



Niagara Frontier Transportation Authority  
*Serving the Niagara Region*

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Buffalo, New York 14203  
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Fax: 716-855-6676  
TDD: 855-7650  
[www.nfta.com](http://www.nfta.com)

August 8, 2013

NYS Department of Environmental Conservation  
Attn: Mr. David Szymanski  
Project Manager  
270 Michigan Ave.  
Buffalo, NY 14203-2915

Re: NFTA Greenbelt Site Management Periodic Review and IC/EC Certification Submittal; Site #B00149

Dear Mr. Szymanski,

Attached is a copy of Periodic Review Report for the Port-Greenbelt Shoreline Improvement Project. It was determined that the project is in compliance with all major elements of the Site Management Plan, therefore no changes to the Site Management Plan are needed or recommended at this time.

Should you have any further questions, do not hesitate to contact me.

Respectfully

A handwritten signature in black ink, appearing to read "Tim Carvana", followed by a horizontal line.

Timothy P. Carvana  
Director Health, Safety, Environmental Quality  
(716) 855-7388

Cc: Kim Minkel  
Mike Bykowski  
Ruth Keating  
Ron Cardinale

**PERIODIC REVIEW REPORT**

**FOR**

**PORT-GREENBELT  
SHORELINE IMPROVEMENT PROJECT  
CITY OF BUFFALO, ERIE COUNTY, NEW YORK**

**SITE No. B-00149-9**

*Prepared by:*



**C&S ENGINEERS, INC.**  
90 BROADWAY  
BUFFALO, NEW YORK 14203

*Prepared on Behalf of:*

**NIAGARA FRONTIER TRANSPORTATION AUTHORITY**  
181 ELLICOTT STREET  
BUFFALO, NEW YORK 14203

**AUGUST 2013**

## EXECUTIVE SUMMARY

The Port-Greenbelt Project (Site) is 15.83 acres within a 164.48 acre parcel on Buffalo's Outer Harbor Area adjacent to Fuhrmann Boulevard. The Site runs parallel to the shoreline from the Buffalo Harbor Slip to the Terminal B building.

Previous Remedial Site Investigations determined that both surface and subsurface soils exceeded Part 375 Soil Cleanup Objectives for Commercial Use. The remedial program was designed to keep contaminated soil/fill from washing into Lake Erie and prevent direct human contact. The removal of contaminated soil along the shoreline, shoreline stabilization, installation of a soil cover, and the institutional controls that were put in place are meeting this goal.

The Port Greenbelt project is in compliance with all major elements of the Site Management Plan.

No changes to the Site Management Plan are needed or recommended at this time.

## **1 INTRODUCTION**

On November 18, 2011 the Niagara Frontier Transportation Authority (NFTA) received a Certificate of Completion for the remedial program at the Port-Greenbelt Shoreline Improvement Program. The Port-Greenbelt Project (Site) is 15.83 acres within a 164.48 acre parcel on Buffalo's Outer Harbor Area adjacent to Fuhrmann Boulevard. The Site runs parallel to the shoreline from the Buffalo Harbor Slip to the Terminal B building.

This is the first Periodic Review Report required as part of the Site Management Plan prepared on behalf of the NFTA and submitted to the New York State Department of Environmental Conservation (NYSDEC). This report was prepared in accordance with the requirements in the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation.

## **2 SITE OVERVIEW**

The Site is located adjacent to Lake Erie and parallel to Fuhrmann Boulevard, in the City of Buffalo, Erie County (Figure 1). The adjoining property is generally undeveloped.

The Site and the majority of the land surrounding it was created as a result of land reclamation and filling starting in 1874 and continuing for nearly 100 years. The land is generally composed of heterogeneous fill including dredged materials from the shipping channel, construction fill, concrete, stone, slag and other materials.

Most of the 164 acre Buffalo Outer Harbor was listed as a Class 2 Inactive Hazardous Waste Disposal Site based on preliminary site assessments. Following further investigation most of the site was delisted with only the area named the "Radio Tower Area", remaining classified as a Hazardous Waste Site. Previous Remedial Site Investigations determined that both surface and subsurface soils exceeded Part 375 Soil Cleanup Objectives for Commercial Use.

The NFTA subsequently submitted a Remedial Alternatives Report in support of a Brownfield Remediation Application for the redevelopment of the Site.

