

**Georgia-Pacific LLC**

**PRE-CONSTRUCTION NOTIFICATION**

**Clean Water Act, Section 404 NWP 38  
and Section 401 Water Quality  
Certification Application**

Willsboro Black Ash Pond Site (#516009)

Willsboro, New York

August 2012



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Vice President

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Senior Ecologist

**PRE-CONSTRUCTION NOTIFICATION  
NWP 38 and Section 401 WQC  
Joint Permit Application**

Willsboro Black Ash Pond Site  
Town of Willsboro, New York

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Georgia-Pacific LLC

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Our Ref.:  
B0066127

Date:  
August 2012

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# JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water supply.



New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

<p>APPLICATIONS TO</p> <p><b>1. NYS Department of Environmental Conservation</b></p> <p>Check all permits that apply:</p> <table border="0"> <tr> <td><input type="checkbox"/> Stream Disturbance</td> <td><input type="checkbox"/> Coastal Erosion Management</td> </tr> <tr> <td><input type="checkbox"/> Excavation and Fill in Navigable Waters</td> <td><input type="checkbox"/> Wild, Scenic and Recreational Rivers</td> </tr> <tr> <td><input type="checkbox"/> Docks, Moorings or Platforms</td> <td><input type="checkbox"/> Water Supply</td> </tr> <tr> <td><input type="checkbox"/> Dams and Impoundment Structures</td> <td><input type="checkbox"/> Long Island Well</td> </tr> <tr> <td><input type="checkbox"/> 401 Water Quality Certification</td> <td><input type="checkbox"/> Aquatic Vegetation Control</td> </tr> <tr> <td><input type="checkbox"/> Freshwater Wetlands</td> <td><input type="checkbox"/> Aquatic Insect Control</td> </tr> <tr> <td><input type="checkbox"/> Tidal Wetlands</td> <td><input type="checkbox"/> Fish Control</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Incidental Take of Endangered/Threatened Species</td> </tr> </table> <p><input type="checkbox"/> I am sending this application to this agency.</p>	<input type="checkbox"/> Stream Disturbance	<input type="checkbox"/> Coastal Erosion Management	<input type="checkbox"/> Excavation and Fill in Navigable Waters	<input type="checkbox"/> Wild, Scenic and Recreational Rivers	<input type="checkbox"/> Docks, Moorings or Platforms	<input type="checkbox"/> Water Supply	<input type="checkbox"/> Dams and Impoundment Structures	<input type="checkbox"/> Long Island Well	<input type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Aquatic Vegetation Control	<input type="checkbox"/> Freshwater Wetlands	<input type="checkbox"/> Aquatic Insect Control	<input type="checkbox"/> Tidal Wetlands	<input type="checkbox"/> Fish Control		<input type="checkbox"/> Incidental Take of Endangered/Threatened Species	<p><b>2. US Army Corps of Engineers</b></p> <p>Check all permits that apply:</p> <p><input type="checkbox"/> Section 404 Clean Water Act</p> <p><input type="checkbox"/> Section 10 Rivers and Harbors Act</p> <p><input type="checkbox"/> Nationwide Permit(s) - Identify Number(s):</p> <p>_____</p> <p>_____</p> <p>Preconstruction Notification - <input type="checkbox"/> Y / <input type="checkbox"/> N</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>	<p><b>3. NYS Office of General Services</b></p> <p>Check all permits that apply:</p> <p><input type="checkbox"/> State Owned Lands Under Water</p> <p><input type="checkbox"/> Utility Easement (pipelines, conduits, cables, etc.)</p> <p><input type="checkbox"/> Docks, Moorings or Platforms</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>	<p><b>4. NYS Department of State</b></p> <p>Check if this applies:</p> <p><input type="checkbox"/> Coastal Consistency Concurrence</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>
<input type="checkbox"/> Stream Disturbance	<input type="checkbox"/> Coastal Erosion Management																		
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	<input type="checkbox"/> Incidental Take of Endangered/Threatened Species																		

5. <b>Name of Applicant</b> (use full name)		<b>Applicant</b> must be:
Mailing Address		
Post Office City		Taxpayer ID (If applicant is NOT an individual):
State	Zip Code	
Telephone (daytime)	Email	
		<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Lessee (check all that apply)

