	908866.84	20.0	10.0-20.0	Stick-up
11	MW-206	1141541.04	908921.18	20.0	5.0-20.0	Stick-up
12	MW-207	1141519.38	908997.73	20.0	5.0-20.0	Stick-up
13	MW-209	1141600.72	909076.11	20.0	5.0-20.0	Stick-up
14	MW-210	1141345.09	909129.64	18.0	8.0-18.0	Stick-up
15	MW-211	1141377.65	909200.72	15.0	5.0-15.0	Stick-up
16	PZ106S	1141279.48	909152.97	15.5	5.5-15.5	Flush Mount

**Notes:**

BMW = Buckeye installed Monitoring well

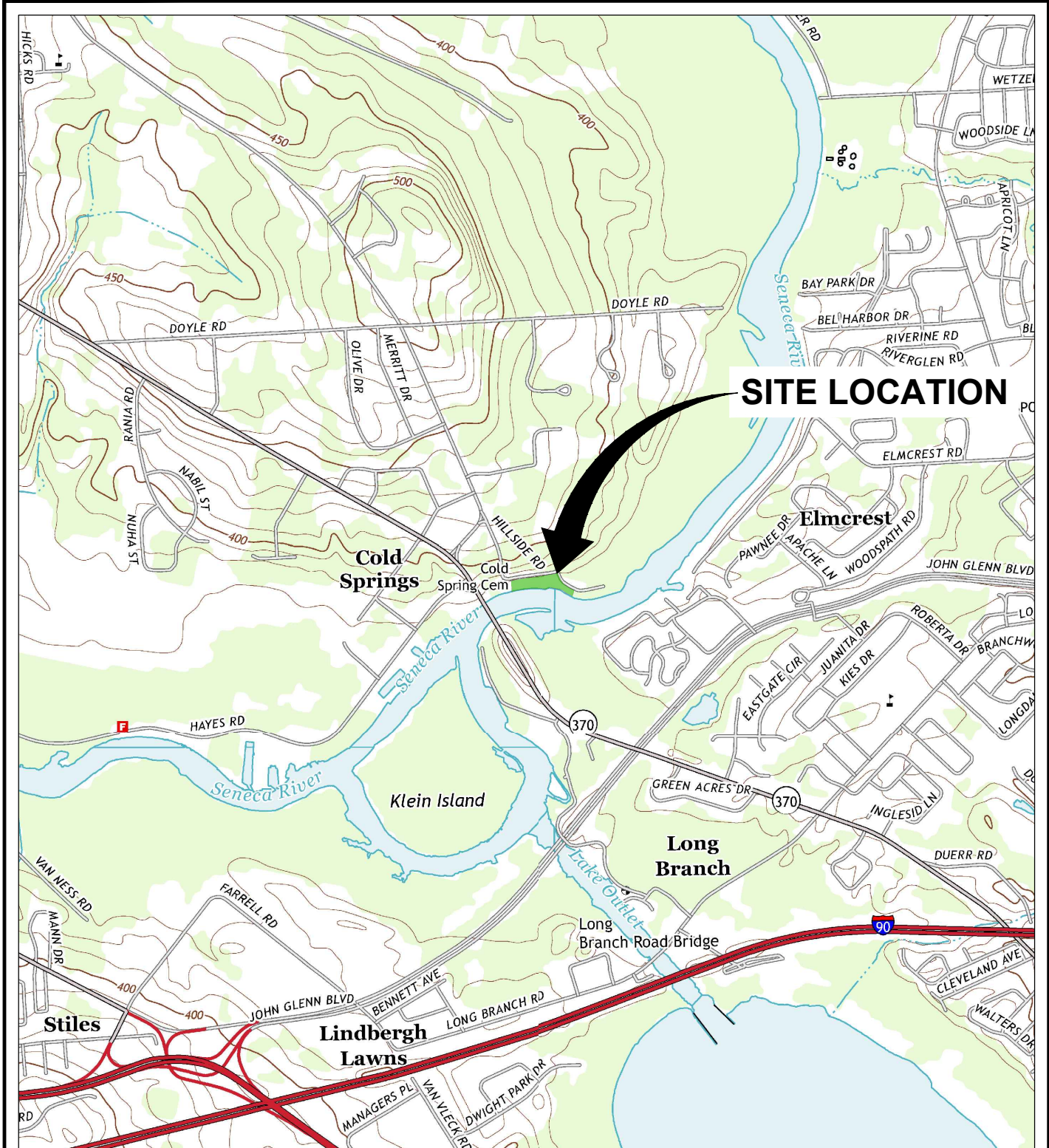
MW = Northern Terminal Group Installed Monitoring Well

