



August 11, 2011

Mr. Erik Rolle  
Environmental Affairs  
Georgia Power Company  
241 Ralph McGill Boulevard  
Atlanta, Georgia 30308

**Subject: Landfill Monitoring and Maintenance Plan  
Georgia Power Company  
Northwest Atlanta, Georgia Facility  
AMEC Project No. 6121-10-0066  
HSI Site No. 10895**

Dear Mr. Rolle:

AMEC Environment & Infrastructure, Inc. (Formerly MACTEC Engineering and Consulting, Inc.) is pleased to submit this Landfill Monitoring and Maintenance Plan, dated August 2011 for the Georgia Power Company Northwest Substation and Landfill Site (HSI Site No. 10895). This plan is being submitted as requested by GA-EPD in their Corrective Action Plan Approval letter dated October 26, 2010. Implementation of this plan represents a part of the institutional and engineering controls on the Landfill area that are required to meet Type 5 risk reduction standards during Phase I of the approved corrective action for the Site.

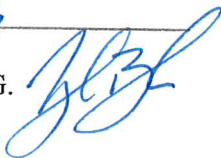
We appreciate your assistance with this matter. Please contact Mr. Charles Ferry at (404) 873-4761 if you have any questions regarding this submittal.

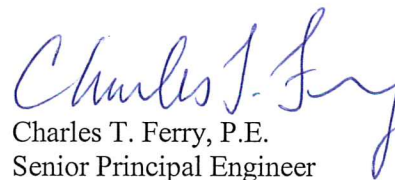
Sincerely,

**AMEC Environment & Infrastructure, Inc.**

For   
with permission

Stephen R. Foley, P.G.  
Senior Geologist



  
Charles T. Ferry, P.E.  
Senior Principal Engineer

Attachments: Inspection Checklist  
Land Use Evaluation Form  
Figure 1 – Site Plan

cc: Mr. Brett Mitchell, Georgia Power Company Environmental Affairs

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Correspondence:  
AMEC  
396 Plasters Avenue, NE  
Atlanta, Georgia 30324  
USA  
Tel 404-873-4761  
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## **1.0 BACKGROUND**

### **1.1 SITE LOCATION AND DESCRIPTION**

The subject Site is a closed construction and debris Landfill owned by Georgia Power Company on property located off of Marietta Boulevard in Atlanta, Fulton County, Georgia. The Site is located just east of the former Bellwood Quarry, an aggregate quarry which was most recently operated by Vulcan Materials and presently owned by the City of Atlanta.

The Landfill and a 230/115/20kv Substation are situated within 70.55 acres of land owned by Georgia Power Company. The closed Landfill is located adjacent to the Substation to the west. The improvements on the 70.55 acres owned by Georgia Power includes overhead transmission lines, improved (i.e. gravel) access roads, and the Landfill and Substation. The Substation and Landfill occupy a total of approximately 12 acres which is the property that is the subject of the HSI listing. Both the Substation and Landfill are enclosed along their perimeter with a locked security fence. In addition, the access road to the Landfill is gated and locked. Other than these features, the Georgia Power property is undeveloped.

The inactive Bellwood Quarry is located north and west of the Landfill. Topographically, the Site generally slopes down from north to south, from an elevation of approximately 925 feet along the northern Site boundary to approximately 850 feet within the power line right-of-way located immediately south of the Landfill. Prior to July 2008, the Landfill area primarily supported a stand of young pine trees. The trees were cleared to allow access to the Site during assessment work. Since that time, the Landfill has become thickly revegetated with grass and brush.

### **1.2 SITE HISTORY**

The on-Site Landfill was constructed beginning in the 1970s. In 1989, Georgia Power submitted to the Georgia Environmental Protection Division's (EPD) Industrial Waste Management Program a notification of permit by rule operations for the Northwest Spoils Area. The EPD responded with a correspondence dated February 2, 1990 granting a solid waste handling permit by rule. The Landfill was utilized for disposal of construction debris from various Georgia Power projects in the Atlanta area. The Landfill was properly closed in January 1996 by capping the Landfill materials with a uniform 2-foot layer of cover from an off-Site borrow source. Notification of closure was provided to the EPD on March 29, 1996.