6. <b>Name of Facility or Property Owner</b> (if different than Applicant)	
Mailing Address	
Post Office City	
State	Zip Code
Telephone (daytime)	Email

7. <b>Contact/Agent Name</b>	
Company Name	
Mailing Address	
Post Office City	
State	Zip Code
Telephone (daytime)	
Email	

8. <b>Project / Facility Name</b>		Property Tax Map Section / Block / Lot Number	
Project Location - Provide directions and distances to roads, bridges and bodies of waters:			
Street Address, if applicable		Post Office City	State NY Zip Code
Town / Village / City		County	
Name of USGS Quadrangle Map		Stream/Water Body Name	
Location Coordinates: Enter NYTMs in kilometers, <b>OR</b> Latitude/Longitude			
NYTM-E	NYTM-N	Latitude	Longitude

<b>For Agency Use Only</b>	DEC Application Number:	USACE Number:
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**JOINT APPLICATION FORM - PAGE 2 OF 2**  
Submit this completed page as part of your Application.

**9. Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

Proposed Use: <input type="checkbox"/> Private <input type="checkbox"/> Public <input type="checkbox"/> Commercial	Proposed Start Date:	Estimated Completion Date:
Has Work Begun on Project? <input type="checkbox"/> Yes <input type="checkbox"/> No    If Yes, explain.		
Will Project Occupy Federal, State or Municipal Land? <input type="checkbox"/> Yes <input type="checkbox"/> No    If Yes, please specify.		

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes?     Yes     No    If yes, please list:

**12. Signatures.** If applicant is not the owner, both must sign the application.  
I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than \$10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant	Printed Name	Title	Date
Signature of Owner	Printed Name	Title	Date
Signature of Agent	Printed Name	Title	Date

<b><u>For Agency Use Only</u></b>	<b>DETERMINATION OF NO PERMIT REQUIRED</b>		
_____	Agency Project Number _____		
(Agency Name)	has determined that No Permit is required from this Agency for the project described in this application.		
Agency Representative:    Name (printed) _____	Title _____		Date _____
Signature _____	Date _____		



## **Acronyms and Abbreviations**

ac ft	acre feet
AMSL	Above mean sea level
ANC	Adirondack Nature Conservancy
AOC	Order on Consent and Administrative Settlement
BRASS	Boquet River Association
CWA	Clean Water Act
cy	cubic yards
DBH	diameter at breast height
ERM	NYSDEC Environmental Resource Mapper
FAC	facultative
FACW	facultative-wet
FEMA	Federal Emergency Management Agency
ft	feet
Georgia-Pacific	Georgia-Pacific LLC
H:V	horizontal:vertical
Mitigation Plan	Compensatory Wetland Mitigation Plan
NWP	Nationwide Permit
NWPL	National Wetland Plant List
NYNHP	New York Natural Heritage Program



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NYSDEC	New York State Department of Environmental Conservation
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
OBL	Obligate
OHWM	Ordinary High Water Mark
RAWP	Remedial Action Work Plan
ROD	Record of Decision
RPR	Resident Project Representative
Site	Willsboro Black Ash Pond Site
SHPO	State Historic Preservation Office
sq ft	square feet
SWPPP	Storm Water Pollution Prevention Plan
Town	Town of Willsboro
USC	United States Code
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WQC	Water Quality Certification



## **1. Introduction**

Georgia-Pacific LLC (Georgia-Pacific), the applicant, and ARCADIS prepared this authorization request for Nationwide Permit (NWP) No. 38 for Cleanup of Hazardous and Toxic Waste (Federal Register, 2012) for proposed remedial action activities to stabilize a bank of the Boquet River regulated under Section 404 of the federal Clean Water Act (CWA) (33 USC 1344). This request is supported by submission of project and site information including: a location and site description, a project description, agency consultation information, a description of wetlands and waterways, the nature and extent of impacts to regulated resources, proposed avoidance and minimization methods, and conceptual compensatory wetland mitigation plan. A completed Joint Permit Application Form is provided in the preface of this report.

