November 6, 2018 Reference No. 8618809.36

Mr. Tracy Smith
Division of Environmental Remediation, Remedial Bureau D
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Dear Mr. Smith:

Re: Annual Site Inspection – 2018
Former Crucible Specialty Metals Landfill – Inactive Hazardous Waste Disposal Site #734021

On behalf of EnPro Holdings, Inc., GHD personnel have completed the annual Site inspection activities at the Former Crucible Specialty Metals Landfill Inactive Hazardous Waste Disposal Site located in the Town of Geddes, Onondaga County, New York (the 'Site', Site No. 734021, Figures 1 and 2). This letter report summarizes those activities.

1. Introduction

EnPro Holdings, Inc. is responsible for the Operations, Maintenance, and Monitoring (OM&M) of the Site, which is a closed landfill formerly operated by Crucible Specialty Metals. According to historic documents, the landfill began receiving waste, generally consisting of hazardous and non-hazardous solid waste from the Crucible steel mill, in 1973. Disposal of hazardous waste, which reportedly consisted of caustic solids, acid pickling sludge, and electric arc furnace and argon-oxygen decarburization dusts, reportedly ceased in March 1982. Disposal of non-hazardous waste, which reportedly consisted of slag, construction and refractory debris, absorbents, miscellaneous boiler house ashes, coolant swarves, mill scale, and wastewater treatment plant dewatered sludge, reportedly ceased in 1986 when the landfill closure began. Landfill closure was reportedly completed in 1989.

Previous reports indicated the Site is located on top of the abandoned Solvay Process Waste Beds, which are generally composed of waste material from the production of soda ash. The top terrace of the waste beds, where the landfill is located, is reportedly approximately 60 feet higher in elevation than Onondaga Lake. The surrounding lands are primarily occupied by Ninemile Creek and Interstate 690 to the west and south; the New York State Fair Grounds overflow and Onondaga County Lakeview Amphitheater parking lots to the south; the Onondaga County Lakeview Amphitheater, which was constructed in 2015, adjoining the Site to the north and east; and Onondaga Lake further to the north and east. There are no residences within 1,000 feet of the closed landfill.

GHD
One Remington Park Drive Cazenovia New York 13035 USA
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Post-closure monitoring activities are outlined in the New York State Department of Environmental Conservation (NYSDEC) approved Post-Closure Work Plan Update (S&ME Northeast, P.C., October 2011), as modified by the NYSDEC-approved Monitoring Variance Request (GHD, March 23, 2017) and the NYSDEC-approved modifications included in the 2017 Annual Monitoring Report (GHD, February 2018). Currently, OM&M activities include annual mowing, landfill integrity observations, and groundwater monitoring every other year, with the next groundwater-monitoring event scheduled for October 2019.

2. Annual Landfill Integrity Observations

The assessment of the integrity of the landfill cover system is completed annually by visual inspection of the cover surface material for erosion and/or subsidence, observation of the stormwater management features for general function, and annual maintenance of the cover system by mowing to preclude woody growth.

GHD contracted with Lorne Rudy Tractor Services of Bridgeport, New York to perform mowing of the Site prior to annual inspection activities in order to allow for access and observation of the condition of the landfill surface. An all-wheel drive tractor with a brush hog was used to clear the majority of the landfill area, with hand trimming performed in the vicinity of each groundwater monitoring well, piezometer, settlement plate, and inclinometer.

On October 17, 2018, GHD personnel walked the landfill and completed a Post-Closure Observation Form (Appendix A), which included non-intrusive observations of the following:

- Evidence of erosion damage
- Evidence of subsidence
- Visual condition of vegetative cover
- General functionality of stormwater management and run-off control systems
- Monitoring well and piezometer condition
- Visual condition of the landfill cover surface

The visual inspections identified the following conditions that require attention and/or maintenance:

1. Groundwater monitoring well DW-103 near the northwestern corner of the landfill was destroyed at an unknown time, apparently due to construction activities completed in the area by others. This monitoring well was approximately 160-feet deep and was used for groundwater level measurements during groundwater monitoring events.
2. Inclinometer INC-2 was found with the surface casing cover knocked off and laying on the ground surface adjacent to the casing. The cover was placed back on top of the surface casing at the time of inspection; however, it could not be tightly attached at the time.

3. Off-site soils are being spread in the vicinity of piezometer cluster PZ-5 by others. These activities did not appear to be directly impacting PZ-5, but did extend up to the piezometer and appeared to be on-going at the time. The soil surface was not stabilized with vegetation at the time of the inspection.

4. Construction activities along the western perimeter roadway have resulted in bare soils in areas of the off-site perimeter stormwater swale. The bare soil areas were not stabilized with either temporary measures or vegetation at the time of the inspection.

Representative Site photographs taken during landfill observations are included in Appendix B.

3. Conclusions

Visual observations of the integrity of the closed landfill identified several issues, as noted above, that required attention. The issues were reported to the NYSDEC Project Manager for the Site via email on October 18, 2018. Based on observations during the annual inspection and discussions with the NYSDEC Project Manager, it is recommended that the following occur:

1. NYSDEC is coordinating with the New York State Department of Transportation (NYSDOT) in regards to destroyed groundwater monitoring well DW-103, since NYSDOT was reportedly completing construction activities in this area and may be responsible for the damage. GHD, on behalf of EnPro Holdings, Inc., recommended that DW-103 be abandoned since it is only used for groundwater elevation monitoring. As of the date of this report, NYSDEC has not made a decision on the abandonment of DW-103.

2. Since the cover for INC-2 was only set back onto the protective casing, replacement setscrews should be brought to the Site during the next scheduled monitoring event (October 2019) to securely attach the cover to the protective casing.

3. The area adjacent to piezometer cluster PZ-5 should be observed during the next scheduled monitoring event (October 2019) to document that damage to PZ-5 has not occurred and that the area is stabilized such that impacts to PZ-5 are not likely to occur in the future.

4. The areas in the off-site western roadway perimeter swale should be observed during the next scheduled monitoring event (October 2019) to document that the contractor performing the work for others has stabilized these areas and erosion is not occurring.

It appears that the annual mowing of the landfill surface has been effective at removing woody growth that could adversely impact the cover system. The vegetation on the landfill cover surface is in place and functioning as intended with no observed erosion of the soil cover. Generally, the stormwater management and control features are in place and appear to be functioning as intended. Other than, the items noted above, the monitoring points appear to be intact. There does not appear to be a need to modify the frequency of landfill mowing or inspections at this time.

The next annual inspection of the Site is scheduled to occur concurrently with the October 2019 groundwater-monitoring event.

If you have any questions or concerns or if you require additional information, please do not hesitate to contact me or Damian Vanetti.

Sincerely,

GHD Consulting Services Inc.

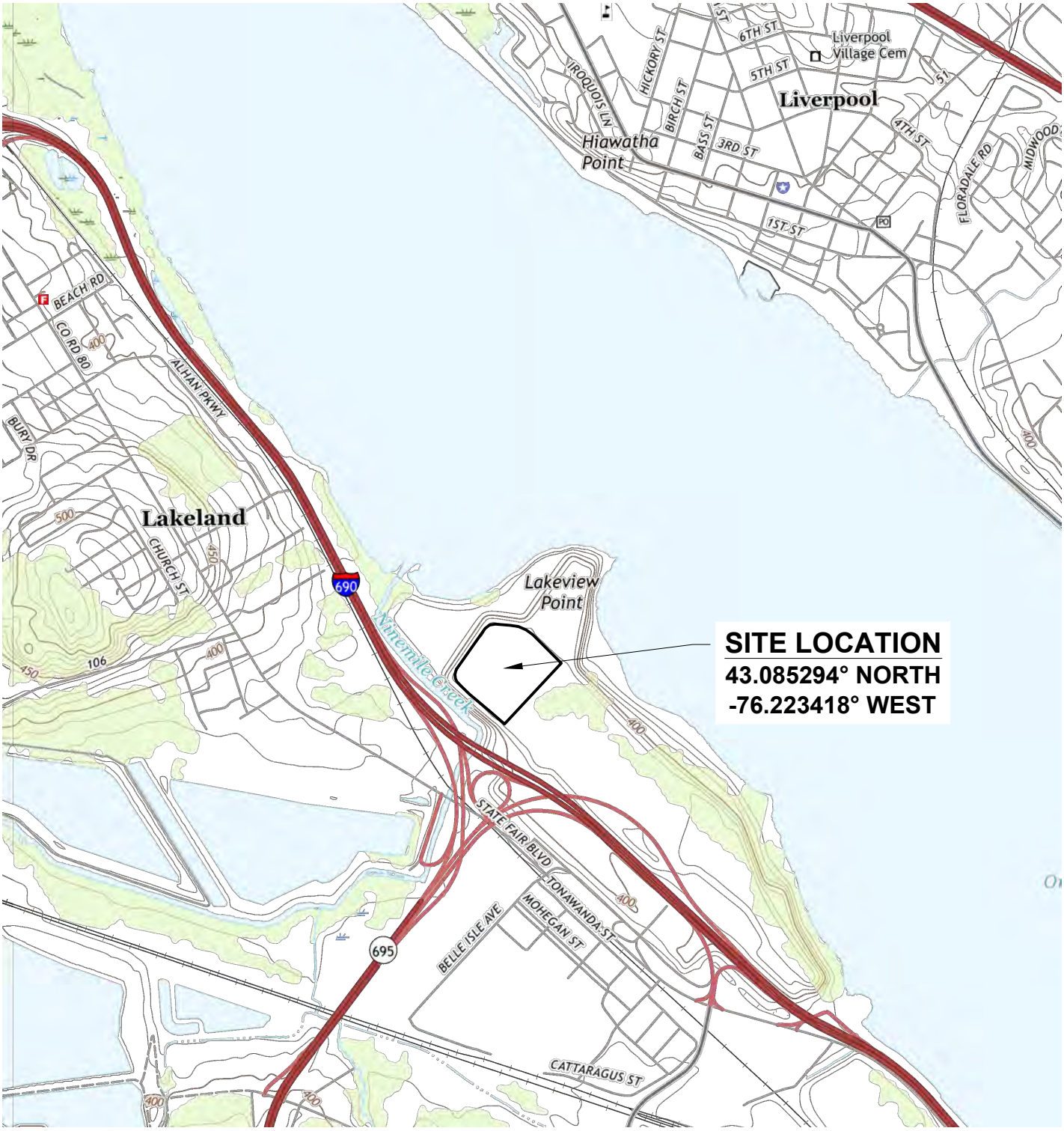
Ian E. McNamara
Scientist – Environment

IEM/tac

Encl. Figure 1 – Site Location Map
Figure 2 – Site Layout
Appendix A – Post-Closure Observation Form
Appendix B – Site Photographs

cc: Mr. Benne Hutson, EnPro Holdings, Inc.
Mr. Damian Vanetti, GHD

Figures



CONTOUR INTERVAL: 10 FEET

MAPS TAKEN FROM: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLES:
SYRACUSE WEST, NY (2016) AND
CAMILLUS, NY (2016)
(U.S. GEOLOGICAL SURVEY WEBSITE)