Between July 2008 and April 2009 and on behalf of Georgia Power, MACTEC Engineering and Consulting, Inc. (MACTEC) and SBX Technologies (SBX) conducted a series of Site assessments which included the sampling and testing of soil and groundwater from the areas of both the Landfill and the adjacent Substation. The data collected indicated that soils within the Landfill were impacted with polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs). Some soils within the Substation were impacted with PCBs. Based on the data obtained, notification of a release to soil at the Site was submitted to the Georgia EPD Hazardous Sites Response Program (HSRP). The Landfill and substation were subsequently listed on the Hazardous Site Inventory (HSI Site No. 10895) based solely on impacts to soil above a reportable quantity, as no groundwater impacts were detected. As a result of its listing on the HSI, corrective action will be required to bring the Site into compliance with applicable risk reduction standards (RRS) for removal of the Site from the HSI.

A corrective action plan (CAP) was submitted on April 30, 2010 and approved by GA-EPD on October 26, 2010. The CAP presented a phased corrective action approach for the Site to be implemented in two separate phases. As part of Phase I, GA-EPD approved a Type 5 RRS for the Landfill which involves implementation of institutional and engineering controls at the Landfill to restrict unauthorized access and maintain the existing landfill integrity. This has been accomplished by construction of a perimeter fence to restrict access to the Landfill, ongoing semi-annual monitoring and maintenance of the existing Landfill cover as well as ongoing semi-annual groundwater monitoring. As proposed in the CAP, groundwater monitoring frequency may be reduced to annual in the future, upon EPD approval. Phase I of the CAP (Type 5 RRS), as it relates to the Landfill, will continue until commencement of reservoir construction in the adjacent quarry or significant changes in groundwater quality occurs which presents the potential for exposure. Should a release of regulated constituents to groundwater be verified, a plan will be submitted outlining actions to be completed in order to maintain compliance with Type 5 RRS, which could include termination of Phase I of the approved CAP and implementation of Phase II which will consist of removal of landfill material.

## 2.0 OVERVIEW OF LANDFILL MONITORING AND MAINTENANCE PLAN (MMP)

The purpose of this document is to establish a Monitoring and Maintenance Plan (MMP) that will be implemented as part of Phase I of the EPD-approved CAP. The maintenance of existing engineered controls (e.g., landfill cover, security fencing, and groundwater monitoring system) and institutional controls (e.g. limit use to non-residential activities) to protect human health and the environment, and continued groundwater monitoring and reporting will be performed to maintain compliance with the Type 5 RRS of the Hazardous Site Response Act.

The approved groundwater monitoring plan outlined in the CAP consists of semi-annual monitoring and reporting with semi-annual reports submitted to EPD. If after two years of semi-annual monitoring (December 2012), there are no detections of regulated substances in groundwater, Georgia Power Company will request that EPD consider future monitoring and reporting be conducted annually.

Groundwater samples will be collected using sampling protocols consistent with the latest version of the US EPA Region 4 Science and Ecosystem Support Division (SESD), Operating Procedure Number SESDPROC-301-R1. Activities such as field measurements, equipment operation and decontamination, IDW management, quality assurance/quality control, and sample handling, preservation and shipping will be conducted in accordance with the latest version of the appropriate SESD operating procedure.

Georgia Power Company will continue to maintain the Landfill's perimeter security fence which encompasses Landfill material that was found to contain PCB concentrations greater than 1.0 mg/kg. In addition, Georgia Power Company will maintain the engineering controls in accordance with this MMP as described herein, and ensure that any future engineering controls or modifications associated with the Landfill are designed to ensure continued compliance with Type 5 RRS.

The MMP consists of the following elements:

- Regular inspection and maintenance of the Landfill cover;
- Regular inspection and maintenance of vegetative cover over the Landfill;
- Regular inspection and repair, if ever applicable, of silt fencing and other erosion control measures;
- Regular inspection and repair, if necessary, of perimeter fencing.

### **3.0 BASIC REQUIREMENTS**

#### **3.1 USE OF THE PROPERTY**

Currently, the property is vacant with the exception of the Substation, overhead transmission lines, and the Landfill. Georgia Power Company will maintain the integrity of the Landfill cover and perimeter fencing. The function of all on-site monitoring wells associated with the Landfill will also be maintained. Any property development, improvements, or use will be subject to the terms of the environmental covenant that will be registered for the Landfill property.