Approval under NWP No. 38 will allow implementation of a Remedial Action Work Plan (RAWP) (ARCADIS, 2012a) prepared in accordance with the requirements of the March 2007 Record of Decision (ROD) (NYSDEC, 2007), the August 23, 2011 Order on Consent and Administrative Settlement (AOC) Index No. A5-0771-07-11 (NYSDEC, 2011b), and the August 2011 Explanation of Significant Differences (ESD) issued by the New York State Department of Environmental Conservation (NYSDEC) (NYSDEC, 2011a). The RAWP includes construction drawings, technical specifications, a Health and Safety Plan, and a Storm Water Pollution Prevention Plan (SWPPP) as appendices. Activities proposed in the RAWP will result in unavoidable impacts to federal wetlands, as well as permanent alterations of the river bank below the Ordinary High Water Mark (OHWM).

We also request concurrence from the NYSDEC that substantive technical requirements applicable to activities typically conducted pursuant to a Water Quality Certification (WQC) under Section 401 of the CWA have been addressed by the application. Although the project is exempt from the requirement to obtain any State permits per Section I.H. of the NYSDEC AOC (NYSDEC, 2011b), we understand that obtaining a WQC or equivalent acknowledgement from the NYSDEC is a general condition of the NWP Program.



## **2. Location and General Site Description**

The Willsboro Black Ash Pond Site (Site) is located at the end of School Street in the Town of Willsboro (Town), Essex County, New York (Figure 1). The Boquet River is found on the north and west sides of the Site. Lands owned by the Adirondack Nature Conservancy (ANC) are found to the east and lands owned by the Town and the ANC are found to the south. Surrounding land use is mostly forested with scattered residential and commercial uses (Figure 2).

The 26.65 acre property was deeded to the Town in 1966 by the Georgia-Pacific Corporation. The Town wastewater treatment plant occupies a contiguous 2.7-acre parcel along the southern border of the Site. A NYSDEC fishing access parking area is located to the west of the Site and along the river and a boat launch is located on the Boquet River to the east of the Site.

### 3. Agency Coordination

Resource information pertaining to the Site was requested from the New York Natural Heritage Program (NYNHP), the NYSDEC Region 5 office, and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP). Online research was conducted on the United States Fish and Wildlife Service (USFWS) website to retrieve information on federally-listed species known to occur in the vicinity of the Site. Correspondence and associated reference material mentioned below is included in Appendix A - Agency Correspondence.

#### 3.1 Natural Heritage Program and NYSDEC

The NYSDEC Environmental Resource Mapper (ERM) (<http://www.dec.ny.gov/animals/38801.html>) was reviewed for known occurrences of threatened and endangered species or critical habitats within one mile of the Site. ERM data contains a record of rare animal(s) known to occur near the Site. ERM also identifies a floodplain forest, which is a significant natural community, as located on the east part of the Site. A letter was submitted to the NYNHP requesting additional information (ARCADIS, 2012b) and a response is pending as of the date of this permit application.

#### 3.2 U.S. Fish and Wildlife Service

The USFWS website (<http://www.fws.gov/northeast/nyfo/es/>) identifies one federally-listed species, Indiana bat, as known or likely to occur in Essex County (Appendix A). This species is also a state endangered species. According to the USFWS website, Indiana bats are known to occur in Essex County in both the summer and winter season. In the summer, Indiana bats live in wooded or semi-wooded areas and are likely to occur in both in upland forest habitats and floodplain forests. Typical roosts are in crevices of dead trees and beneath loose bark of living trees (USFWS, 2012).

During the field investigation on May 17, 2012, a habitat evaluation for Indiana bat was completed. Trees on the Site are generally early successional based on site history and visual observations during the investigation. Majority of trees on the Site are less than 12 inches in diameter at breast height (DBH). Very few dead snags and larger mature trees were seen on the Site. Trees occurring on the Site did not markedly have crevices or exfoliating bark, mainly due to tree species and age. Tree species identified during the field investigation of the Site include the following: Eastern cottonwood (*Populus deltoides*), sugar maple (*Acer saccharum*), trembling aspen (*Populus tremuloides*), green ash (*Fraxinus pennsylvanica*), red oak (*Quercus rubra*), red maple

(*A. rubrum*), basswood (*Tilia americana*), American beech (*Fagus grandifolia*), black willow (*Salix nigra*), willow (*Salix spp.*), American elm (*Ulmus americana*), gray birch (*Betula populifolia*), black cherry (*Prunus serotina*), box elder (*A. negundo*), and white pine (*Pinus strobus*).