0 1000 2000 3000 4000'

SCALE 1"=2000' AT ORIGINAL SIZE

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Lysander
2 Baldwinsville
3 Brewerton
4 Jordan
5 Syracuse West
6 Skaneateles
7 Marcellus
8 South Onondaga

ADJOINING QUADRANGLES

N

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EnPro Holdings, Inc.
Former Crucible Specialty Metals Landfill Site
2018 Annual Site Inspection

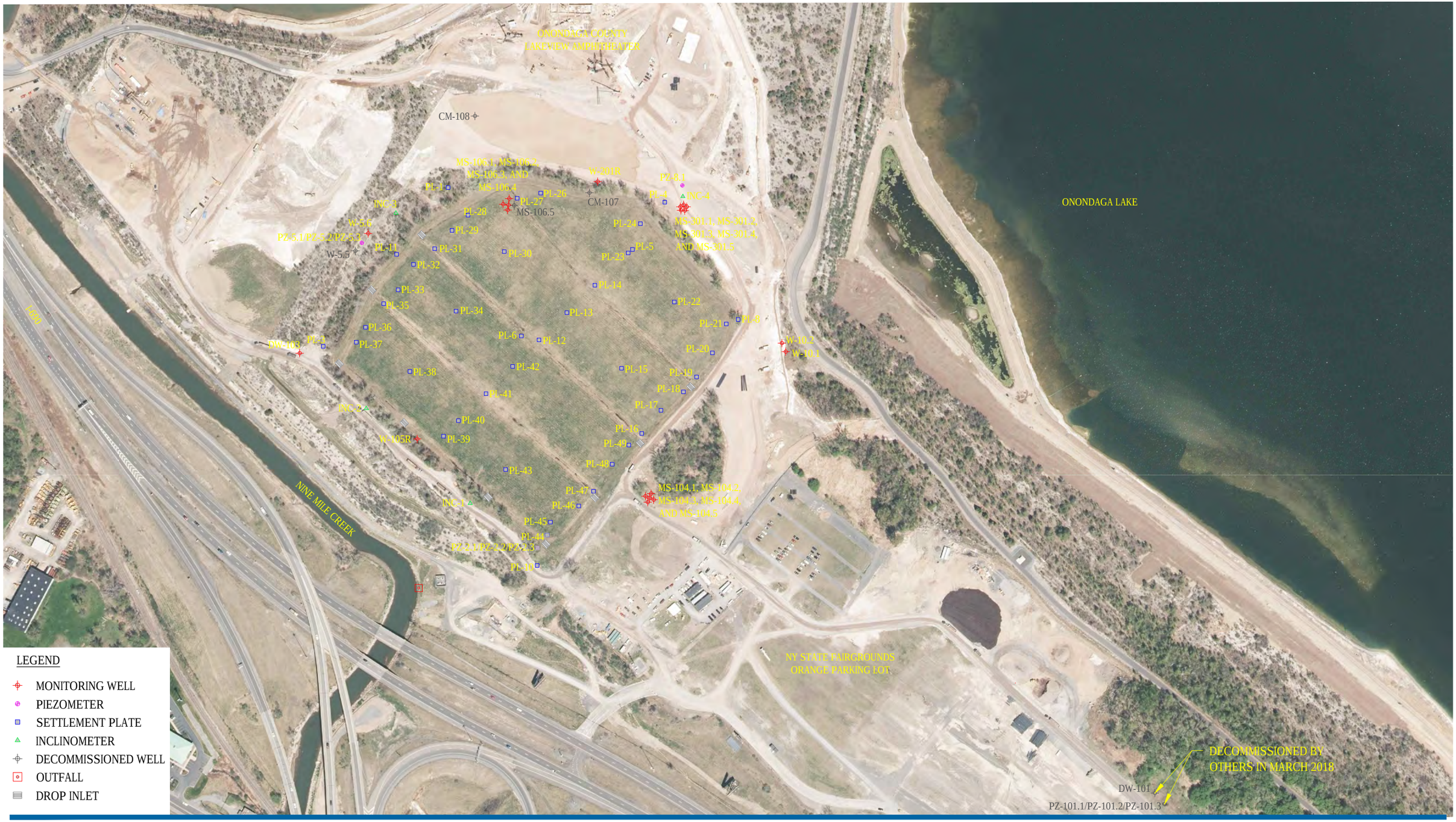
Site Location Map

Job Number	86-18809
Revision	A
Date	10.18.2018

Figure 1

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5801 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 18 October 2018 - 10:44 AM Cad File No: G:\86\18809\Annual Inspections\2018 Annual Inspection\Figures\Site Location Map.dwg



LEGEND

- MONITORING WELL
- PIEZOMETER
- SETTLEMENT PLATE
- INCLINOMETER
- DECOMMISSIONED WELL
- OUTFALL
- DROP INLET

0 150' 300' 450'

SCALE 1"=300' AT ORIGINAL SIZE

N

NOTES:

1. ALL OBJECT AND STRUCTURE LOCATIONS ARE APPROXIMATE AND WERE TAKEN FROM S&ME NORTHEAST, P.C. PROJECT NO. 4335-14-211NE FIGURE NO. 3 - SITE PLAN.
2. AERIAL PHOTOGRAPHS ARE 2015 ONE FOOT RESOLUTION AND WERE OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE.

GHD

EnPro Holdings, Inc.
Former Crucible Specialty Metals Landfill Site
2018 Annual Site Inspection

Site Layout Map

Job Number	86-18809
Revision	A
Date	10.18.2018

Figure 2

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5801 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 18 October 2018 - 11:47 AM Cad File No: G:\86\18809\Annual Inspections\2018 Annual Inspection\Figures\Site Layout Map.dwg

Appendices

Appendix A
Post-Closure Observation Form

POST-CLOSURE OBSERVATION FORM
FORMER CRUCIBLE SPECIALTY METALS LANDFILL – GEDDES, NY

DATE: 10-17-18
PERSONNEL: Damian Varetti

OBSERVATION CHECKLIST:

1. Is there evidence of erosion:
   - On the landfill cap? None observed
   - On top of the landfill? None observed
   - On side slopes? None observed
   - In drainage ditches? None observed
   - On the surrounding Solvay Waste Beds? None observed - waste beds not visible

2. If erosion has occurred, is it severe enough to warrant: N/A
   - Immediate action? _____
   - Action prior to next scheduled observation? _____

3. Is there evidence of settlement and subsidence:
   - On the landfill? None observed
   - On the surrounding Solvay Waste Beds? None observed - waste beds not visible
   - Adjacent to the groundwater monitoring well? None observed

4. If settlement and subsidence have occurred, is it severe enough to warrant: NA
   - Immediate action? _____
   - Action prior to next scheduled observation? _____

5. Is the vegetative cover in good condition?
   Yes. Well established vegetation across the site. Recently mowed.

6. If not in good condition, describe condition, possible causes, and possible remedies. NA

7. Are there dead or brown spots in the vegetative cover?
   Nothing unusual.

8. Does the cover appear to be periodically mowed? Yes. Mowed within last several weeks

9. Are tress or bushes growing on site with roots that could penetrate the synthetic liner in the cap?
No trees or bushes on landfill cap area.

10. Does the vegetative cover appear to have adequate water?
Yes

11. Is there evidence of decomposition gases forming on the site?
None observed

12. Is there evidence of vectors, dust, or odors present?
No vectors, dust or odors present.

13. Is the landfill security system (access fence to Fair Grounds parking lot) intact?
Access fence is intact.

14. Was the landfill entrance gate locked upon arrival?
No. Gate open for activities by others

15. Is there evidence of trespassing or vandalism on the site?
None observed. Monitoring well DW-103 destroyed, by possibly by construction activities by others.

16. Does the drainage system appear to be functioning properly?
Yes. None of the catch basins were plugged and no significant water ponded in basins.

17. Are the following clear of dirt and debris?

Drainage ditches? Yes
Catch basin grates? Yes. Some vegetation encroaching at edge but not impacting function.
Catch basin sumps? Yes
Storm sewer pipes? Yes
Storm water outfall? Yes

18. With regard to monitoring wells on site, do any have damage?
DW-103 is destroyed (see photo log). INC-2 cover knocked off and needs to be replaced.

19. Does the survey benchmark for the site appear to be undisturbed? IN chronometers intact
INC-2 cover needs to be replaced.

20. What is the condition of the four manholes?
Appear to be okay.

21. Is there indication of possible rupture, puncture, or other damage that might puncture the synthetic liner in the cap?
None observed.

