MALCOLM PIRNIE

Operation, Monitoring, and Maintenance Plan

APPENDIX

C

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Operation, Monitoring and Maintenance Plan

COBEY, LLC SITE

BUFFALO LAKESIDE COMMERCE PARK – PORTIONS OF PARCELS 1 AND 2

Prepared for:

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June 2006

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Introduction

SECTION 1

This Operation, Monitoring and Maintenance (OM&M) Work Plan has been prepared for the Cobey LLC Site (Site). The Site is the subject of a Brownfield Cleanup Agreement (the Agreement) entered into with the New York State Department of Environmental Conservation (NYSDEC). The Agreement requires that the Site owner maintain the institutional and physical components that shall comprise the completed redevelopment. This OM&M Work Plan describes the conditions and procedures for maintaining the physical components of the completed Site redevelopment, and as an appendix to the Remedial Action Work Plan (RAWP), it shall be an enforceable part of the Agreement.

The owner (Owner) of the Site (or any portion thereof) should evaluate the criteria presented in this plan and should recommend changes to the NYSDEC, as appropriate, depending on actual post-closure site conditions. As a minimum, this plan should be reviewed annually during the post-closure period and updated when necessary.

Prior to initiation of the OM&M Work Plan, the Owner shall prepare and submit appropriate organizational documents to the NYSDEC for review and approval. The organizational documents shall include:

- An organizational chart outlining the responsible party's personnel (with qualifications) who will be responsible for implementing the post-closure operation, maintenance and monitoring program.
- A health and safety plan.
- Example inspection report forms.
- A schedule for the annual inspections and reporting.

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Background

SECTION 2

The Cobey Site (12.3-acres of the Hanna Furnace Site) was a vacant industrial property owned by the City of Buffalo. The Hanna Furnace Site surrounds the eastern portion of the Union Ship Canal, and encompasses approximately 113 acres, including the Cobey Site. The Hanna Furnace Site is bordered to the west by New York State Route 5, to the south by the Lackawanna Commerce Park, to the east by railroad tracks, and to the north by wetland areas and the Shenango Steel property.

The Hanna Furnace Site was characterized during several previous investigations, the results of which are summarized in Section 2.0 of the RAWP. Based on the findings of those investigations, together with the size of the parcel, its historic use, and the City's current developmental needs and plans, the Hanna Furnace Site was subdivided into four parcels for future developmental considerations (see Figure 1-2 of the RAWP). The Former Railroad Yard has been designated Parcel 1. Parcel 2 is comprised of the Former Manufacturing Area. Parcel 3 consists of an area surrounding the Union Ship Canal 200-feet wide on each side. Parcel 4 includes the Former Filter Cake/Flue Ash Disposal Area located to the north of the Union Ship Canal. These Parcels are considered separately during environmental investigation and redevelopment activities. The Cobey Site consists of portions of Parcels 1 and 2.

The redevelopment plan for the Site includes light manufacturing buildings. The estimated land coverage is approximately 50 percent.

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Remedial Action Work Plan

SECTION 3

According to the RAWP, in order to eliminate potential exposure risks associated with direct contact with site fill material the entire Cobey Site will be covered as part of site redevelopment. The cover system will be placed directly on top of the re-graded on-site fill material and will include clean soil for outdoor, vegetated areas, asphalt for roads and parking lots, or concrete for sidewalks, buildings and heavy use areas. Surface coverage over the entire Site will be required as a pre-condition of occupancy.

The proposed cover system has been designed to be protective of human health and the environment. The primary exposure pathway for contaminants at the Site in soil and high pH in groundwater is via direct contact. The proposed plan of covering the fill material will eliminate the potential for direct contact with soil and is therefore protective of human health and the environment. Groundwater will not be used at the Site and therefore no direct contact with elevated pH groundwater is anticipated except during invasive construction activities.

The Qualitative Risk Assessment performed as part of the Supplemental Investigation (Malcolm Pirnie, 2000) evaluated the risk posed by chemicals of potential concern (COPCs) to human health and wildlife. The Risk Assessment also evaluated the adequacy of the cover system planned for placement during site redevelopment and determined that the above-described cover system would protect human health and wildlife from these COPCs.