Given the types and age of trees present on the Site, and that the project was designed to avoid tree cutting wherever possible, it is anticipated that proposed activities will have no effect in Indiana bats or Indiana bat habitat. A letter was submitted to the NYNHP requesting additional information on protected species in the vicinity of the Site (ARCADIS, 2012b) and a response is pending as of the date of this permit application.

### 3.3 NYS Office of Parks, Recreation, and Historic Preservation

The NYSOPRHP website (<http://www.oprhp.state.ny.us/nr/main.asp>) identifies the Site as within an archeologically sensitive area. Property on both sides of the Boquet River is owned by the Town, and the Town submitted a letter to NYSOPRHP, or the State Historic Preservation Office (SHPO), for proposed work on the northern (Town project) and the southern (Georgia-Pacific project) sides of the River. NYSOPRHP assigned review number 12PR01436 and named Phillip Perazio as the contact person.

Currently, the Town has had limited response from NYSOPRHP and they have requested that Georgia-Pacific contact NYSOPRHP directly for a determination on the Georgia-Pacific project (south side of the River only). Because of the documented significant and expansive prior Site disturbance, we anticipate that NYSOPRHP will determine the project will have No Effect on properties listed or eligible for listing on the National Register of Historic Places. A letter was submitted to the NYSOPRHP Historic Preservation Field Services Bureau requesting additional information (ARCADIS, 2012c) and a response is pending as of the date of this permit application.

#### **4. Project Description**

The selected remedial alternative for the Site involves excavating, reshaping, and stabilizing two separate sections of the riverbank berm, as shown on Construction Drawing G-201 (Appendix B). In a third area of the riverbank, the toe of slope will be stabilized without reshaping of the riverbank. The excavation depth and extent, and extent of the area to place riprap were selected to address the potential riverbank erosion within the boundary of the Site.

##### **4.1 Construction Sequencing**

The sequencing of primary construction methods for the selected remedy is as follows:

- Establishing erosion and sediment controls consistent with a SWPPP developed to protect the Boquet River during remedial activities.
- Clearing of select trees and vegetation that interfere with the stream bank stabilization work, as needed (mature trees and vegetation that are found to be stable may be retained).
- Consolidating black ash, excluding certain sections of the riverbank without significant river erosive forces or containing existing stable slopes, and movement of the black ash away from the river.
- Constructing the stream bank stabilization features along a portion of the riverbank (i.e., given existing conditions and forces on several segments of well-vegetated riverbank, only armoring with riprap at the toe of the slope may be required at those locations), and reinforcing the riverbank with riprap underlain with a geotextile fabric.
- Constructing a soil cover for consolidated black ash, and grading the cover to provide proper storm water control, drainage, and enhance recreational opportunities.
- Constructing an inlet/outfall structure to reconnect the remaining floodplain to the Boquet River.

#### 4.2 Reshaping of Riverbank and On-Site Consolidation of Ash Material

Riverbank material will be excavated and relocated to create a finished grade with a maximum 4H:1V slope on the inland side of the berm, and both a 3H:1V or a 2.5H:1V slope along the river side of the berm in the locations shown on Construction Drawings G-201 and G-203A (Appendix B). In some areas, berm materials may be reshaped from the river side to the inland side to create the stable slopes. The top elevations of the berm indicated on Construction Drawing G-203A have been designed based on the estimated 100-year flood elevation (Federal Emergency Management Agency [FEMA], 1992). It should be noted that in general the reshaping activities will increase the floodplain area along this section of the Boquet River.

Material excavated from the riverbank that is not required for the reshaping activities will be transported to the upland area and placed in the area shown on Construction Drawing G-202 (Appendix B). The upland area to receive such material will be proof-rolled using conventional compaction equipment (e.g., vibratory roller) prior to placing excavated riverbank material and again once the riverbank material has been placed. A minimum 12-inch layer of topsoil will be placed over the top of the consolidated material, as discussed below.