PZ = Northern Terminal Group Installed Piezometer

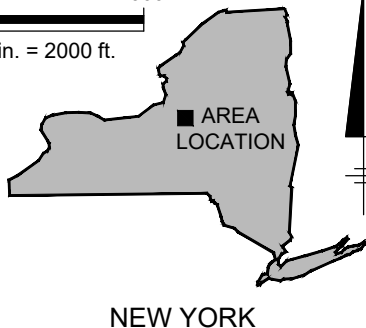
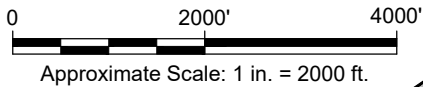
ft = feet


bgs = below ground surface

CITY: SYRACUSE NY DIV/GROUP: ENV/CAD DB: E: KRÄHMER PIC: PM: V. MARESCO TR: R. HENSEL TR: N. GRIFFITH LXR: (OPTION)-OFF-REF  
 C:\Users\sh22\BIM\360\Arcadis\ANA - BP AMOCO CORPORATION\Project Files\Buckeye Pipeline Company\2020\3000360801-DWG\202001\_Fig\_1\_SLM.dwg LAYOUT: 1 SAVED: 4/7/2020 10:13 PM ACADVER: 23.1S (LMS TECH) PAGES/SETUP: ---- PLOTSTYLE/TABLE: PLTFULL.CTB PLOTTED: 9/11/2020 11:45 AM BY: S. HARISH