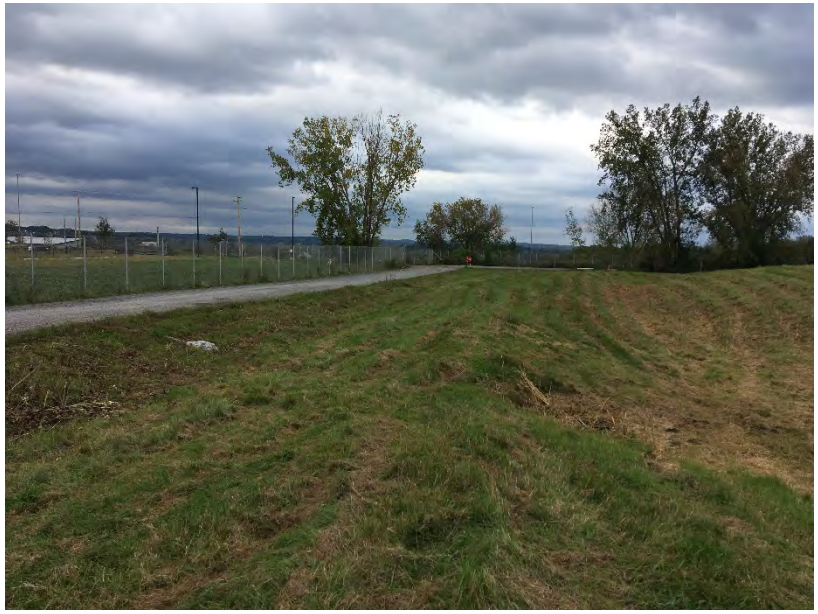
22. Is the taking of samples from the synthetic liner scheduled for this event?
No longer required Quar. M activity

23. If scheduled, were samples from the synthetic liner taken as specified? NA

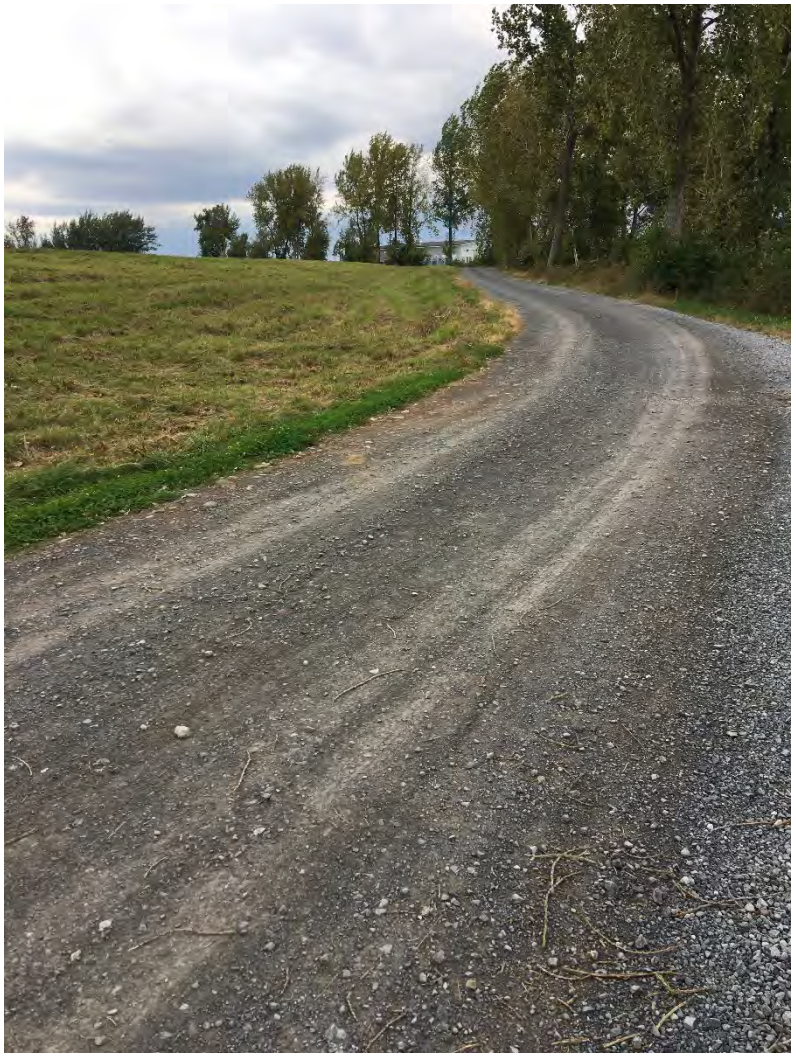
24. Do the above items appear to need immediate attention? NA

25. Additional comments and observations.
Construction activities along perimeter road and to north are adjacent to monitoring points and activities should be monitored to identify any potential damage to monitoring points.
DW 0103 destroyed by construction activities by others.
MS 104.2 unlocked (relocked during inspection) and riser is loose/not secure (MS 104.2 not part of monitoring program)
Construction of roadway and drainage swale modifications on ~~east~~ western perimeter road has left bare soil in perimeter drainage swale. Others need to stabilize by seeding and establishing vegetative grass cover.