In 2002, an Environmental Record of Decision was issued by the New York State Department of Environmental Conservation which identified the following remedial actions for the Site:

- Placement of a twelve inch thick soil cover on top of a geotextile fabric across the Site, above the top of the revetment slope.
- Stabilization of the shoreline including bulkhead renovation to prevent erosion of fill material and protection of the soil cover.
- Implementation of the remedial measures to address potential exposures to site contaminants for possible future land uses.
- Deed restrictions.

Following the completion of the remedial action detailed in the 2002 Record of Decision and the associated 2006 Project Manual, some contamination was left at the Site.

Specific actions that were taken to implement the remedy were:

- Along the shoreline concrete, marble, and other stone rubble was removed.
- Contaminated fill and soil was excavated and the slopes were re-graded.
- For the shoreline, excluding portions of the Bell Slip, a geotextile fabric was installed and a heavy, armor stone revetment was constructed.
- Within the Bell Slip, not stabilized by heavy stone, two lengths of approximately 150 feet in length were partially stabilized using jute fiber matting, a toe sock, plantings and soil/stone mix.
- The upland area was re-graded with soil excavated from the shoreline and a geotextile fabric was installed.
- A soil cover system was constructed consisting of a minimum of 12 inches of clean soil and/or an asphalt bicycle/pedestrian trail along the entire upland area of the Site.

### **3 REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS EVALUATION**

The remedy selected for the Site, shoreline stabilization and a soil cover system, are effective in ensuring site soil/fill does not enter Lake Erie and limiting human contact with soil/fill. The institutional controls will limit future impacts.

No further remedial goals were established for the Site.

### **4 EVALUATION OF ENGINEERING AND INSTITUTIONAL CONTROLS**

#### *Engineering Controls*

The specific engineering controls for the Site are:

- The stone revetment along the shoreline and underlying geotextile fabric
- The stone berm in the Bell Slip and topsoil/soil cover
- The asphalt pathway
- The soil cover system and underlying geotextile fabric

No long-term treatment systems were installed.

#### *Institutional Controls*

To ensure ongoing effectiveness of the remedy the NFTA had to execute an Environmental Easement to restrict land use and prevent future exposure to any remaining contamination at the Site. Development of a Site Management Plan (SMP)

which included plans for Institutional and Engineering Controls, Monitoring, and Reporting was required to evaluate and monitor the remedy.

Specific institutional controls were required to ensure the remedial program continues to prohibit the remaining contamination from entering Lake Erie or coming into contact with humans, including:

- Compliance with the Environmental Easement and the SMP by the NFTA and any successors;
- All Engineering Controls must be maintained as specified by the SMP;
- All Engineering Controls must be inspected as required by the SMP;
- Reporting to the NYSDEC must be done annually for the first three years.

#### Site Restrictions

There are also a number of Institutional Controls in the form of site restrictions which are:

- The property may only be used for public passive recreation use provided that the long-term engineering and institutional controls are employed
- A higher level of use, such as unrestricted or restricted residential, may not occur on the site without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC.
- Future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the Site Management Plan
- The use of groundwater is prohibited without treatment rendering it safe for the intended use
- Vegetable gardens and farming on the property are prohibited
- The site owner or remedial party will submit to NYSDEC a written statement the certifies, under penalty of perjury, that (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access the Site at any time in order to evaluate the continued maintenance or any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

#### *Site Visit*

The annual Site visit was conducted May 3, 2013.

In general, the site was in good condition, Site Visit Notes are included as Appendix A, selected photos are included as Appendix B.

### Soil Cover

The soil cover is in good condition. There were no indications of erosion, animal burrows or depressions. In May some areas were not covered in soil, however, follow up visits showed adequate coverage.

The northernmost extent of the shoreline, a short stretch of soil cover at the top of the revetment, shows signs of erosion in minor areas. Follow-up site visits showed no additional erosion and vegetation along this slope.

### Revetment and Armor Stones

The armor stone revetment was in very good condition and showed no signs of failure or slipping. No stones were displaced or showed any signs of disintegration.

There were a few sites along the edge of the revetment where geotextile fabric is visible; this is similar to the as built condition and is not considered to have an impact of the effectiveness of the controls.

### Asphalt Pathway

The asphalt path is in good condition and is not showing any signs of wear.

### Bell Slip – Stone Berm and Soil/Topsoil

Generally the slip looked to be in good condition with significant portions of the area covered with stones and grass cover.

No geotextile fabric was exposed at the Bell Slip.

