



February 16, 2015

The Dow Chemical Company
Midland, Michigan 48674
USA

Ms. Gail A. Dieter
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau E, Section B
625 Broadway, 12th Floor
Albany, NY 12233-7017

Subject: Gorham Street/AOC C Interim Operations and Maintenance Plan/Periodic Review Report
2014; Former Hampshire Chemical Corp. Site, Waterloo, New York—Site No. 850001A

Dear Ms. Dieter:

Hampshire Chemical Corp. (HCC) is pleased to submit the interim *Operations and Maintenance Plan/Periodic Review Report 2014, Gorham Street Area, Former Hampshire Chemical Corp. Facility, Waterloo, New York* to the New York State Department of Environmental Conservation (NYSDEC). This Periodic Review Report serves to bridge the gap in time between Interim Corrective Measures completion and implementation of the Site Management Plan (SMP) to ensure that the cover systems are maintained and performing as designed. The activities included in this Periodic Review Report will become a part of the SMP after the Sitewide Corrective Measures Study is completed.

The Resource Conservation and Recovery Act facility investigation and remedial activities are being conducted pursuant to a Second Amended Order on Consent executed between HCC and the NYSDEC under Index Number 8-20000218-3281, August 12, 2011.

If you have any questions on the *Operations and Maintenance Plan/Periodic Review Report 2014*, please contact me at 304-747-7788, or Brian Carling at 610-384-0747.

Jerome E. Cibrik, P.G.
Remediation Leader

cc:

Denise Radtke/NYSDEC
Pete Miller/NYSDEC – Region 8
Pete Hoffmire/NYSDEC – Region 8
Steve Brusso/Evans Chemetics
Brian Carling/CH2M HILL
CH2M HILL Project File

Interim Operations and Maintenance Plan/Periodic Review Report 2014, Gorham Street Area, Former Hampshire Chemical Corp. Facility, Waterloo, New York

PREPARED FOR: Hampshire Chemical Corp.

PREPARED BY: CH2M HILL

DATE: January 2015

Introduction

This technical memorandum presents an Interim Operations and Maintenance (O&M) Periodic Review Report for the Gorham Street Area at the Former Hampshire Chemical Corp. (HCC) Facility in Waterloo, New York. Interim corrective measures (ICMs) at the Gorham Street Area were completed in fall 2013, and restoration activities including grading adjustments, erosion repairs and additional vegetation planting were completed in spring 2014. The activities included in this Periodic Review Report will become a part of the Site Management Plan (SMP) after the Sitewide Corrective Measures Study (CMS) is completed. This Periodic Review Report serves to bridge the gap in time between ICM completion and implementation of the SMP to ensure that the cover systems are maintained and performing as designed.

Site Description

Site Location

The facility is located at 228 East Main Street in Waterloo, New York. The facility is bordered to the north by East Main Street, to the east by residential properties, to the west by East Water Street, and to the south by the Cayuga-Seneca Canal. South of the canal are some residences and warehouses, and further downstream is the Village of Waterloo Wastewater Treatment Plant. The facility also includes property on the eastern side of Gorham Street, where the employee parking lot for the site is located. The area around the parking lot was the subject of the ICM as described in more detail below.

Gorham Street Area Description

The Gorham Street Area is defined as two areas with engineered soil caps and covers; one larger area is located east of Gorham Street and one smaller area is located west of Gorham Street. The portion east of Gorham Street is approximately 1.8 acres of land that extends approximately 365 feet east of Gorham Street and terminates at the adjacent residential parcel (Figure 1). The area extends from the northern property boundary to the canal located to the south. The New York State Canal Corporation owns a thin right-of-way extending along the canal. A thin right-of-way also extends along each edge of Gorham Street and is owned by the Village of Waterloo. The area on the west side of Gorham Street encompasses approximately 0.04 acres of land that is owned by Evans Chemetics. The Evans Chemetics employee parking lot covers the majority of the portion of the parcel east of Gorham Street. Prior to Gorham Street corrective measures construction activities, the remaining area was wooded or covered by grass/undergrowth.

Topography

Prior to Gorham Street corrective measures construction activities, the parcel west of Gorham Street sloped gently southeasterly toward the bridge abutment embankment and south toward the canal. East of Gorham Street, the land surface gently graded eastward across the parking lot and the adjacent wooded area to the eastern boundary of the former HCC facility.