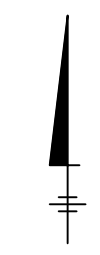
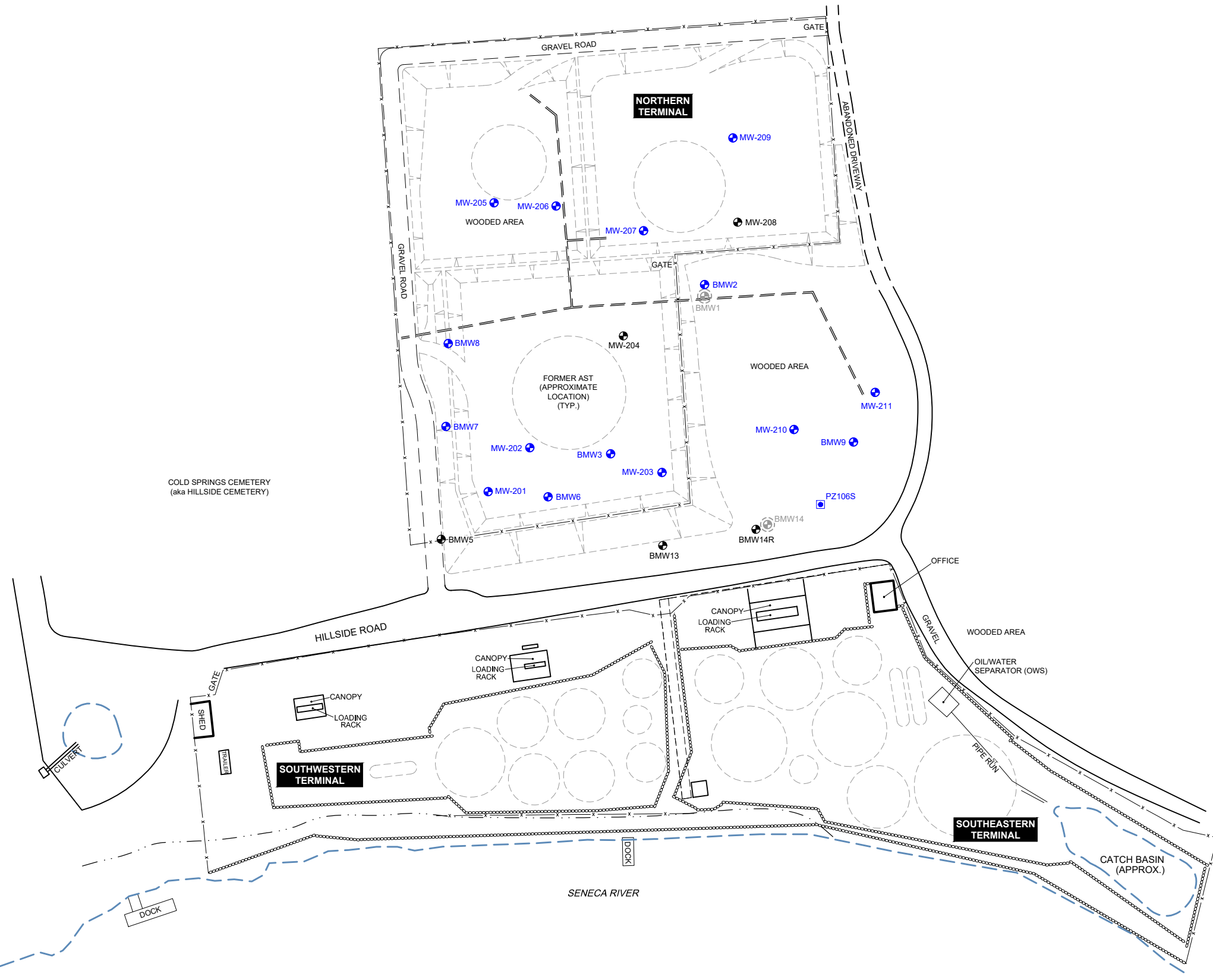


REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., BALDWINVILLE, BREWERTON, CAMILLUS & SYRACUSE WEST, NY, 2013.






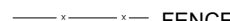


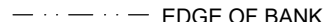


NORTHERN COLD SPRINGS TERMINAL LYSANDER, NEW YORK <b>WELL ABANDONMENT WORK PLAN</b>	
<b>SITE LOCATION MAP</b>	
	Design & Consultancy for natural and built assets
FIGURE <b>1</b>	

PROJECTNAME: ----  
 XREFS: 202001-Title Block

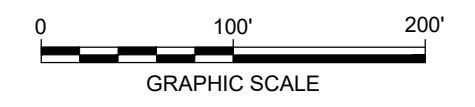


**LEGEND:**

-  MONITORING WELL
-  MONITORING WELL PROPOSED FOR ABANDONMENT
-  DECOMMISSIONED MONITORING WELL
-  PIEZOMETER PROPOSED FOR ABANDONMENT
-  FORMER SITE FEATURE
-  FENCE
-  RETAINING WALL
-  EDGE OF WATER
-  EDGE OF BANK

**NOTES:**

1. BASE MAP REFERENCE: "SITE MAP MONITORING WELLS" BY GROUNDWATER & ENVIRONMENTAL SERVICES, INC. (GES), DATED SEPTEMBER 30, 2015.
2. LOCATION OF PIEZOMETER (PZ106S) WAS SURVEYED ON APRIL 26, 2016 BY C.T. MALE. LOCATION OF MONITORING WELLS MW-201 - MW-210 WERE SURVEYED ON JUNE 7, 2018.
3. AST = ABOVE GROUND STORAGE TANK.



NORTHERN COLD SPRINGS TERMINAL  
 LYSANDER, NEW YORK  
**WELL ABANDONMENT WORK PLAN**

**PROPOSED WELL  
 ABANDONMENT LOCATIONS**