Some of the slopes show minor signs of erosion; portions of the slope have a short drop where there is no soil or vegetation and before the area where stone was used to stabilize the slope. Follow-up site visits showed no additional erosion and vegetation along this slope.

The geotextile sock along the water's edge showed some signs of damage. However, the contents of the sock were still in place and no erosion was observed adjacent to the sock. Therefore, the sock is considered to be acting as designed.

## **5 MONITORING PLAN COMPLIANCE**

Annual monitoring of the Site is required to evaluate:

- Whether engineering controls continue to perform as designed;

- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of the Site Management Plan and the Environmental Easement;
- Are site records complete and up to date; and
- Changes to the remedy or monitoring system

A visual inspection of the soil cover system must be conducted annually in late spring it must be monitored for signs of erosion, settlement, denuded areas, subsidence along the edges of the stone revetment and any other signs of damage. The form to be completed during this inspection was included in the SMP and is included in Appendix A.

Site-wide Inspections must also be performed at least once a year and after all severe weather conditions that may affect the Engineering Controls. The inspections must assess:

- Compliance with all Institutional Controls, including site usage;
- The condition and continued effectiveness of Engineering Controls;
- General site conditions;
- Site management activities being conducted; and
- Confirm site records are up to date.

The Site Monitoring Plan was undertaken as required in the Site Management Plan, specifically:

- A visual inspection of the soil cover system was undertaken in May of 2013;
- A site-wide inspection was completed at the same time; and
- The approved site inspection forms were used.

There were no deficiencies in the monitoring plan.

## **6 OPERATIONS AND MAINTENANCE PLAN**

Not Applicable

## **7 CONCLUSION AND RECOMMENDATIONS**

*Compliance with Site Management Plan*

Institutional/Engineering Controls

The Site is in compliance with all items with all requirements of the SMP.

Monitoring Plan

Site is in compliance will all aspects of the monitoring plan.



*Performance and Effectiveness of Remedy*

The remedy is acting as designed and effectively limiting human exposure to buried contaminants and preventing contaminated soil from entering Lake Erie.

*Future Periodic Review Report Submittals*

No changes are proposed to the submission of review reports, they will continue to be submitted annually.

**8**      **CERTIFICATION**

The certification forms are included as Appendix B.

# FIGURES



Person	Miles Traveled
Person 1	1,000
Person 2	2,000
Person 3	3,000



# SITE MANAGEMENT NFTA GREENBELT REPORT

BUFFALO, NEW YORK

PROJECT NO:	136.032.001
DATE:	AUGUST 5, 2013
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	N. MARRERO

## PROJECT LOCATION

FIGURE 1

## APPENDICES

APPENDIX A  
SITE INSPECTION FORMS

**NFTA PORT-GREENBELT SHORELINE IMPROVEMENT PROJECT  
SITE MANAGEMENT PLAN**

**NYSDEC SITE NO. B-00149-9**

**SITE-WIDE INSPECTION FORM**

Date: 5-3-2013 Inspector: Nadine Marrero  
Weather: Sunny + Clear Signature: Nadine Marrero  
Temperature: 80° Company: C+S Engineers

Quarter: First Second Third Fourth  
(Circle One)

Item Inspected	Maintenance Needed (Y/N)	Comments
General Site Access		Access is good
Soil Cover/Grass Cover		Generally good. Some soil is exposed but limited and in small amounts.
Asphalt Pedestrian/Bicycle Pathway		Very Good
Stone Revetment		Very Good
Drainage Swales/Channels		Good
Bell Slip Slopes		Good
Trees, Bushes, Other Vegetation		Good Some trees near Bell Slip have died.

**NFTA PORT-GREENBELT SHORELINE IMPROVEMENT PROJECT  
SITE MANAGEMENT PLAN**

**NYSDEC SITE NO. B-00149-9**

**ENGINEERING CONTROL SYSTEMS INSPECTION FORM**

Page 1 of 2

Component	Item	Comments
<b>Soil Cover</b>	Obvious subsidence, depressions or cracks Evidence of ponded water Stressed or missing vegetation Soil erosion due to surface runoff Animal burrows Debris or Illegal Dumping Other:	No cracks No water Some spotty grass patches Bell Slip showing minor erosion No animal burrows No debris
<b>Stone Revetment</b>	Obvious subsidence or depressions Displaced armor stones Disintegration, cracking or spalling of armor stones Sloughing or slippage of revetment Animal burrows Washout of adjacent soil into stone revetment	No depressions No displacement or disintegration No sloughing No animal burrows No evidence of soil wash out