The top of the canal bank was approximately 1 to 3 feet below the average grade of the parking lot, and a drainage swale trending west-east was present between the top of the canal bank and the parking lot. Beyond the swale, the grade dropped steeply to the canal where the bank was overgrown by vegetation and trees.

General overland flow from the parking lot and the extension area to the east of the parking lot was either south toward the canal or to the east. However, the canal bank berm was slightly higher in elevation than the grassy and formerly wooded area to the north and may limit some overland flow moving north to south. Precipitation that fell on the canal bank would potentially flow south toward the canal or north toward the grassy/vegetated area between the canal bank and the parking lot.

Site Inspections

Inspection Frequency

All inspections are conducted at the frequency specified in the Interim O&M Plan submitted on August 7, 2014. As indicated in the plan, inspections were to be conducted quarterly for the remainder of 2014 resulting in two inspections (two quarters remained after completion of construction). Future inspections will be conducted semiannually in 2015 and then will be performed annually until the SMP is in place as part of the sitewide CMS.

Inspection Forms, Sampling Data, and Maintenance Reports

As part of the O&M activities for the soil and asphalt cover, inspections were completed quarterly for the remainder of 2014 since only two quarters remained after completion of construction. CH2M HILL completed inspections on July 8, 2014 and October 9, 2014 as shown on the attached inspection forms (Attachment A). Deficiencies noted and reported, and appropriate corrective actions were taken to remedy the deficiency.

The following areas were inspected:

1. Soil cover
 - a. Stressed or dead vegetation
 - b. Observe if mowing of vegetation is being performed at a suitable frequency
 - c. Erosion, furrows, ruts, penetrations, cracking, or animal burrows
 - d. Areas of ponding water
 - e. Evidence of vandalism to the cover
 - f. Evidence of slope movement along the canal
 - g. Signs of traffic on the soil cover area other than from mowing equipment
2. Asphalt cap
 - a. Signs of erosion, furrows, ruts, penetrations, cracking, or animal burrows
 - b. Vegetation growth through the asphalt
 - c. Areas of ponding water
 - d. Evidence of vandalism to the cap
3. Drainage swales
 - a. Observe that drainage swales are still allowing for adequate flow towards the canal
 - b. Signs of erosion, furrows, ruts, penetrations, cracking, or animal burrows
4. Perimeter Security (Fences and Gates)
 - a. Security signs in place
 - b. Gates are locked
 - c. Fence condition
 - d. Signs of vandalism

e. Any signs of vegetation growing on fence or gates

All applicable inspection forms and other records generated for the site during the reporting period provided as Attachment A.

Corrective Measures Completed

Any deficiencies noted during inspections were corrected as noted in the inspection reports (Attachment A). In general, the only issues incurred in 2014 were associated with minor erosion and vegetation management. Each deficiency was addressed within 90 days as stipulated in the plan.

Report Submission

The Periodic Review Report will be submitted on an annual basis in hardcopy format and electronic format to the New York State Department of Environmental Conservation (NYSDEC) Central and Region 8 Office and the New York State Department of Health (NYSDOH) Central Office.

References

CH2M HILL. 2014a. *Interim Operations and Maintenance Plan for Gorham Street Area, Former Hampshire Chemical Corp. Facility, Waterloo, New York.*

CH2M HILL. 2014b. *Construction Completion Report, Former Hampshire Chemical Corp., Gorham Street Corrective Measures, Waterloo, New York.*

NYSDEC. 2011. *Second Amended Order on Consent between Hampshire Chemical Corp. and NYSDEC (Index Number CO 8-20000218-3281).* August 12.

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Figure



- Legend**
- ◆ Monitoring Well
 - AOC C Location
 - - - Property Boundary
 - ▭ Asphalt Cap
 - ▭ Institutional Controls
 - ▭ No Action
 - ▭ Soil Cover
 - ▭ Soil cover with Canal Bank Restoration, and Off Site Disposal
 - ▭ Soil Excavation, Offsite Disposal and Clean Fill

Figure 1
 Interim Operations and Maintenance Plan / Periodic Review Inspection Area
 2014 Periodic Review Report for Garham Street Area
 Former Hampshire Chemical Corp. Facility
 Waterloo, New York

ES:\G0000001\BLODREPOR\1214\14MISC\POPL\FIGURE 02 - CONSTRUCTION ACTIVITIES IN THE GARHAM ST AREA.MXD J:\HANSB\7/22/2014 12:25:08 AM

Attachment A
Inspection Forms

**Attachment 1: Quarterly Inspection Form
Interim Operations and Maintenance Plan for Gorham Street
Former Hampshire Chemical Corp. Facility, Waterloo, New York**