Any use of the Landfill will preserve the integrity and effectiveness of final cover of the Landfill. The Landfill's initial use was that of vacant contoured ground with a vegetative cover. Any future changes in use of the landfill must be approved by EPD and address the continuation of regular inspections and repairs to the engineering controls as necessary to correct the effects of settling, subsidence, erosion or other events. Furthermore, should it occur, run-on and run-off will be prevented from causing erosion or other damage to the final cover. The MMP must be reviewed and revised as appropriate. If it is determined the MMP must be revised, the revised MMP must be submitted to EPD for review and approval within sixty days of the change in use.

Use of the Landfill property will remain non-residential. The Landfill will be inspected annually to verify and document that its use by owners, tenants and other occupants is consistent with its non-residential designation. All contract and lease agreements and informal agreements will be reviewed to ensure they are consistent with the non-residential use. The restrictive covenant will be reviewed annually to ensure it is in place and the uses of the property will conform to the restrictions placed on the Landfill property.

The results of the inspection will be summarized in a Landfill use statement which will be submitted to EPD annually and will be included in a groundwater monitoring report. The Landfill use statement will include the signed Owner Certification presented in Section 4.4.

#### **3.2 SUPERVISION OF THE PROPERTY**

The current owner of the Landfill property is:

Georgia Power Company  
241 Ralph McGill Boulevard  
Atlanta, Georgia 30308

The Georgia Power Company contact for the Landfill property is:

Mr. Robert W. Mitchell, III (Brett)  
Environmental Affairs  
(404) 506-7719

### **3.3 COVER (SOIL CAP)**

As part of the MMP, the existing soil/vegetative cover or “cap” will be maintained in the following condition.

#### **3.3.1 Soil Cover**

The soil cover shall:

- A. Remain capable of preventing attraction of disease vectors, minimizing production of odors, and preventing blowing litter;
- B. Remain capable of covering the solid waste without change in the cover’s property by rain, heat, cold and other climatic conditions; and
- C. Remain capable of supporting the germination and propagation of vegetative cover.

In the event that future disturbance of the Landfill results in damage to or alteration of the existing soil cover, repairs to the soil cover will be completed to achieve compliance with the above requirements.

#### **3.3.2 Vegetative Cover**

Vegetative cover, such as grass or other vegetation supported by the soil cover, will be maintained. The vegetative cover will be inspected to identify bare spots and to verify that the vegetation is relatively healthy. Some inspection guidelines include: verifying that no bare spots exist with a surface area greater than 2% of the vegetative cover area. Should damage to the existing soil cover occur, repairs to the soil cover/vegetative cover will be performed within 30 days after discovery subject to appropriate weather conditions to perform the work.

### **3.4 EROSION AND SEDIMENTATION CONTROL**

Regular erosion and sedimentation control inspections have been ongoing at the Landfill since 2008. These inspections are currently conducted on a monthly basis. Georgia Power Company will continue to perform erosion and sedimentation control inspections at a minimum frequency of twice per year. Repair work on the soil cover, if required, will be implemented within 30 days of discovery.

### **3.5 PERIMETER FENCE**

A perimeter fence has been constructed around the area of the Landfill and where PCBs have been detected in excess of 1.0 mg/kg. Following construction, the fence will be inspected along its length for damage and to ensure its integrity is maintained. Repair to damaged areas will be implemented within 30 days of discovery.

### **3.6 MONITORING WELLS**

Prior to resampling, all monitoring wells on Site will be inspected for indications of damage. Well integrity will be maintained in accordance with EPA SOPs and wells will be labeled and securely locked when not being sampled. Repair to damaged wells will be implemented as necessary within 45 days of discovery. In the event a well is damaged beyond repair, proper well closure and replacement will be implemented within 60 days of discovery.

Wells which make up the monitoring well network will be inspected for accumulations of silt and sand by measuring the total depth prior to sampling and comparing those depths to previous and original depths. If a significant accumulation of silt or sand is noted, the well will be redeveloped prior to sampling.