**NFTA PORT-GREENBELT SHORELINE IMPROVEMENT PROJECT  
SITE MANAGEMENT PLAN**

**NYSDEC SITE NO. B-00149-9**

**ENGINEERING CONTROL SYSTEMS INSPECTION FORM**

Page 2 of 2

Component	Item	Comments
<b>Asphalt Pedestrian/Bicycle Pathway</b>	Obvious subsidence, depressions or cracks Evidence of ponded water Evidence of sloughing/raveling along edges Other:	Path is in very good condition
<b>Bell Slip</b>	Obvious subsidence, depressions or cracks Soil erosion due to surface runoff Sloughing of slopes Exposed geotextile fabric Damage to geotextile 'sock' along water's edge Damage/displacement of seagull perch poles Scarp formation in soil slopes Displaced armor stones Dead or stressed vegetation	Exposed fabric in some locations. Some trees seem to be dead slope erosion? in one location.

Date:

5-3-13

Inspector:

Andie Mauer



APPENDIX B  
SITE VISIT PHOTOS

<b>Exhibit:</b>	<b>Date:</b>
1	5/3/2013

### Port Greenbelt Periodic Review Report

**Description:**

Revetment



<b>Exhibit:</b>	<b>Date:</b>
2	5/3/2013

### Port Greenbelt Periodic Review Report

**Description:**

Minor erosion at the top of the revetment



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**Exhibit:**

3

**Date:**

5/3/2013

### Port Greenbelt Periodic Review Report

**Description:**

Exposed Fabric at top  
of revetment



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**Exhibit:**

4

**Date:**

5/3/2013

### Port Greenbelt Periodic Review Report

**Description:**

Asphalt Path





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**Exhibit:**

5

**Date:**

5/3/2013

**Port Greenbelt Periodic Review Report****Description:**

Bell Slip



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**Exhibit:**

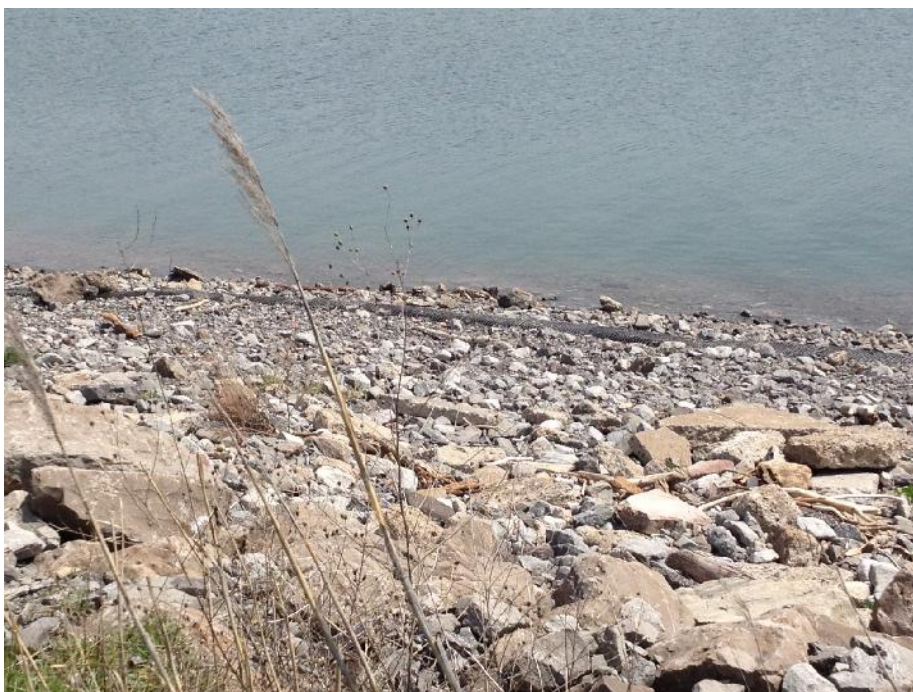
6

**Date:**

5/3/2013

**Port Greenbelt Periodic Review Report****Description:**

Exposed Sock in Bell Slip



**Exhibit:**

7

**Date:**

5/3/2013

### Port Greenbelt Periodic Review Report

**Description:**

Erosion along Bell  
Slip



APPENDIX C  
CERTIFICATION FORMS



Enclosure 2  
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Site Management Periodic Review Report Notice**  
**Institutional and Engineering Controls Certification Form**