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Summary of the Remedial Closure Design

SECTION 4

4.1 Preparation of Site Surface

The Site will be graded prior to cover placement activities, in accordance with the RAWP and Soil/Fill Management Plan (SFMP). The fill material and debris piles will be graded to a regular topographic surface as planned for redevelopment. Prior to placement of the cover system, all protruding material will be removed from the ground surface. Burning shall not be allowed on the Site.

4.2 Cover System

4.2.1 Soil

In areas that will not receive significant equipment or vehicular use, the cover system will be composed of soil fill from a NYSDEC-approved borrow source and tested in accordance with Sections 2.2, 2.3 and 2.4 of the SFMP and found to contain constituent concentrations less than those specified in NYSDEC TAGM 4046. The soil cover will be placed in accordance with Section 3.2.1 of the RAWP.

It will be the responsibility of the Owner to annually verify that the soil cover has remained in good condition (e.g., grass or other vegetation is maintained) and sufficiently covers the soil/fill material at the Site (i.e., eroded areas are repaired and the soil cover is maintained). Certification as to this verification is included on the site inspection form included as Attachment I.

4.2.2 Asphalt

The cover system in areas that will become roads, sidewalks, and parking lots will consist of a minimum of two inches of asphalt that will be placed over the soil/fill material at the site. The asphalt will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence, in accordance with Section 3.2.2 of the RAWP. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a regular surface.

It will be the responsibility of the Owner to annually verify that the asphalt has remained in good condition and sufficiently covers the soil/fill material.

4.2.3 Concrete

The cover system in areas that will become structures will consist of a minimum of two inches of concrete that will be placed above the soil/fill material. The concrete will be placed on a minimum four-inch gravel subbase to provide stability for construction and to limit subsidence. A polyethylene vapor barrier with a minimum thickness of 8-mils will be installed under all structures to provide additional protection for on-site workers. Concrete may also be used instead of asphalt for roads, sidewalks, and parking lots. Prior to placement of the subbase, all protruding material will be removed from the ground surface and the area re-graded to a sufficient regular surface.

It will be the responsibility of the Owner to annually verify that the concrete has remained in good condition and sufficiently covers the soil/fill material at the Site as per Attachment I.

4.3 Erosion Control Measures

In accordance with Section 2.5.2.2 of the SFMP, design and permanent construction features shall be incorporated into the site construction plans to control erosion. It will be the responsibility of the Owner to annually certify that storm water channel slopes, vegetation and any synthetic erosion control fabrics placed in such channels remain in good condition.

4.4 Fencing and Access Control

In accordance with Section 3.1 of the RAWP and Section 2.7 of the SFMP, fencing shall be constructed and signs posted around all areas with exposed soil/fill or areas where excavation will occur. If the entire Site is completely hydroseeded or completely graded and covered at the same time, fencing the entire Site will not be necessary, but gates shall be installed across obvious access points to limit the potential for illegal dumping. It will be the responsibility of the Owner to annually certify that fences, gates and signs are in place and that access is restricted, to the best of the Owner's ability.

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Inspection Procedures

SECTION 5

The physical components of the cover system shall be inspected annually by a representative of Owner (or its delegated agent) qualified to carry out such inspections. The inspector should be, at a minimum, a certified industrial hygienist or a person with a four-year college degree in environmental sciences. The inspection will be coordinated with facility personnel at least one week prior to ensure that most, if not all, of the paved areas will be accessible for inspection. Indoors (i.e., in office spaces with floor coverings) the inspection should at minimum make note of areas with settled or uneven surfaces, seepage or flooding. Arrangements to repair those areas that the inspector requires to be maintained, if any, will be initiated as may be required by the inspector.

The annual inspection shall include, but not be limited to, those matters set forth on the Environmental Inspection Form, included in Attachment I. These inspection reports will include a map that shows areas of damage or required maintenance and shall be kept on file by the Owner. If the inspections reveal that maintenance is necessary, then the Owner shall notify the NYSDEC, and arrange to complete the repairs. The NYSDEC shall be informed by Owner when repairs are complete.