#### **4.0 ROUTINE INSPECTION/MAINTENANCE**

Throughout the monitoring and maintenance period, the Landfill property will be inspected on a semi-annual basis to ensure that the integrity of the existing soil cover (cap), perimeter fence and erosion control measures are maintained. Landfill inspections will be conducted in conjunction with the groundwater monitoring events. The inspector will complete the attached Landfill Inspection and Maintenance Report checklist during each Site visit. At least one inspection per two year period will be conducted during or immediately following a significant rain event so that drainage features may be evaluated. Maintenance and inspection of the Landfill will be performed by person(s) experienced in the maintenance and inspection of the engineering controls at the Landfill. Qualification may be through both professional training and educational experience sufficient to evaluate the condition of the Landfill as it relates to the requirements herein. At least one inspection per year will be conducted by a registered professional engineer with experience in the design and/or evaluation of landfills.

#### **4.1 RESTORATION**

If required, any repair work on the soil cover will meet or exceed the requirements outlined in Section 3.3.1. Sufficient cover will be restored in any areas noted to have inadequate cover from the effects of erosion, vehicular traffic, etc. All areas lacking proper vegetation will be restored in accordance with Section 3.3.2.

#### **4.2 ACCESS**

Access for visual inspection of the soil cap and monitoring wells (for inspection and groundwater sampling) will be maintained.

#### **4.3 MAJOR DAMAGE NOTIFICATION**

The following conditions will be considered major damage:

- A. Any occurrence causing leaching of contamination from landfill material to the groundwater;
- B. A rill greater than one foot wide with a depth greater than three inches;
- C. An area of ponding with standing water 48 hours after a rain event where less than 1 inch of rainfall was measured;



- D. Holes deeper than one foot or similar damage in the vegetative cover or soil cap caused by digging, traffic or other activities;
- E. Evidence of leachate seepage or surfacing of landfill material;
- F. Damaged monitoring well hole cover;
- G. Erosion undermining concrete pad around well;
- H. Damage or cracking of concrete pad around well;
- I. Removal of a marker or damage making it illegible.

Major damage will require EPD notification within 48 hours of discovery and repairs will be implemented within 30 days of discovery. If repairs cannot be completed within the 30-day period, written notification of the damage, the proposed repair and the schedule for completion of the repair will be submitted within 10 days of discovery.

#### **4.4 REPORTING**

The inspector will complete the attached Landfill Inspection and Maintenance Report checklist during each Site visit. Any deviations from the MMP will be discussed in the report. The report will provide photographic documentation of the site including each component of the engineering control system and any items that warrant documentation such as damage to site features. Records concerning inspections and repairs will be included with the semi-annual groundwater monitoring reports submitted to EPD. Upon EPD approval and following two successful years of monitoring, the reporting frequency will be reduced to annually.

Monitoring reports will include descriptions of sampling equipment, sample collection techniques, sample handling/preservation and decontamination procedures and include groundwater sampling forms that document purge method, volume and rate, sampling methods and stability parameters.

Should regulated substances be detected in groundwater, the report will include a schedule for verification sampling of the impacted well(s) and an evaluation of whether a release has occurred from the Landfill. If a release from the Landfill has occurred, a plan will be submitted within 90 days of the determination that will describe the actions that will be completed to maintain or achieve compliance with the Type 5 RRS and to delineate the extent of the release. Should a release from the Landfill be verified that presents the potential for exposure above applicable RRS or the migration of regulated substances in excess of

applicable RRS beyond the limits of the engineering controls, institutional controls and monitoring be verified, Phase I of the approved CAP will be terminated and Phase II will be implemented.

The report submitted subsequent to the close of every fifth year will include a MMP review. The MMP review will summarize and evaluate the conditions of the engineering controls and any groundwater trends discerned throughout that time period and make recommendations as appropriate.

The reports will include the following signed certifications:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate that information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true and accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

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Authorized Signature

I certify that I am a qualified groundwater scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.