Site Details		Box 1
Site No.	B00149	
<b>Site Name</b> NFTA Outer Harbor Greenbelt		
Site Address: Outer Lots 44-50 and Ogden Gore Tracts 1-2		Zip Code: 14203-
City/Town: Buffalo (C)		
County: Erie		
Site Acreage: 15.8		
Reporting Period: April 11, 2012 to July 10, 2013		
		YES    NO
1. Is the information above correct?		<input checked="" type="checkbox"/> <input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		<input type="checkbox"/> <input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		<input type="checkbox"/> <input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		<input type="checkbox"/> <input checked="" type="checkbox"/>
<b>If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.</b>		
5. Is the site currently undergoing development?		<input type="checkbox"/> <input checked="" type="checkbox"/>

Box 2	
	YES    NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/> <input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/> <input type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.</b>	
<b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>	
_____ Signature of Owner, Remedial Party or Designated Representative	_____ Date

## Description of Institutional Controls

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
121.12-1-3	NFTA	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan
See 461 Fuhrmann Boulevard for description.		
122.09-1-1	NFTA	Ground Water Use Restriction Landuse Restriction Site Management Plan  Soil Management Plan Monitoring Plan IC/EC Plan
<p>Exposure to remaining contamination in soil/fill at the site is prevented by a composite cover system placed over the site. This cover system consists of three elements. These include a soil cover comprised of a minimum of 12 inches of clean soil; an asphalt bicycle/pedestrian trail; and/or a heavy armor stone revetment.</p> <p>A visual inspection of the soil cover system will be conducted at least annually, in the late spring. The soil cover will be monitored for signs of erosion, settlement, denuded areas, subsidence along the edge of the stone revetment and any other signs of damage.</p> <p>Site restrictions that apply to the Controlled Property are:</p> <ul style="list-style-type: none"> <li>• The property may only be used for public passive recreation use provided that the long-term Engineering and Institutional Controls included in this SMP are employed. (Note that "commercial use" as defined in Part 375 includes passive recreational uses, which are public uses with limited potential for soil contact.)</li> <li>• The property may not be used for a higher level of use, such as unrestricted or restricted residential, use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;</li> <li>• Future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;</li> <li>• The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;</li> <li>• Vegetable gardens and farming on the property are prohibited;</li> <li>• The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.</li> </ul> <p>The site has been remediated for public passive recreation use. Any future intrusive work that will encounter or disturb the remaining contamination will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix C to the Site Management Plan.</p>		
122.13-1-1	NFTA	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan



See 461 Fuhrmann Boulevard for description.

122.13-1-2

NFTA

Ground Water Use Restriction  
Soil Management Plan  
Landuse Restriction  
Monitoring Plan  
Site Management Plan  
IC/EC Plan

See 461 Fuhrmann Boulevard for description.

122.17-1-1

NFTA

Ground Water Use Restriction  
Soil Management Plan  
Landuse Restriction  
Monitoring Plan  
Site Management Plan  
IC/EC Plan

See 461 Fuhrmann Boulevard for description.

Box 4

**Description of Engineering Controls**

Parcel

Engineering Control

121.12-1-3

Cover System

122.09-1-1

Cover System

122.13-1-1

Cover System

122.13-1-2

Cover System

122.17-1-1

Cover System

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

☒ ☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

☒ ☐

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. B00149

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Timothy P. Carvana at 181 Elliott St. Buffalo, NY 14203  
print name print business address

am certifying as Niagara Frontier Transportation Authority (Owner or Remedial Party)  
0

for the Site named in the Site Details Section of this form.



Signature of Owner, Remedial Party, or Designated Representative  
Rendering Certification

8/8/13  
Date

IC/EC CERTIFICATIONS

Box 7

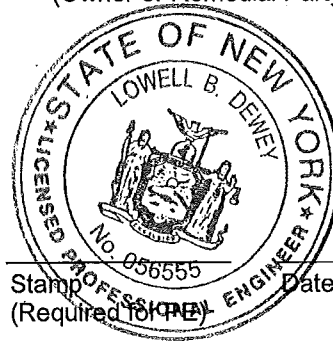
Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I LOWELL DEWEY at 90 BROADWAY, BUFFALO, NY  
print name print business address

am certifying ~~as a~~ for the NFTA  
(Owner or Remedial Party)

Lowell Dewey  
Signature of, for the Owner or Remedial Party,  
Rendering Certification



Stamp  
(Required for PE)

8/7/13  
Date