Appendix B
Site Photographs

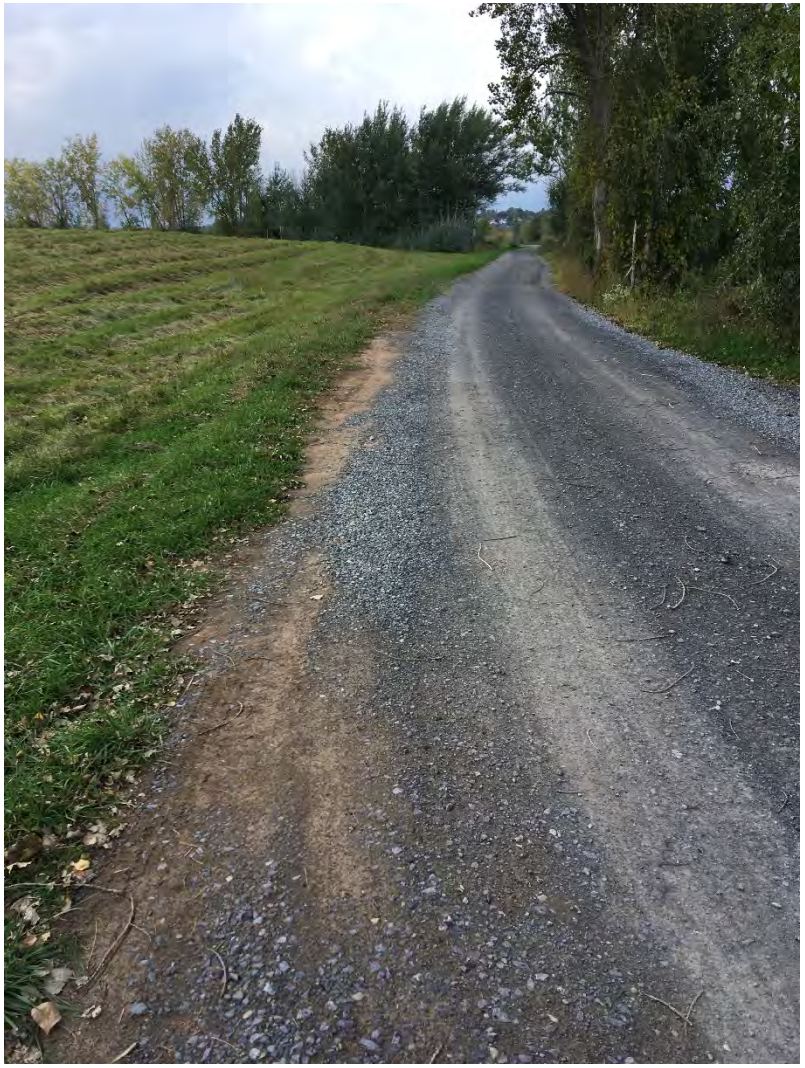


1. View of southeast edge of Site facing southwest.

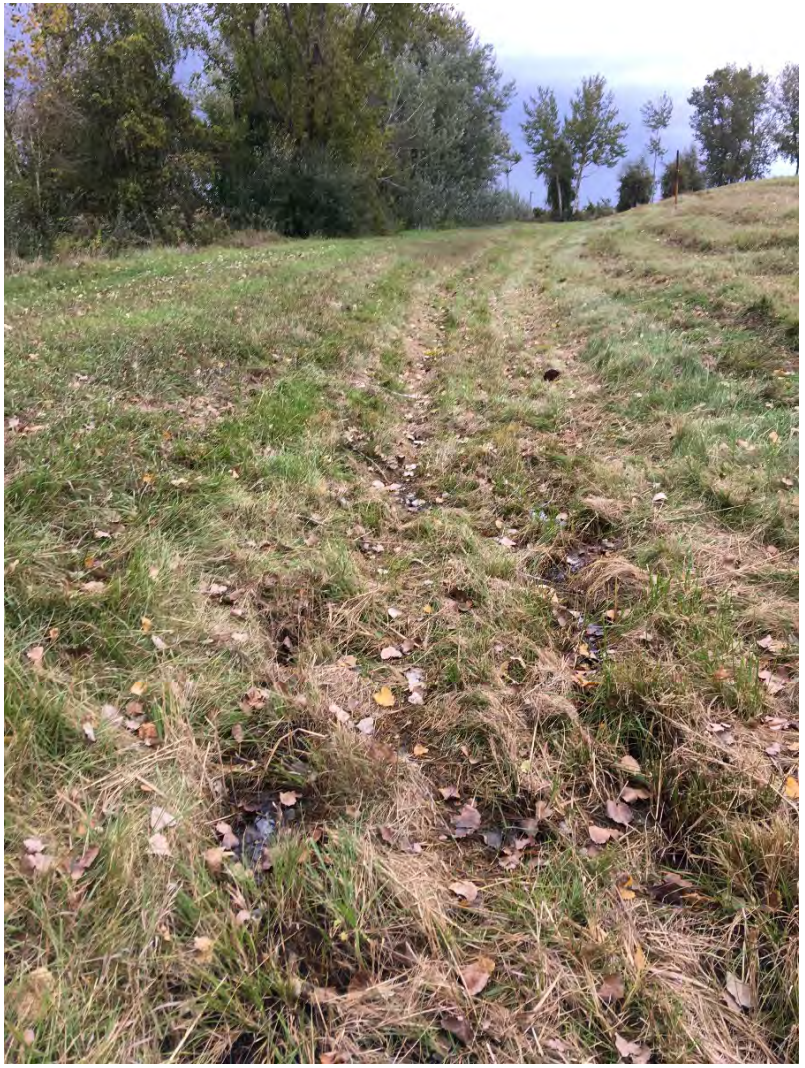


2. View of northeast edge of Site facing northwest.

Appendix B – Site Photographs

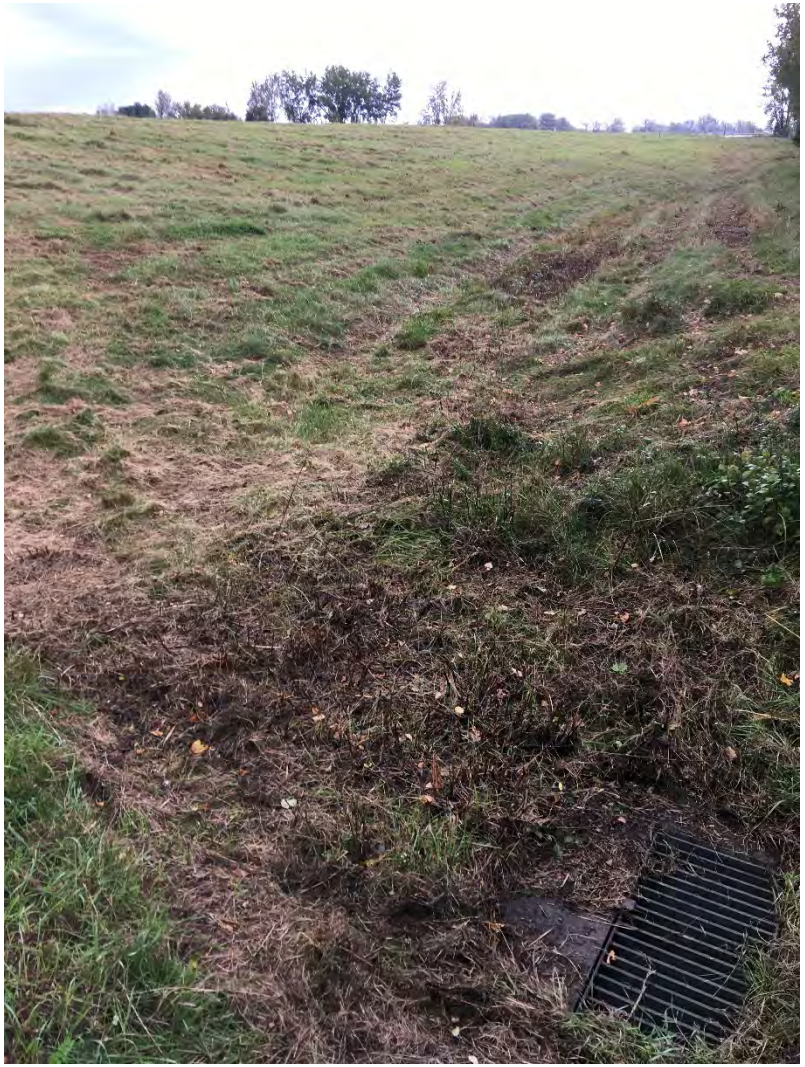


3. View of northern edge of Site facing west.

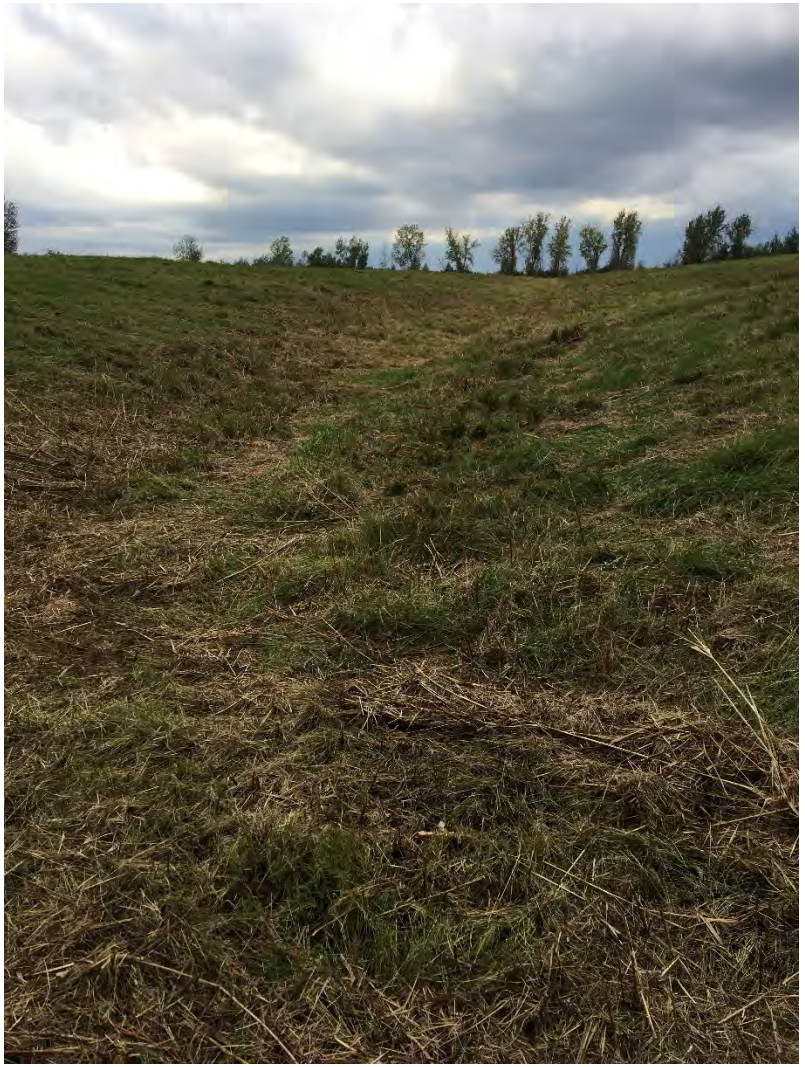


4. View of northwest edge of Site facing northeast.

Appendix B – Site Photographs

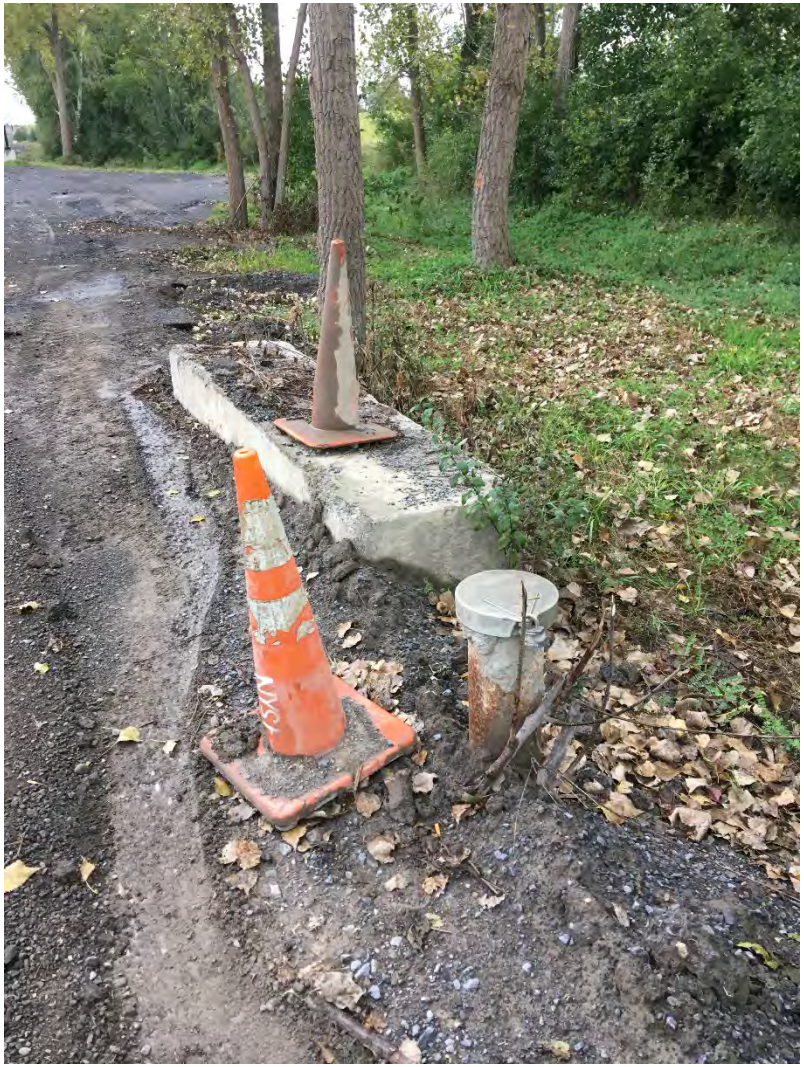


5. View of southwest edge of Site facing southeast.

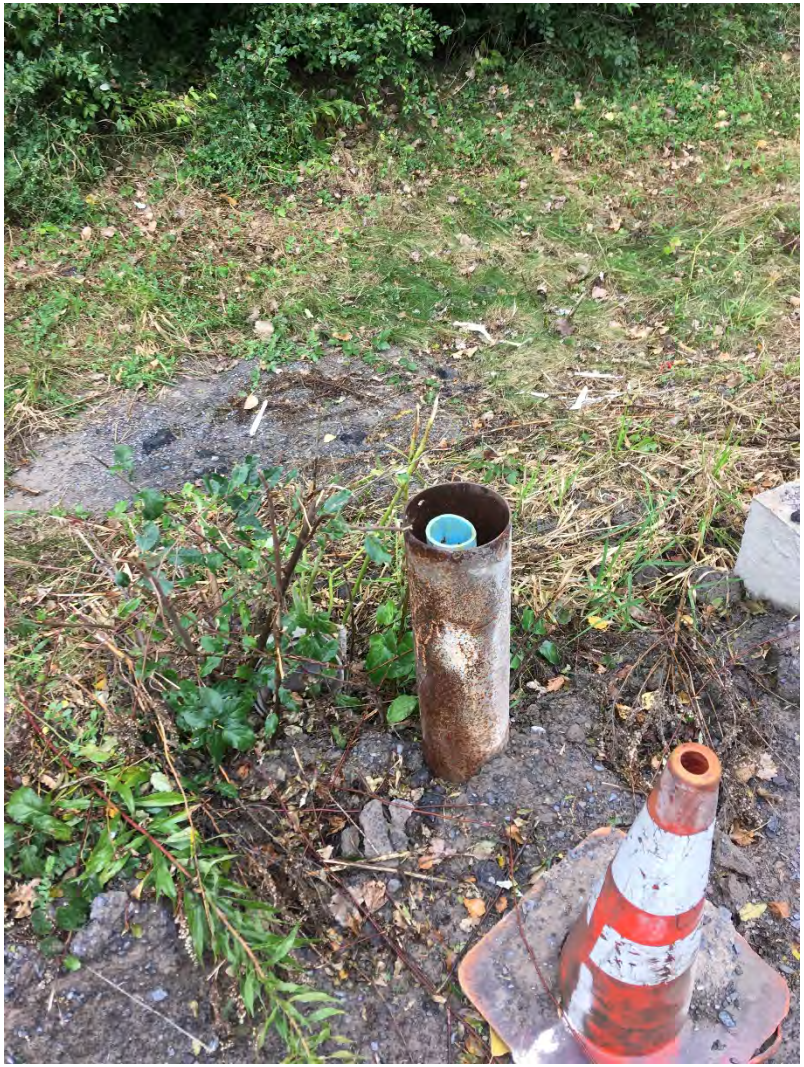