Excavation from the berm area will yield approximately 9,000 cubic yards (cy) to be placed within the upland soil cover area. The final grading plan for the soil cover area assumes that 1 ft of consolidation will occur during the proof rolling/compaction of the area and that 1 ft of topsoil will be placed above the fill. It should be noted that these are in-place measurements based on the available Site information, and may vary based on field conditions at the time of construction. The proposed grades may be revised to accommodate field conditions.

Following the removal and reshaping activities, the bottom portion of the riverbank near the toe will be covered with a non-woven geotextile and riprap to stabilize the bank, as illustrated on Construction Drawing G-202 (Appendix B). Construction Drawing G-208 provides a typical detail of the reshaped and stabilized riverbank. The upper portion of the berm will be covered with a minimum of 12-inches of topsoil and seeded. This approach is similar to the Riverbank Stabilization /Constructed Wetlands Project performed by the Town in conjunction with improvements to their wastewater treatment facility immediately downstream of this project in 2008. Additional details related to the materials and design specifications related to the

riverbank reshaping and stabilization and consolidation of the black ash are provided on the Construction Drawings provided in Appendix B.

In Georgia-Pacific's discussions with the Town and the Boquet River Association (BRASS), there is an interest in planting portions of the reshaped berm. BRASS was created to facilitate river conservation and improvement efforts. They have volunteered to place plantings in conjunction with the Town's plans for their property, once the remedial construction is complete.

Construction equipment in contact with the black ash during construction activities will be cleaned prior to moving to an area without exposed black ash and/or prior to demobilization.

#### **4.3 Inlet/Outlet Structure**

The Boquet River and remnant upland floodplain will be reconnected using an inlet/outlet structure which will have a lowered portion of the berm that exists along the river. The general configuration of the inlet/outlet structure, including the proposed location along the reconstructed berm, is illustrated on Construction Drawing G-201 (Appendix B). As indicated on the detail of the cross section of the proposed inlet/outlet structure, the sidewalls of the structure will be constructed at an approximate 3H:1V slope (Construction Drawing G-208, Appendix B). The specific elevation of the invert elevation of the structure, designed based on existing regional FEMA floodplain information, is approximately 103 ft, and a check dam will be installed with a peak elevation of 105 ft approximately 5 ft upland of the inlet/outlet structure (Construction Drawing G-208, Appendix B).

The final grading plan illustrated on the Construction Drawings (Appendix B) shows that the invert elevation of the inlet/outlet structure (i.e., 103 ft) will allow water to enter the floodplain area during high-flow conditions in the Boquet River, re-establishing a floodplain area for temporary flood storage. In addition, the design includes a check dam with a peak elevation of 105 ft to slowly return water through the inlet/outlet structure and limit the potential for erosion of upland material. Access to approximately 1.4 acre feet (ac ft) of floodplain storage will be created with this inlet/outlet structure.

#### **4.4 Upland Soil Cover Placement and Reseeding**

A minimum of a 12-inch topsoil layer will be placed over the upland area where riverbank materials were placed (i.e., in the soil cover area indicated on Construction Drawing G-202, Appendix B). The upland area will then be restored by placing seed and mulch over the topsoil in accordance with appropriate technical specifications. A cross section of the typical soil cover to be placed is illustrated on Construction Drawing G-208 (Appendix B). Wood chips will also be placed along the boundary between the soil cover area and the undisturbed area, as shown on Construction Drawing G-205 (Appendix B) based on the quantity of wood chips produced during site clearing activities. A post-construction survey will be performed following completion of the restoration activities.

#### **4.5 Water Management**

Surface water diversion methods and protection will be utilized as necessary to minimize the amount of surface water that enters the riverbank areas actively under construction during implementation of remedial activities. Water diversion methods and/or controls may include, but may not be limited to, using hay bales/silt fence or channeling potential surface flow around the active work area by placing a temporary berm (i.e., soil berm, jersey barriers). Additionally, an impermeable cover(s) will be used to prevent heavy precipitation and/or surface water from entering into the active construction area(s) when not in use, and anchored appropriately to resist wind forces.

#### **4.6 Erosion, Sedimentation, and Turbidity Controls**

Silt fencing (see Construction Drawing G-207, Appendix B) will serve as the primary method of upland erosion control and may be placed around the staging area and access road, as well as the upland construction areas (i.e., area where soil cover will be placed). The silt fencing will consist of a geotextile fence material buried a minimum of 6 inches below grade. The geotextile will be attached to wooden posts, which would be driven into the ground at a maximum of 8-foot intervals for support. The Contractor may submit alternative measures for erosion control for approval.