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Georgia Registered Professional  
Geologist or Engineer

## 5.0 TERMINATION OF LANDFILL MONITORING PERIOD

Georgia Power Company will be responsible for implementation of requirements outlined in the MMP. The Landfill monitoring and maintenance period will continue until commencement of reservoir construction or in the event of a significant change in groundwater quality occurs which presents the potential for exposure. At that time, Phase I of the CAP may be considered complete and Georgia Power Company will begin implementation of Phase II of the approved Landfill CAP. Where site conditions allow, groundwater monitoring and Landfill maintenance activities will continue during the implementation of Phase II of the approved CAP. EPD will be informed in writing of the date that Phase II begins as well as plans for continued groundwater and Landfill maintenance activities.

# INSPECTION CHECKLIST

Date: \_\_\_\_\_ AMEC Inspector: \_\_\_\_\_

# GEORGIA POWER COMPANY NORTHWEST ATLANTA LANDFILL

## Semi-Annual Monitoring and Maintenance Report

INSPECTION ITEM	OBSERVATION				CONDITION			Weather Conditions (current and recent)	COMMENTS (Indicate Locations on Figure 1)
	YES	NO	NA	MN	IA				

<b>DEVELOPMENT CONTROL</b>									
Land Disturbance within Landfill boundary (fenced area).									
Other									
<b>ACCESS CONTROL</b>									
Perimeter Fencing									
Evidence of Intrusion/Trespassing									
<b>EROSION CONTROLS/DAMAGE</b>									
Silt Fence/Sediment Traps									
Sediment Build-up									
Debris									
Ponding or Wet Areas									
Other									
<b>SOIL COVER CONDITION</b>									
Vegetative Cover									
Bare Spots									

NA - No action needed;  
 MN - Maintenance needed;  
 IA - Immediate attention needed

Date: \_\_\_\_\_

AMEC Inspector: \_\_\_\_\_

# GEORGIA POWER COMPANY NORTHWEST ATLANTA LANDFILL

## Semi-Annual Monitoring and Maintenance Report

INSPECTION ITEM	OBSERVATION				CONDITION				COMMENTS (Indicate Locations on Figure 1)
	YES	NO	NA	MN	IA				
Erosion									
Depressions/Ponded Water									
Rills/Running Water									
Settlement									
Burrows									
Other									
<b>MONITORING WELLS</b>									
Securely Locked and Labeled									
Condition of Monitoring Wells									
Silt or Sand Accumulation									
Other									
<b>OTHER OBSERVATIONS</b>									
DATE OF INSPECTION:								INSPECTOR:	
									(Print)
									(Signature)

# LAND USE EVALUATION FORM

**SITE USE AND NON-RESIDENTIAL SOIL RRS MONITORING  
EVALUATION FORM**

**Georgia Power NW Substation and Landfill, HSI Site No. 10895**

<b>TYPE</b>	<b>No.</b>	<b>CRITERIA RESPONSE</b>	<b>YES</b>	<b>NO</b>
Land Use	1	Does this HSRA site meet the definition of non-residential property as defined in HSRA Rule 391-3-19.02(2)?  “Non-residential property means any property or portion of a property not currently being used for human habitation or for other purposes with a similar potential for human exposure, at which activities have been or are being conducted that can be categorized in one of the 1987 Standard Industrial Classification major group...”		
	1a	If no to 1, provide a written explanation (attached) to the EPD within 30 days.		
Exposure	2	Are site workers expected to be directly exposed to soils with chemical concentrations in excess of Type 2 RRS at this HSRA site in excess of 250 days per year?		
	2a	If yes to 2, are these same site workers expected to be exposed to soils at this HSRA site in excess of 25 years throughout their career?		
Property Instruments	3	Do all leases or other property instruments for the site have the applicable deed notice language inserted into them?		
	3a	If no to 4, provide a written explanation (attached) to the EPD within 30 days.		
Inspection	4	Date of inspection:		
	4a	Name of inspector:		
	4b	Photographs showing current land use (attached)		

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
NAME (Please type or print)