6. Representative view of landfill's interior drainage swales.

Appendix B – Site Photographs

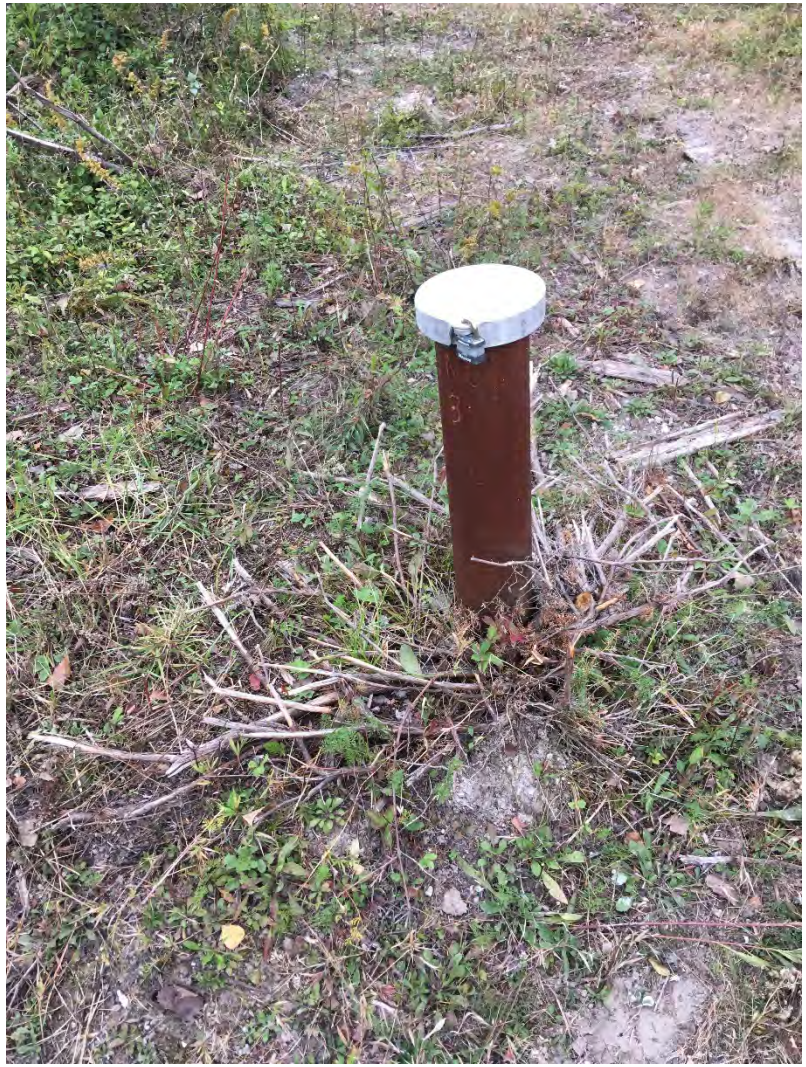


7. View of Inclinometer 1 (interior pipe used as Site benchmark).

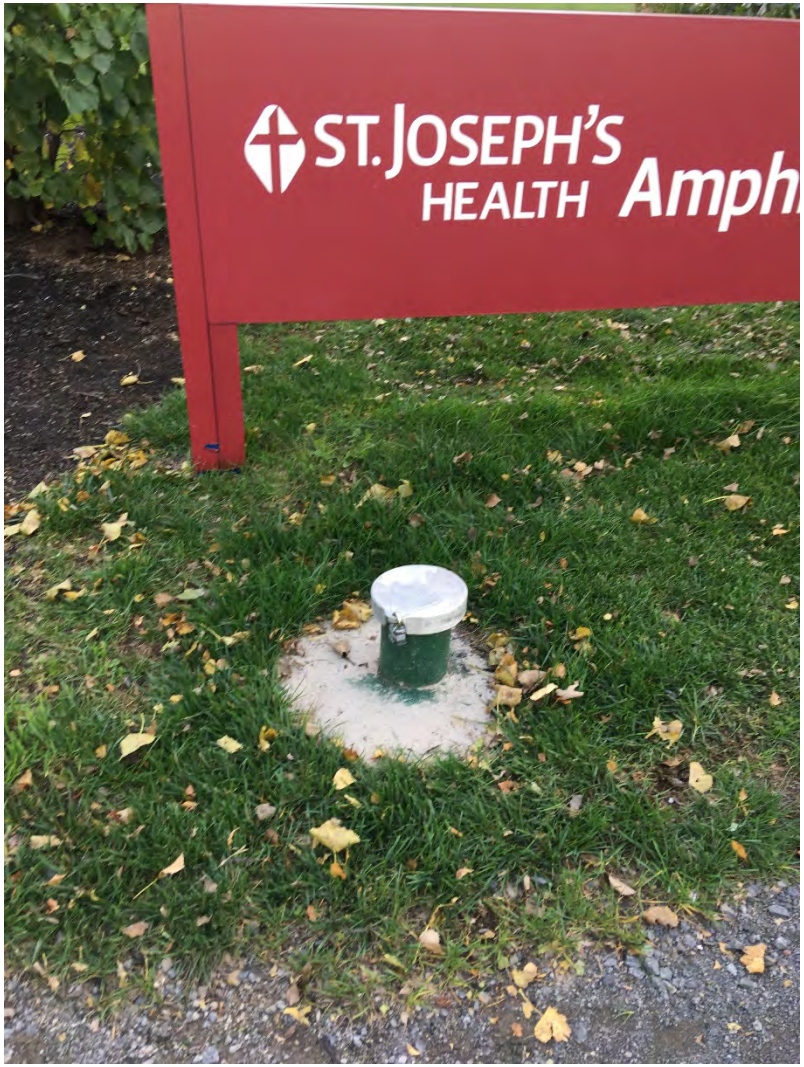


8. View of Inclinometer 2 (interior pipe used as Site benchmark). Cover was found to be off and was loosely replaced.

Appendix B – Site Photographs

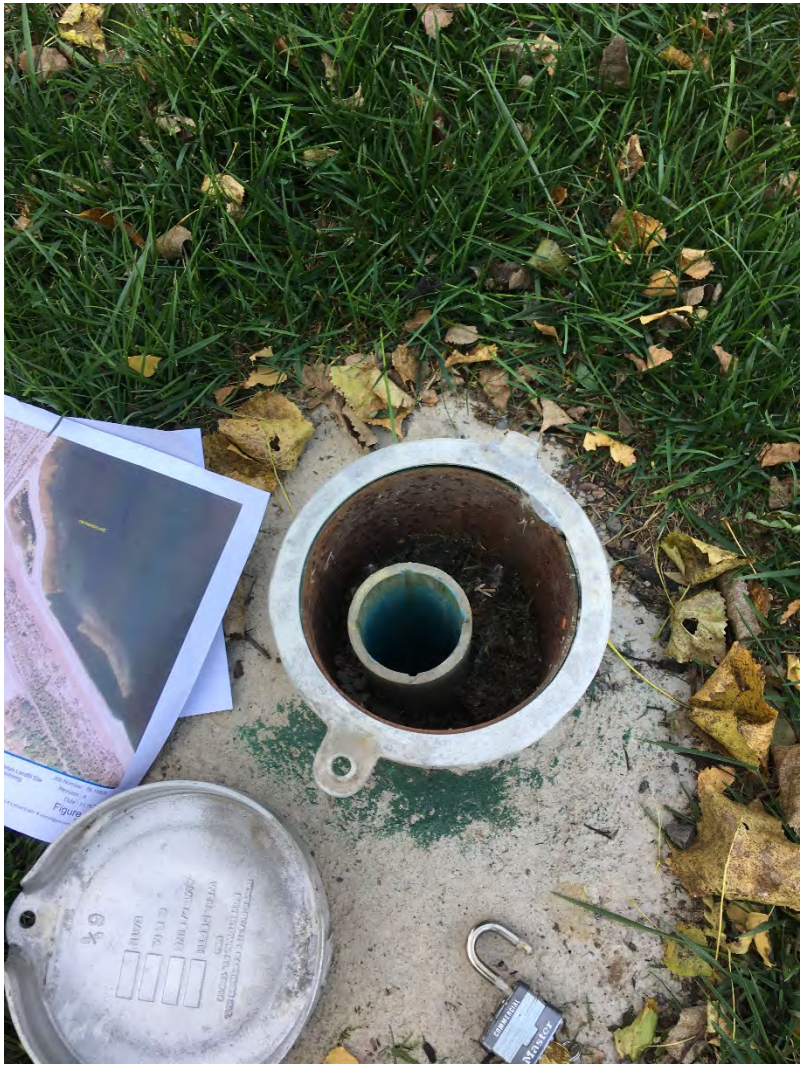


9. View of Inclinometer 3 (interior pipe used as Site benchmark).

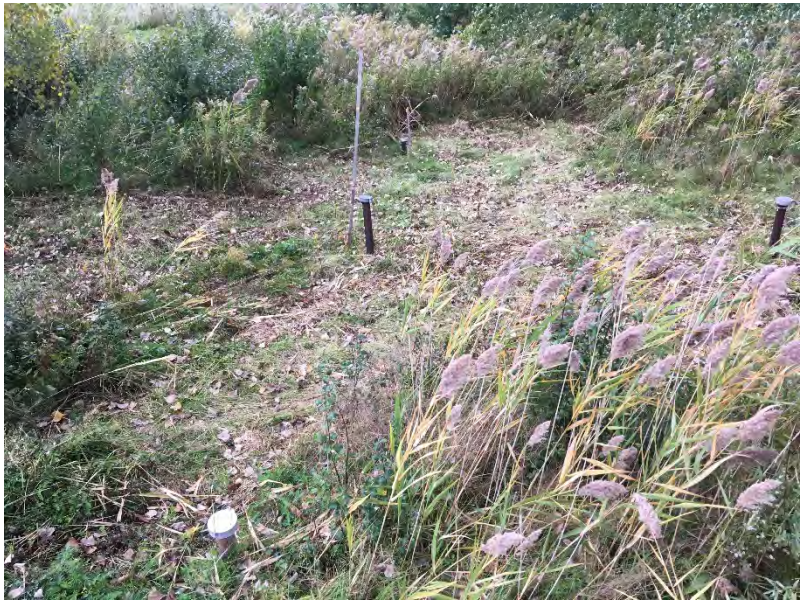