A turbidity control system consisting of diversion barriers and water stilling techniques will likely serve as the primary method of in-water turbidity control and as such would be placed adjacent to the active riverbank excavation areas. Additionally, turbidity curtains or silt fence may be used to provide additional turbidity control in the

event that the water stilling techniques are not found to sufficiently control the effects of construction on the turbidity levels in the Boquet River. If used, the turbidity curtains will likely consist of geotextile fabric suspended from buoys, which will be connected to the diversion barrier and installed parallel to the portions of the riverbank where construction is being performed, and may be anchored to shore or the river bottom. Additional focus will be made to operator control (i.e., limiting the fall height of the bucket, slow cycle times), and it is anticipated that the work will only be actively performed in short sections of the riverbank behind the deflection wall so as to stay within the area with the least hydraulic forces. Silt fencing may also be placed just below the toe of slope.

#### **4.7 Temporary Access Roads and Staging Area**

Access roads and staging areas will be constructed to avoid and minimize disturbances to established vegetation on the Site whenever possible. Upland areas that may provide potential access to the areas requiring remedial action were identified during the project design phase. Preferred access routes are shown on Construction Drawing G-200 (Appendix B). Other access routes may be preferred by the Contractor based on constructability in areas available. Final decisions on access routes will be made by the Contractor in cooperation with Georgia-Pacific. Access roads and other support areas will be located to limit the impacts to mature trees and other established vegetation. Temporary staging areas will be placed at the entrance to the Site, and will be sized proportionally to the amount of material to be handled in that area and will be constructed as shown on Construction Drawing G-206, in the potential location as shown on Construction Drawing G-200 (Appendix B). The temporary staging area will also be used for construction trailers and for staging equipment and vehicles. Final decisions on staging areas will be made by the Contractor in cooperation with Georgia-Pacific. Staging areas and other support areas will be located to limit the impacts to mature trees and other established vegetation.

#### **4.8 Water Column Monitoring**

Beginning shortly before the performance of in-water activities are initiated and continuing throughout the reshaping and restoration activities proposed for below the water line, the water column will be monitored for turbidity at two locations within the Boquet River, one upriver of the remediation area and one downriver of the construction area. Turbidity measurements will be made and recorded on a routine basis either by using a turbidity probe suspended at the approximate mid-depth

elevation at each of the upriver and downriver locations, or by collecting a sample from the approximate mid-depth elevation at each location.

The turbidity data will be reviewed on a daily basis during in-water construction activities to assess potential changes in water column turbidity. The downriver turbidity action level to be used during this project is as follows:

$$\text{Turbidity}_{\text{Downriver}} \geq \text{Turbidity}_{\text{Upriver}} + 50 \text{ NTU}$$

During in-water reshaping and restoration activities, evaluations of the turbidity data will be made at least once per day. In the event that the readings recorded at the downriver location exceed the turbidity action level (i.e., the upstream level plus 50 NTU), a number activities will be initiated, including the following, in order:

- Continued monitoring at the downriver location to evaluate if the prior sampling result was an anomaly or if the elevated reading was possibly a short duration event,
- Collection of additional samples from various locations within or adjacent to the active construction areas to possibly identify the potential source(s) of the elevated reading, and/or
- Review of the ongoing removal and replacement activities and modification of the condition or performance of the existing erosion and sedimentation control measures.

If these assessment activities indicate that the elevated downriver turbidity reading reflects a water quality impact that could persist or recur and that it is related to specific removal, reshaping, or replacement activities or site controls, the pertinent activities will be modified to the extent feasible, halted, or additional controls will be implemented.

#### **4.9 Flood Control**

If a storm event that may produce high-flow conditions in the Boquet River is expected, certain precautions must be taken. Equipment may be demobilized, moved out of the floodplain, and staged a safe distance from the River. Active excavation areas (i.e., those areas where riverbank stabilization has not been completed) may be covered with tarps and secured, and all personnel will leave the floodplain area.