Inspection Date: 7-8-14 Inspector Name: Kurt A. Mehigh

Soil Cover	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are there Signs of Stressed or Dead Vegetation?		X		
Is mowing of vegetation being performed at a suitable frequency?		X	First mowing to occur on 7-11-14	7/11/2014
Are there Signs of Erosion, Furrows, Ruts, Penetrations, Cracking or Animal Burrows?	X		Several small erosion areas near south edge of asphalt cap - refer to attached photos	
Are there any Areas of Ponding Water?		X		
Any evidence of vandalism to the Cover?		X		
Is there evidence of slope movement along the canal?		X		
Are there Signs of traffic on the soil cover area other than from mowing equipment?		X		
Asphalt Cap	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are there Signs of Erosion, Furrows, Ruts, Penetrations, Cracking or Animal Burrows?		X		
Are there any vegetation growth through the asphalt?	X		Several small areas of vegetation in older Evans Chemetics parking lot	Herbicide will applied in fall of 2014
Are there any Areas of Ponding Water?		X		
Any evidence of vandalism to the Cap?		X		
Drainage Swales	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are the drainage swales still allowing for adequate flow towards the canal?	X			
Are there any signs of erosion, furrows, etc?		X		
Perimeter Security (Fences & Gates)	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are Security Signs in Place?	X		Still need to install Authorized Personnel Only signs on man gates	Op Tech installed 3 signs on 7-11-14/KAM
Are all Gates Locked?	X			
Is Fence in Good Condition?	X			
Are there Signs of Vandalism?		X		
Is Vegetation growing on Fence or Gates?	X		To be removed during the first mowing/weed wacking - refer to attached photos	Completed 7-17-14/KAM

CA - Corrective Actions

1. Op Tech to mow site by 7-11-14
2. Op Tech to place additional top soil, seed and mulch
3. Op Tech to install Authorized Personnel Only signs on man gates
4. Op Tech to remove vegetation from fence during first mowing
5. Apply herbicide to weed in existing Evans Chemetics parking lot



Photo 1 - Typical Posted No Trespassing Sign on Canal Side



Photo 2 - Typical Posted No Trespassing Sign on East and North Side of Cap Area



Photo 3 - Typical Locked Man Gate



Photo 4 - Vegetation Around Power Poles and Guy Wire



Photo 5 - Vegetation in Cap Area - Looking East



Photo 6 - Vegetation in Cap Area - Looking Northwest



Photo 7 - Vegetation Along Canal Bank



Photo 8 - Vegetation Along Canal Bank



Photo 9 - Vegetation Near Asphalt Cap and Minor Erosion



Photo 10 - Vegetation in Fence



Photo 11 - Vegetation in Fence



Photo 12 - Minor Erosion Near Edge of Asphalt Cap



Photo 13 - Minor Erosion Near Edge of Asphalt Cap



Photo 14 - Minor Erosion on South Side of Fence, North of Canal Bank

**Attachment 1: Quarterly Inspection Form
Interim Operations and Maintenance Plan for Gorham Street
Former Hampshire Chemical Corp. Facility, Waterloo, New York**

Inspection Date: 10-9-14 Inspector Name: Brian Carling

Soil Cover	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are there Signs of Stressed or Dead Vegetation?		X		
Is mowing of vegetation being performed at a suitable frequency?	X			
Are there Signs of Erosion, Furrows, Ruts, Penetrations, Cracking or Animal Burrows?	X		Several small scalloped areas near fencing and weeds	Discussed with contractor raising mower deck height 10/9/2014 (BSC)
Are there any Areas of Ponding Water?		X		
Any evidence of vandalism to the Cover?		X		
Is there evidence of slope movement along the canal?		X		
Are there Signs of traffic on the soil cover area other than from mowing equipment?		X		
Asphalt Cap	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are there Signs of Erosion, Furrows, Ruts, Penetrations, Cracking or Animal Burrows?		X		
Are there any vegetation growth through the asphalt?	X		Several small areas of vegetation in older Evans Chemetics parking lot	Evans Chemetics applied Herbicide applied in fall of 2014/crack sealing to be applied in spring 2015 (BCS)
Are there any Areas of Ponding Water?		X		
Any evidence of vandalism to the Cap?		X		
Drainage Swales	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are the drainage swales still allowing for adequate flow towards the canal?	X			
Are there any signs of erosion, furrows, etc.?		X		
Perimeter Security (Fences & Gates)	Yes	No	Comments & Deficiencies Noted (Required if Shaded Area Selected)	CA Completion (Date/Initials)
Are Security Signs in Place?	X			
Are all Gates Locked?	X			
Is Fence in Good Condition?	X			
Are there Signs of Vandalism?		X		
Is Vegetation growing on Fence or Gates?	X		To be removed during mowing/weed-wacking	Removed during mowing that occurred on 11/1/14 (BCS)