10. View of Inclinometer 4 (interior pipe used as Site benchmark).

Appendix B – Site Photographs

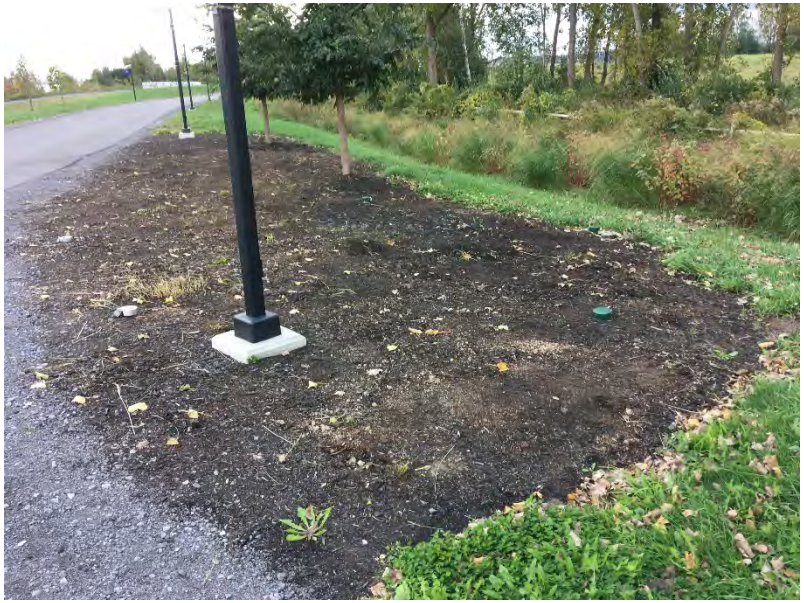


11. Representative view of inclinometer interior pipe.

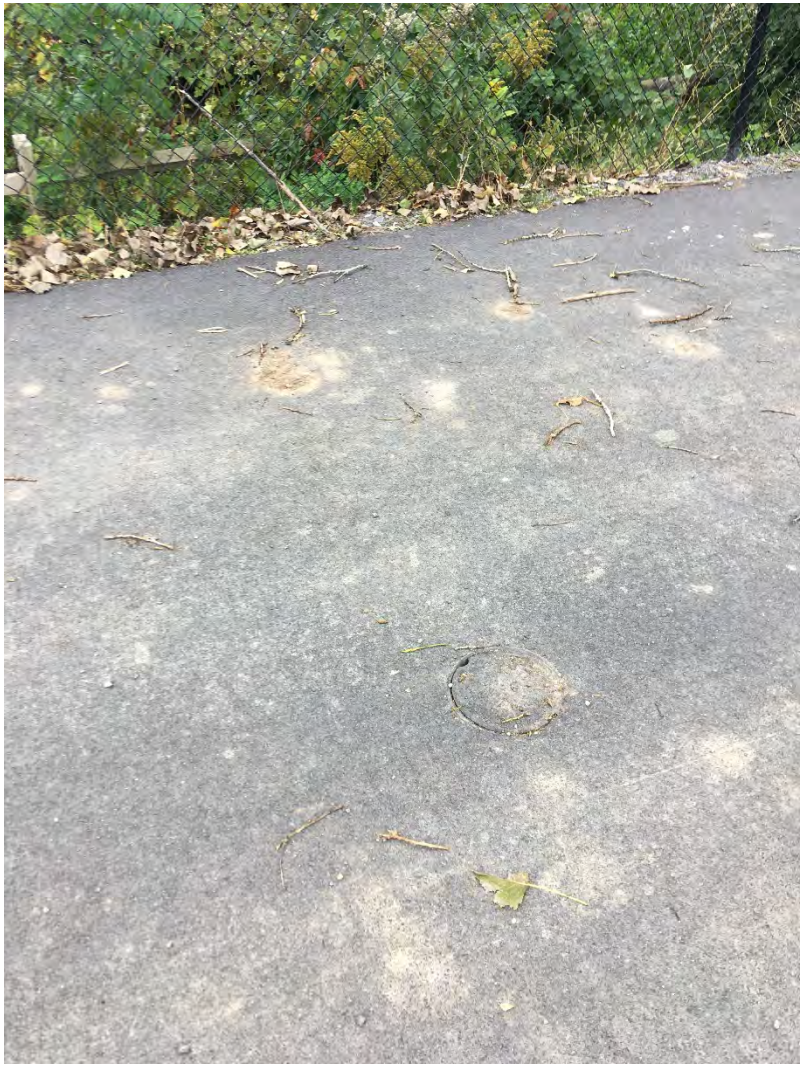


12. View of MS-104 groundwater monitoring well cluster.

Appendix B – Site Photographs

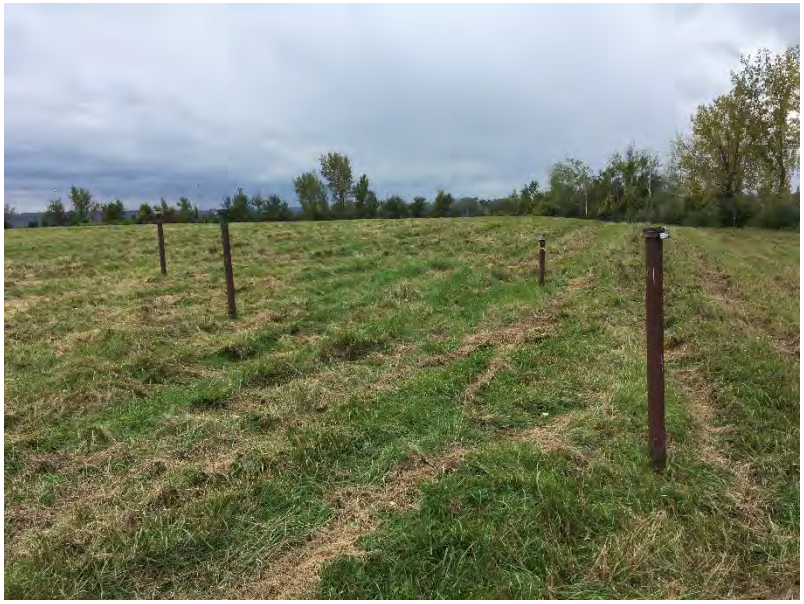


13. View of MS-301 groundwater monitoring well cluster.

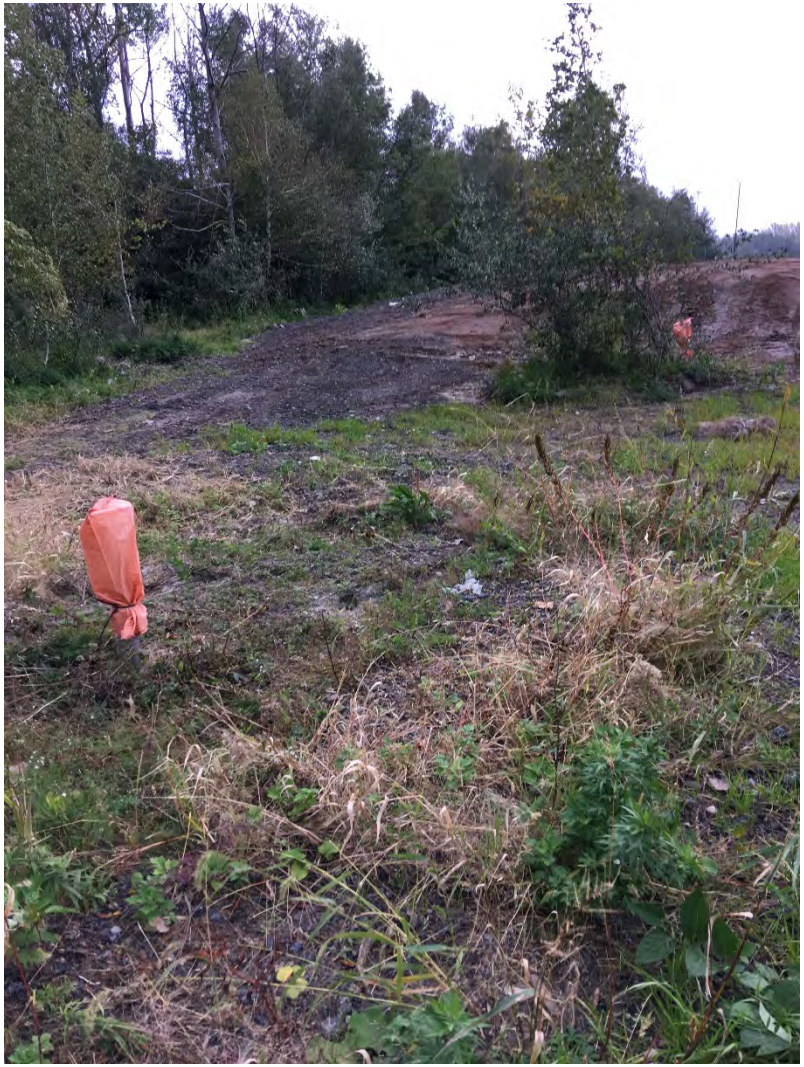


14. View of W-201R groundwater monitoring well.

Appendix B – Site Photographs

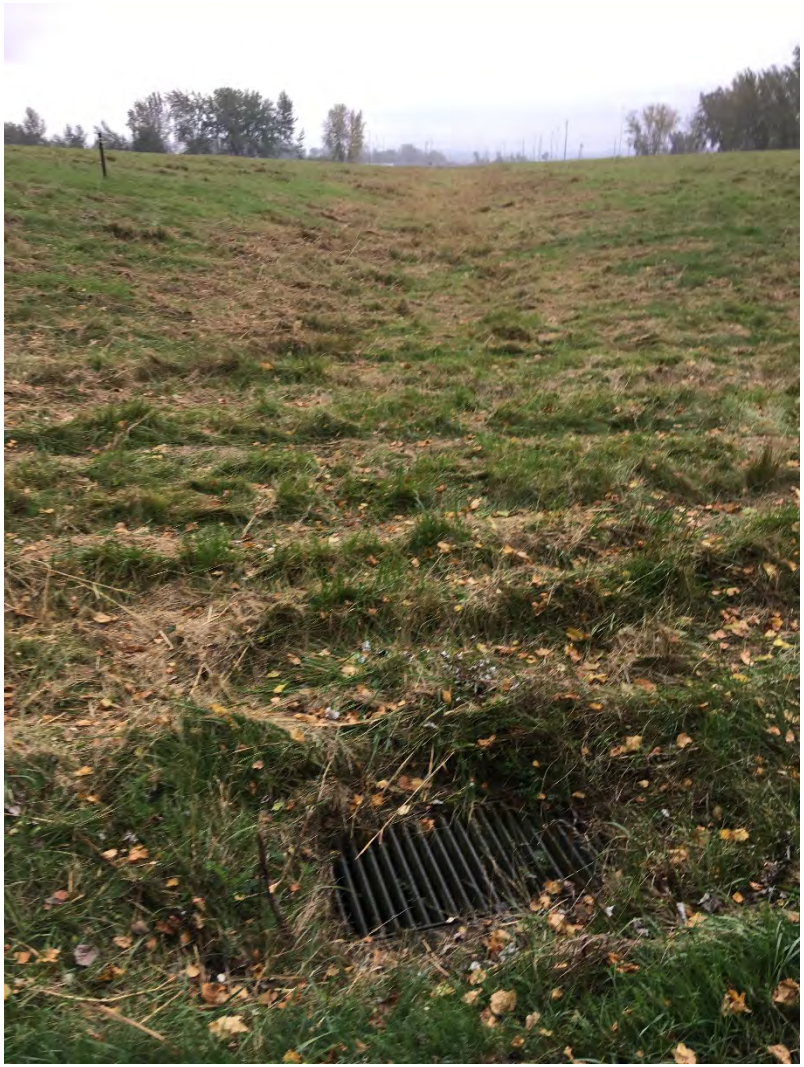