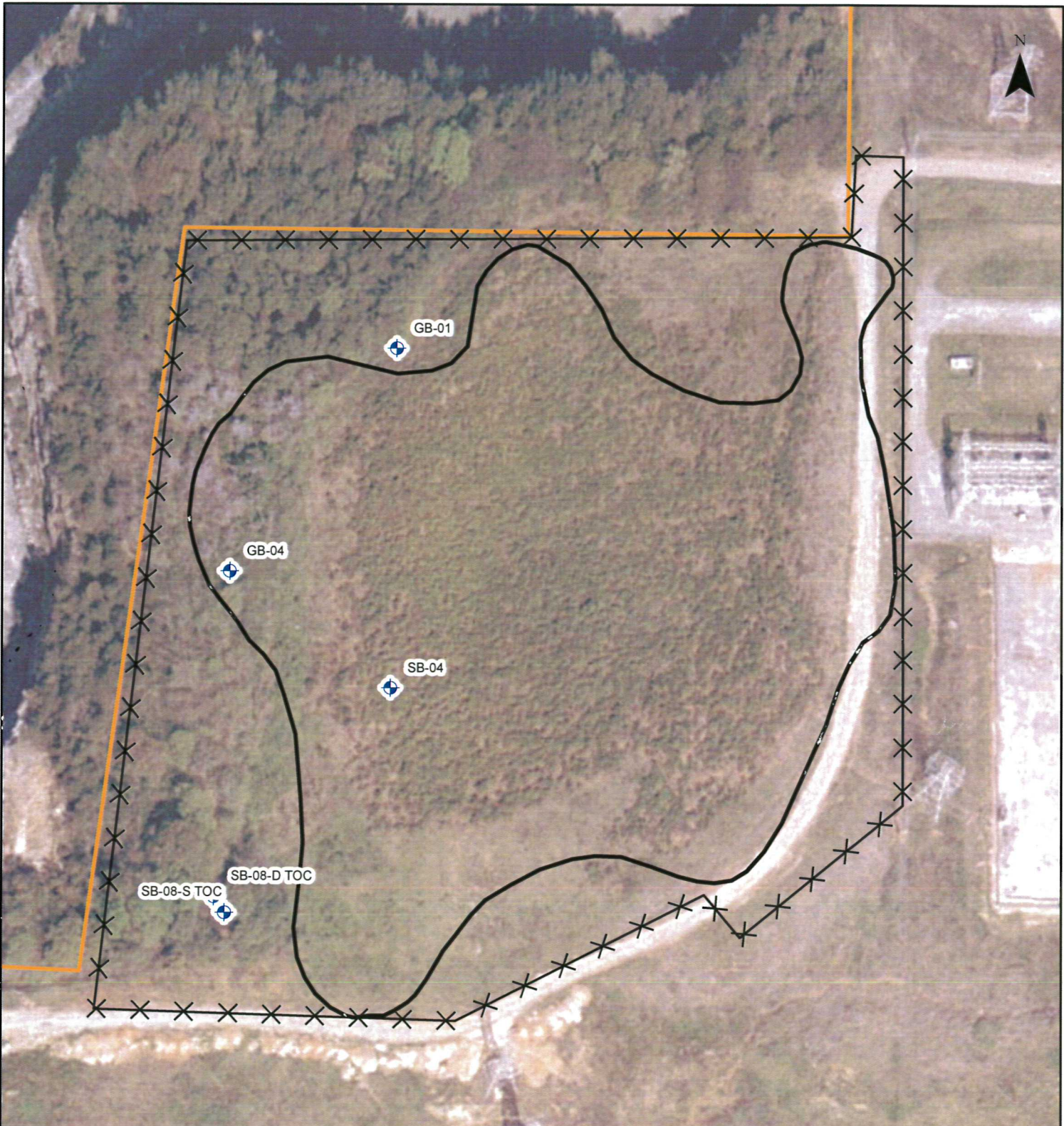
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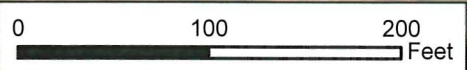
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DATE







# SITE PLAN




Imagery Source: USGS Seamless Data Distribution  
(<http://seamless.usgs.gov/>) Atlanta High Resolution 2002.



**Legend**

-  Monitoring Well Location
-  Approximate Location of Landfill Security Fence
-  Approximate GPC Property Boundary
-  Interpreted Extent of PCB Concentrations Exceeding 1.0 mg/kg in Landfill Material

<b>Site Plan</b>	
<b>GPC Northwest Substation / Landfill</b>	
Prepared by/Date: BWH - 04/02/2010	
Checked by/Date: TB - 04/02/2010	
Project Number: 6121080168	
Figure Number: 1	