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Final Cover System Condition

SECTION 6

The final cover system will observed by traversing the cover on foot and making appropriate observations, notes and photographic records as necessary, for inclusion in the report. It is anticipated that some maintenance activities will be necessary during the closure period. The following characteristics will be noted for during the observation of the cover system, fencing and signs, and erosion control features:

- Sloughing.
- Cracks.
- Settlement (depression and puddles).
- Erosion features.
- Distressed vegetation/turf.
- Damaged fencing, gates and signs.

The following paragraphs describe actions that should be taken to address the conditions described above. Maintenance and repairs that are typically necessary during the closure period are also described.

6.1 Sloughing

Sloughing of the soil cover may occur. Areas where sloughing has occurred will be repaired. Cover soil shall be placed in accordance with the requirements of the RAWP, Section 3.2.1 and Sections 2.3 and 2.4 of the SFMP.

6.2 Cracks

The locations of any cracks in the soil, asphalt or concrete cover will be noted on the inspection log and site map, including width, length and depth of the crack. The appropriate maintenance procedure will be determined by the inspector. Small willow cracks in the soil cover can be repaired by minor re-grading of the cracked area and re-seeding the area. Larger cracks that appear to extend into the fill material shall be filled with soil similar to that used for construction of the cover soil layer prior to re-seeding, in accordance with Section 3.2.1 of the RAWP. Repairs to the asphalt and/or concrete will be completed when and in the fashion deemed necessary by the inspector.

6.3 Settlement

Settlement features such as depressions or areas of ponding water shall be re-graded by placing additional soil cover so that surface water drains in the appropriate direction. Previous investigations indicated that pH of the groundwater was found to be elevated (see Figure 2-1 of the RAWP). Ponded water will be examined for elevated pH prior to any regrading activity and if necessary, contained and disposed in accordance with the RAWP.

6.4 Erosion Features

Erosion features shall be repaired by backfilling to the original grade with soil and re-seeding. Torn or displaced synthetic erosion control fabric in storm water channels shall be repaired or replaced as directed by the inspector.

6.5 Distressed Vegetation/Turf

Areas of distressed turf shall be re-seeded and a starter fertilizer applied. Large-root growth may also compromise the integrity of the soil cover and shall be discouraged with regular mowing. Reasonable efforts shall be taken to avoid damage to the turf from traffic and other unintended uses.

6.6 Fencing and Access Control

To the best of owner's ability, physical discontinuities in fence material shall be repaired; fence posts and foundations that show evidence of structural weakness shall be repaired or replaced as necessary; gates and locks shall be maintained to deter unauthorized entry; and warning signs shall be kept secured in place and trees shall be trimmed to ensure the signs are visible.

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Inspection Reporting

SECTION 7

Annual inspection reports shall be reported by the Owner to the NYSDEC. If the inspection finds that corrective action is required, a follow-up inspection will be made after the repairs have been completed. If the inspector determines that correction action is required, the Corrective Action Form (included in Attachment II) will be included with the inspection report, confirming that the repairs were completed, and in accordance with the RAWP.

Any analytical data that may be gathered during the course of the inspection or corrective action shall also be included with the inspection report and submitted to the NYSDEC within 21 days of the inspection. The inspection reports will be submitted by the Site Owner with an attached Annual Certification Form (included in Attachment III), signed and notarized by the Site Owner, certifying that the specified engineering and institutional controls are in place and functioning.

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Environmental Inspection Form

ATTACHMENT

I

ENVIRONMENTAL INSPECTION FORM

COBEY, LLC

Property Name: _____ Inspection Date: _____

Property Address: _____

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section: _____ Block: _____ Lot(s): _____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions:

SIGNATURE:

The findings of this inspection were discussed with appropriate personnel, corrective actions were identified and implementation was mutually agreed upon:

Inspector: _____ Date: _____

Next Scheduled Inspection Date: _____

SECURITY AND ACCESS

	Yes	No
1. Access controlled by perimeter fencing?	_____	_____
Are there sections of the fence material damaged or missing?	_____	_____
Are the fence or gate post foundations structurally sound?	_____	_____
2. "No Trespass" signs posted in appropriate languages?	_____	_____
Are the signs securely attached to the fencing or posts?	_____	_____
Are there sufficient signs; are the signs adequately spaced around the perimeter of the property?	_____	_____
3. Is there evidence of trespassing?	_____	_____
Is there evidence of illegal dumping?	_____	_____