15. View of MS-106 groundwater monitoring well cluster.

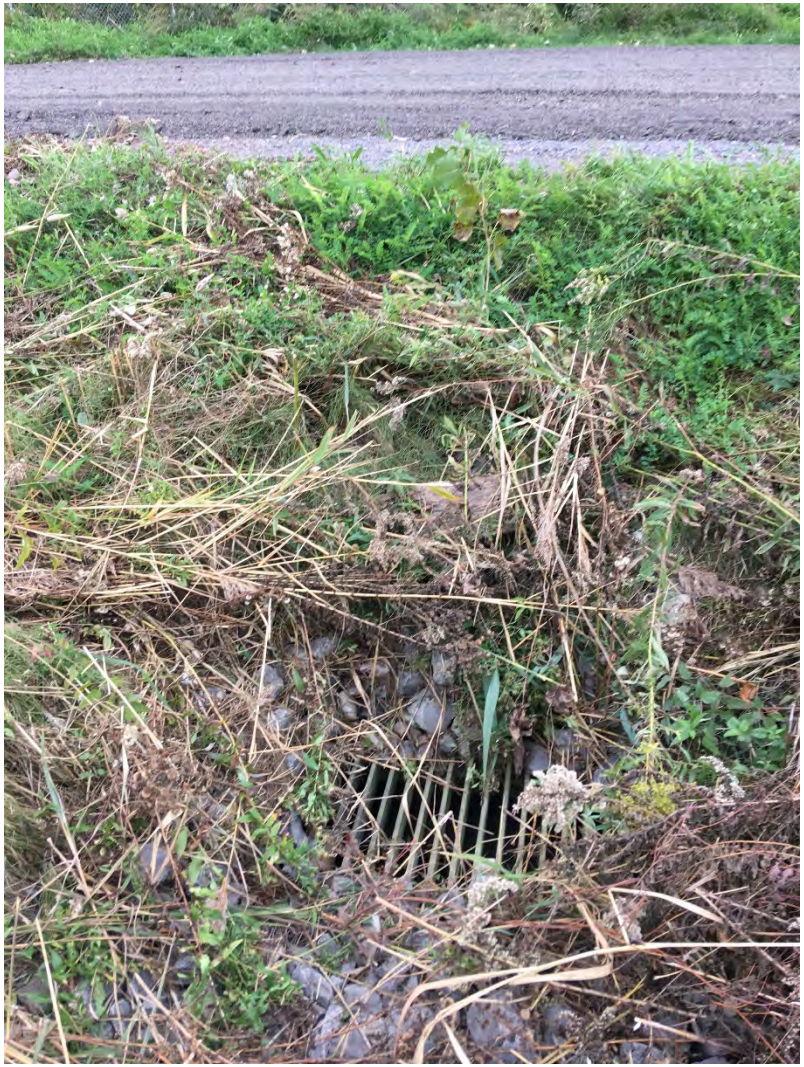


16. View of W-5.6 groundwater monitoring well. Piezometer PZ-5 cluster in background.

Appendix B – Site Photographs

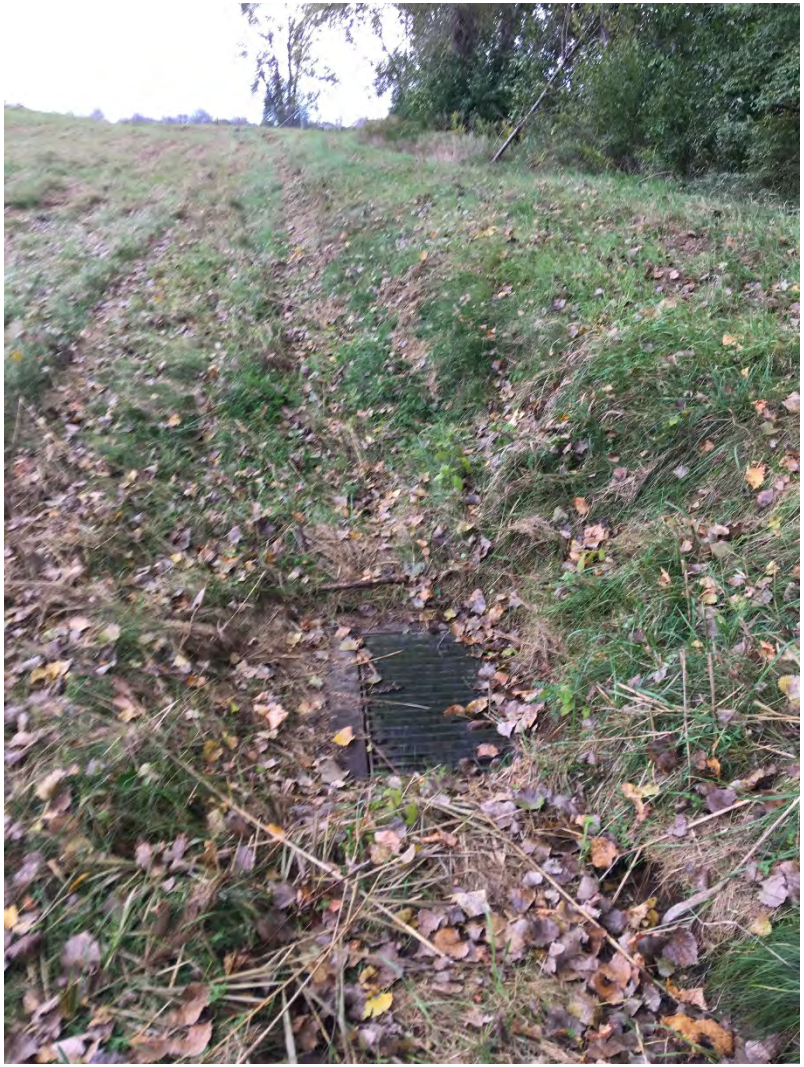


17. Representative view of stormwater catch basins along northwest side of Site.

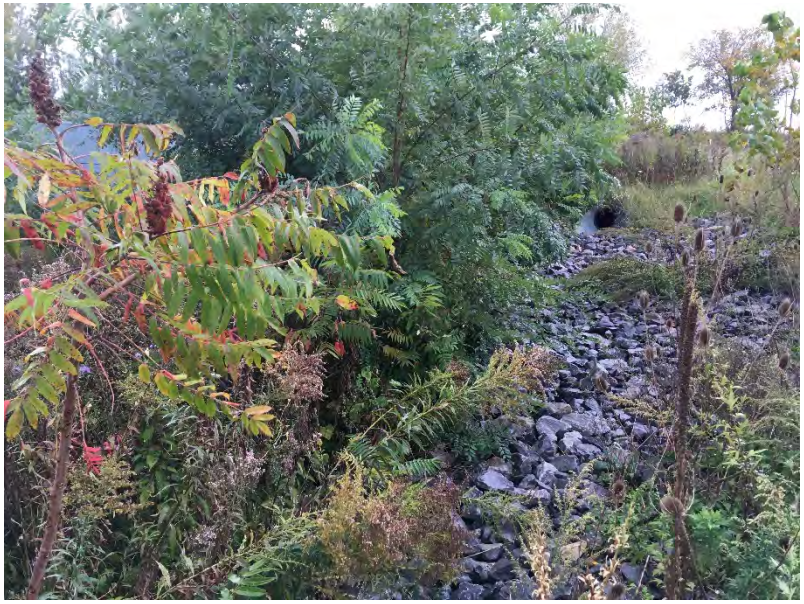


18. Representative view of stormwater catch basins along southeast side of Site

Appendix B – Site Photographs

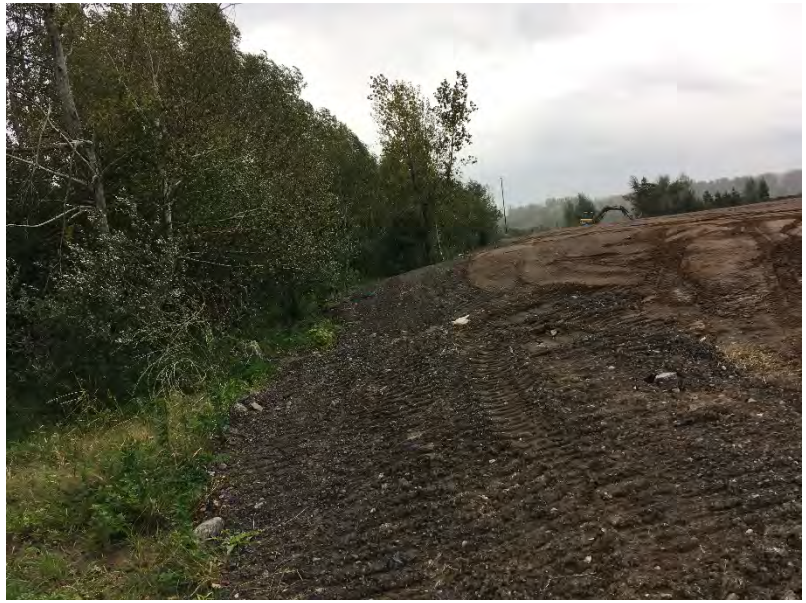


19. Representative view of stormwater catch basins along southwest side of Site.