Excavations will be restored as sections are completed unless otherwise permitted by the Engineer's Resident Project Representative (RPR). Weather forecasts will be monitored and necessary precautions will be taken based on these forecasts. If there is a chance of a significant storm event occurring, all personnel and equipment will be moved to higher ground parking areas on Site.

#### **4.10 General Site Restoration**

Restoration of the upland area will require the removal of materials placed to stabilize the roads and portions of the staging area, and riverbank fill material and topsoil will be used, as necessary, to attain final grades for appropriate drainage. Specific details regarding the restoration will be determined in the field on an as-needed basis. Equipment related to the remedial activities will be removed, and the gravel base layer placed to construct the staging area will be left in-place at the request of the Town. The other upland areas disturbed during construction will be seeded and mulched as indicated on Construction Drawing G-205 (Appendix B).

## 5. Waters of the U.S. and Wetlands

A field investigation was conducted to identify and delineate waters and wetlands potentially regulated by U.S. Army Corps of Engineers (USACE). Delineated wetland boundaries are presented on the Wetland Delineation Plan provided as Appendix C. Please note that only the USACE can make an official determination on federal wetlands jurisdiction. The following sections provide a summary of the field investigation methods and results, description of regulated resources, and a jurisdictional opinion.

### 5.1 Delineation Methods

An ARCADIS wetland scientist performed data collection and flagging of wetland boundaries within the project limits on May 17, 2012. The wetland boundaries were delineated using the technical criteria for vegetation, soils, and hydrology as in the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North central and Northeast Region, Version 2 (USACE, 2012). Wetlands that meet the three criteria are jurisdictional if they have a hydrologic connection to a larger waterbody, termed a traditionally navigable waterway (e.g., St. Lawrence River). The wetland investigation was also conducted using USACE jurisdictional guidance relative to U.S. Supreme Court decisions (i.e., “Rapanos” and “Carabell”) affecting the definition of Waters of the U.S., including wetlands, that are jurisdictional under the federal CWA (U.S. Environmental Protection Agency [USEPA] and USACE, 2008 and USACE and USEPA, 2007).

One transect was established perpendicular to the wetland boundary to document the wetland boundary location. At the sample plot location, information on vegetation, hydrology, and soils was documented and a Wetland Determination Data Form was completed. The Wetland Determination Data Forms are provided in Appendix D. Representative photographs are included in Appendix E.

Vegetation data were collected at both the upland and wetland end of each transect. Plants were identified using a variety of identification guides and keys, including Gleason and Cronquist (1991), Holmgren (1998), Newcomb (1977), and Petrides (1972). Scientific nomenclature follows Mitchell and Tucker (1997). Sample plots were evaluated using approximately a 5-foot radius for herbaceous species, a 10-foot radius for sapling/shrubs species, and a 30-foot radius for trees. The radius of the sampling area varied depending upon the extent and type of cover in the area. Visual estimates

of the percent areal cover by plant species for each vegetation layer were recorded. The dominant species for each layer was identified by ranking the species in decreasing order of percent cover and recording those species which, when cumulatively totaled, immediately exceeded 50 percent of the total cover of that layer. Additional plant species that comprised 20 percent or more of the total cover for each layer were also considered dominant species. The wetland indicator status for each dominant plant species was identified using the North American Digital Flora: National Wetland Plant List (NWPL), Version 2.4.0 (Lichvar and Kartesz, 2009). The threshold presence of wetland vegetation was indicated when more than 50 percent of the dominant species in a sample plot had a wetland indicator status of obligate (OBL), facultative-wet (FACW), or facultative (FAC).

Soils and hydrology data were collected in 18-inch-deep soil pits (soil borings) at both the upland and wetland end of each transect. Soil characteristics were noted just below the A-horizon or at 12-inches in depth whichever was shallower. The soils were described in terms of color, texture, and structure. The wetland boundary was refined on the basis of intermediate soil boreholes installed along each transect, as appropriate. An evaluation of hydrology was performed by inspecting the sample plot location for inundation, saturated soil, or evidence of standing or flowing water. The soil pits were also inspected for saturated soils or standing/seeping water. Other indicators of wetland hydrology noted include watermarks of woody vegetation, sediment deposits, drift lines, and drainage patterns.