COVER & VEGETATION

4. Final cover in acceptable condition?	_____	_____
Is there evidence of sloughing, erosion, ponding or settlement?	_____	_____
Is there evidence of unintended traffic; rutting?	_____	_____
Is there evidence of distressed vegetation/turf?	_____	_____

	Yes	No
5. Final cover sufficiently covers soil/fill material?	_____	_____
Are there cracks visible in the soil or pavement?	_____	_____
Is there evidence of erosion in the stormwater channels or swales?	_____	_____
Is there damage to the synthetic erosion control fabric in the channels or swales?	_____	_____

ACTIVITY ON SITE

6. Any activity on site that mechanically disturbed soil cover?	_____	_____

ADDITIONAL FACILITY INFORMATION

Development on or near the site? (Specify size and type: e.g., residential, 40 acres, well and septic)

COMMENTS

Item #

ATTACHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Report (s)

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Corrective Action Form

ATTACHMENT

II

CORRECTIVE ACTION FORM

COBEY, LLC

Property Name: _____

Property Address: _____

City: _____ State: _____ Zip Code: _____

Property ID: (Tax Assessment Map)

Section: _____ Block: _____ Lot(s): _____

Total Acreage: _____

Weather (during inspection): Temperature: _____ Conditions:

An inspection of the subject property on (date) identified the need for corrective action.

CORRECTIVE ACTION TAKEN

Description: (attach site sketch and photographs)

Date Completed:

SIGNATURE:

The corrective action described above was completed in accordance with all relevant requirements of the Remedial Action Work Plan.

Inspector: _____ Date: _____

ATTACHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Report (s)

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Annual Certification of Institutional/ Engineering Controls

ATTACHMENT

III

ANNUAL CERTIFICATION
OF INSTITUTIONAL/ENGINEERING CONTROLS

COBEY, LLC

SITE DETAILS

SITE NO.

SITE NAME

SITE ADDRESS: ZIP CODE:

CITY/TOWN:

COUNTY:

PROPERTY ID (Tax Assessment Map):
Section: Block: Lots(s):

CURRENT USE:

CURRENT CERTIFICATION FREQUENCY:

VERIFICATION OF SITE DETAILS

		YES	NO
1.	Are the SITE DETAILS above, correct?	☐	☐
	If NO, are changes handwritten above or included on a separate sheet?	☐	
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
4.	Has a change-of-use occurred since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?		

5. Has any new information come to your attention to indicate that assumptions made in the qualitative exposure assessment for offsite contamination is no longer valid (applies to non-significant threat sites subject to ECL 27-1415.7(c))? ☐ ☐

   If YES, is the new information or evidence that new information has been previously submitted included with this certification? ☐

6. Are the assumptions in the qualitative exposure assessment still valid (must be certified every five years for non-significant threat sites subject to ECL 27-1415.7(c))? ☐ ☐

   If NO, are changes in the assessment included with this certification? ☐

DESCRIPTION OF INSTITUTIONAL/ENGINEERING CONTROL

	Control Certification	
	YES	NO
ENVIRONMENTAL EASEMENT	☐	☐
Type in Restriction here	☐	☐

CONTROL CERTIFICATION STATEMENT

For each institutional or engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the institutional control and/or engineering control employed at this site is unchanged from the date the control was put in-place, or 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) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control; and

(d) 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.

(e) if a financial assurance mechanism is required under the remedial work plan for the site, the mechanism remains valid and sufficient for their intended purpose under the work plan.

CONTROL CERTIFICATIONS

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in this certification form 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 _____(print name), _____

(print business address), am certifying as _____ (Owner or Owner's Designated Site Representative (if the site consists of multiple properties, I have been authorized and designated by all site owners to sign this certification) for the Site named in the Site Details section of this form.

_____ _____

Signature of Site Owner or Representative Rendering Certification Date

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in this Certification form 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 _____(print name), _____

(print business address), am certifying as a Qualified Environmental Professional for the _____

_____ (Owner or Owner's Representative) for the Site named in the Site Details section of this form.

_____ _____ _____

Signature of Qualified Environmental Professional, for the Owner or the Owner's Representative, Rendering Certification | Stamp (if Required) | Date