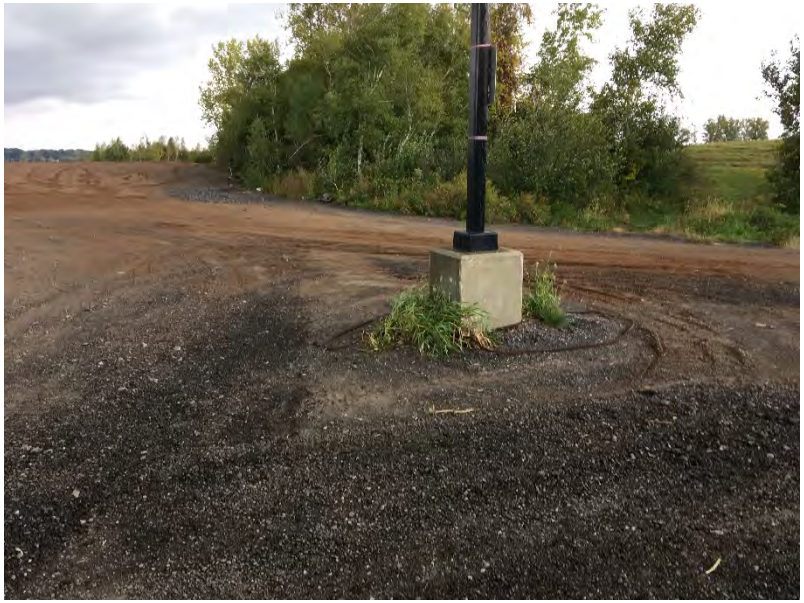


20. View of Site's stormwater outfall near Ninemile Creek.

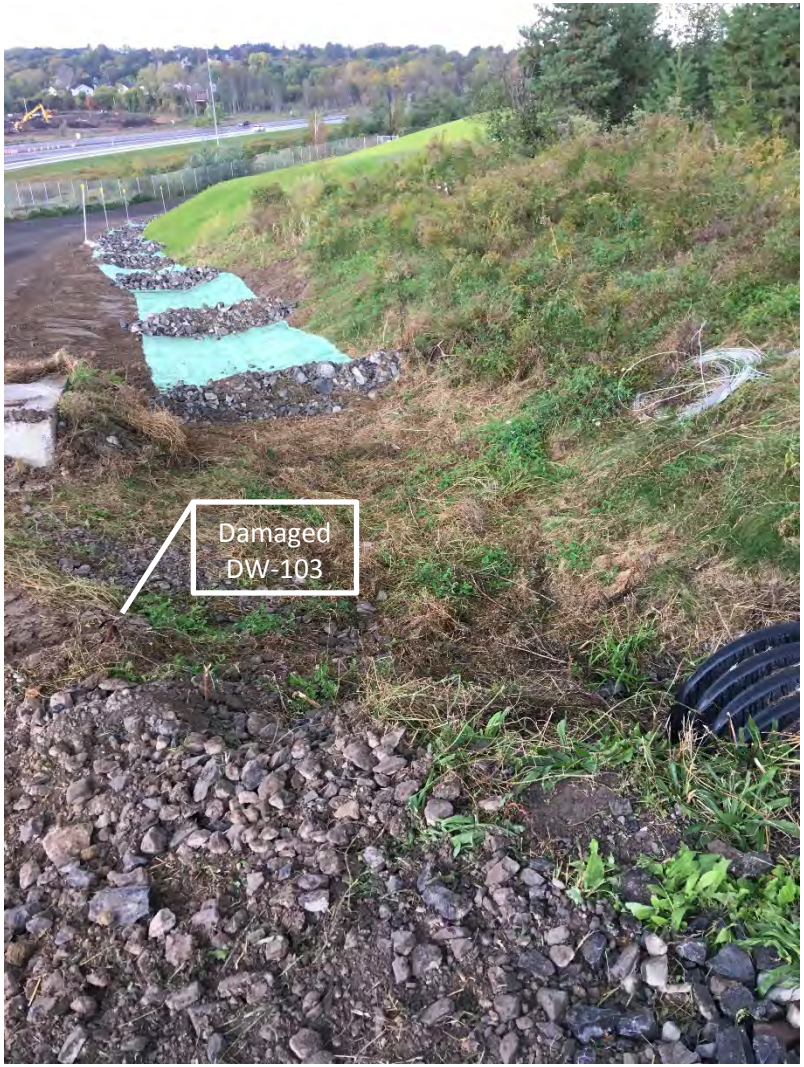
Appendix B – Site Photographs



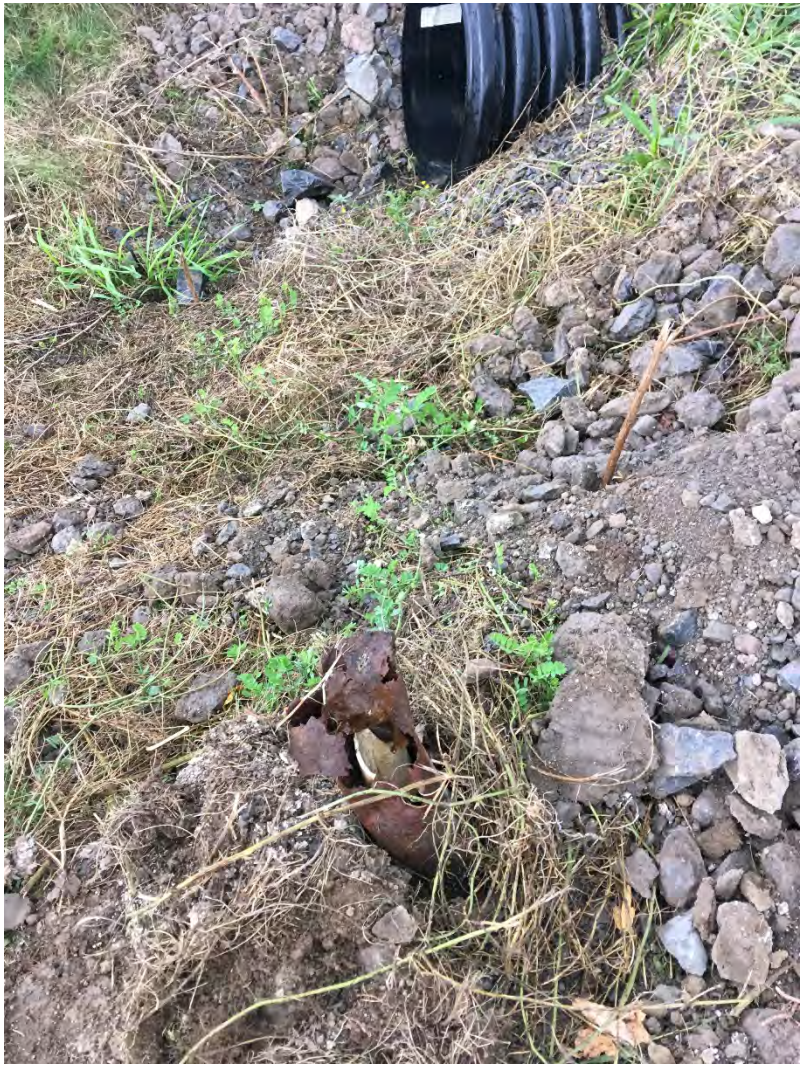
21. Material placement by others near northwest corner of landfill.



22. Material placement by others near northwest corner of landfill.



23. View of recent construction completed by others northwest of landfill.



24. View of damaged groundwater monitoring well DW-103 in vicinity of recent construction activities completed by others.

Appendix B – Site Photographs