CA - Corrective Actions

1. Perform crack sealing in spring of 2015







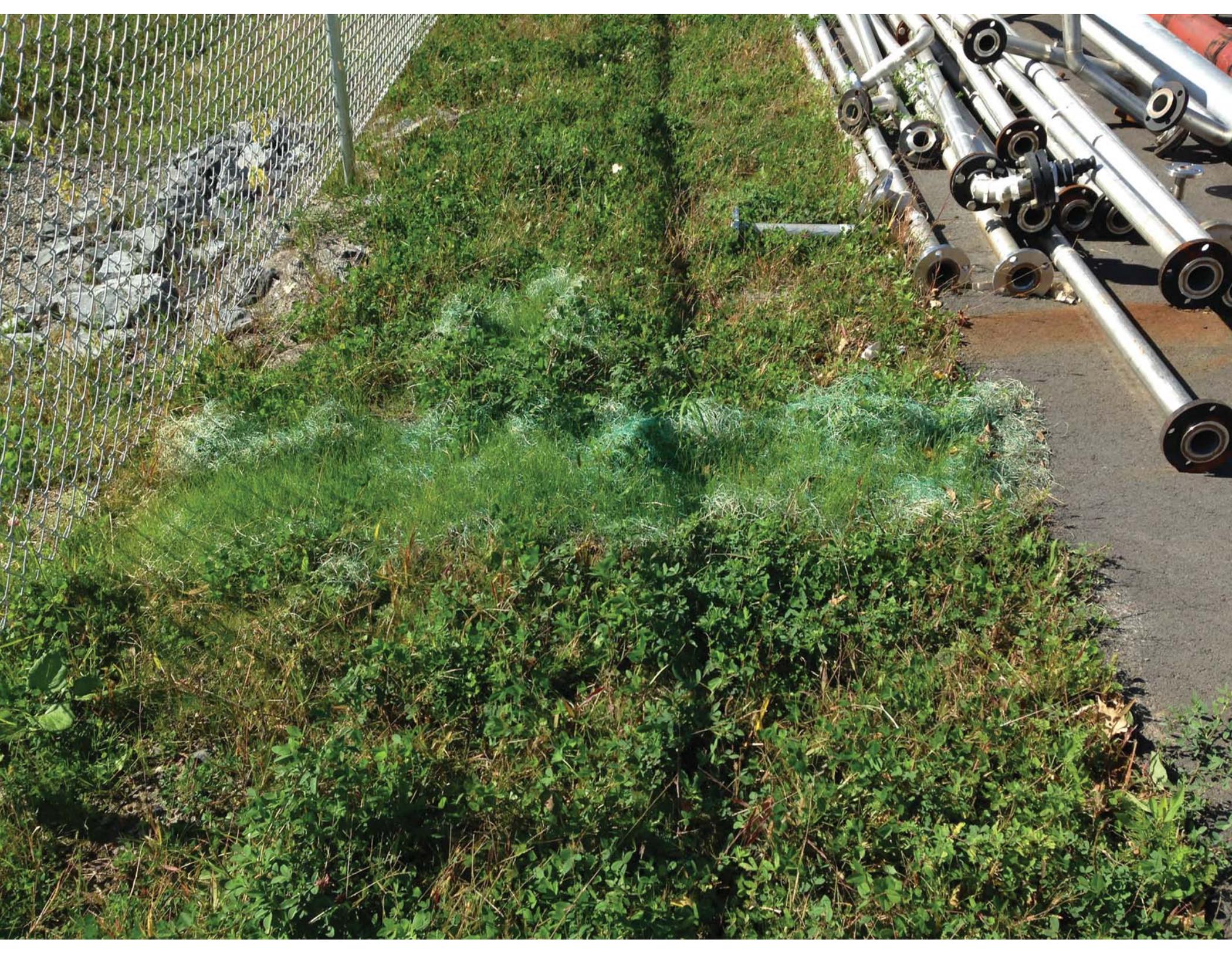


















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