Wetland boundaries were identified by following the topography/vegetation and soils between wetland data points and the upland data points. As necessary, intermediate data points were evaluated to confirm the wetland boundaries. Each wetland boundary was marked using pink surveyor's wetland delineation tape. Wetland flags were labeled with a distinctive alpha-numeric identifier, and numbered sequentially (W1-1, W1-2, etc.). The flag locations were surveyed and incorporated into the base mapping to identify the wetland boundary.

## **5.2 Wetland Description**

Four wetland areas meeting federal technical criteria were delineated within the project restoration site limits. Two deciduous forested wetlands were identified along the southern (inland) edge of the existing berm and two were identified along the bank of the Boquet River at the toe of the existing berm (Appendix C).

Wetland Areas 1 and 2 are predominately deciduous forested wetland with scattered areas of open herbaceous vegetation dominated by spotted jewelweed (*Impatiens capensis*), and sedges (*Carex spp.*). Dominant trees in the wetland overstory included eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*). The shrub layer of both Wetland Areas 1 and 2 contained silky dogwood (*Cornus amomum*), and American elm and green ash seedlings. All aforementioned dominant species are listed as facultative wetland species by the NWPL, version 2.4.0 (Lichvar and Kartesz, 2009). Soils in both wetland areas, as well as surrounding uplands contained black ash material. At the time of the field investigation, the wetland was generally saturated at the surface with free water occurring approximately 3 inches from the surface in a soil pit. Hydrologic evidence in the form of visible watermarks on tree trunks indicated that surface water occurs at a depth of 1 ½ to 2 ft in the lowest part of the wetland.

Wetland Areas 3 and 4 are fringe riparian wetlands consisting of herbaceous vegetation growing on shallow sand bars during low water periods. Dominant species in both wetland areas include sedges (*Carex spp.*), grasses (*Poaceae*), bulrush (*Scirpus microcarpus*), and common smartweed (*Polygonum hydropiper*). Soils consist of medium alluvial sand with some gravel. Both wetland areas are located below the OHWM and were partial inundated to the time of the field investigation.

### 5.3 Waterways Description

The Boquet River is approximately 47 miles long, originating in the Adirondack Mountains in the Town of Keene and terminating in the Town of Willsboro where it empties into Lake Champlain. The Boquet River has a watershed that is approximately 280 square miles, and is relatively steep which makes it prone to flash flooding and subsequent erosion. Downstream of the Willsboro dam and along the northern boundary of the Site, the River makes a sharp crescent turn and flows south then east toward Lake Champlain, which is approximately 2 miles east of the Site.



## 6. Potential Impacts to Wetlands and Waters of the U.S.

Unavoidable permanent wetland impacts are anticipated as a result of project construction. No temporary impacts are expected to occur from project activities. Wetland impacts are depicted on the Wetland Delineation Plan provided as Appendix C.

The following table summarizes potential impacts to each delineated wetland area:

Wetland Designation	Total Area (sq ft)	Area Disturbed (sq ft)	Area Disturbed (acres)
Area 1	7,929	1,964	0.05
Area 2	9,992	4,088	0.09
Area 3	493	493	0.01
Area 4	601	601	0.01
<b>Total</b>	<b>19,015</b>	<b>7,146</b>	<b>0.16</b>

It is anticipated that a net total of approximately 4,800 cy will be excavated from regulated waters below the OHWM (104 ft above mean sea level [AMSL]) as a result of proposed restoration work at the Site. No temporary impacts are anticipated to occur below the OHWM as a result of project construction.

## 7. Avoidance and Minimization Measures

In accordance with the CWA Section 404(b)(1) guidelines, the sequence of avoidance, minimization, and compensatory mitigation has been implemented by the applicant. Section 404(b)(1) guidelines mandate a demonstration that there are no practicable alternatives to the proposed project and its associated impacts which would have less adverse impacts on aquatic ecosystems. This section describes the avoidance and minimization measures that will be used during the construction of the project to reduce the amount of impact on regulated waters of the U.S. and wetlands.

### 7.1 Site Layout and Grading

Avoidance of jurisdictional wetlands was incorporated into the site layout during the preliminary design stages. Several alternative slope grades were analyzed to minimize impacts where practicable.

### 7.2 Construction Techniques

Sound construction techniques and best management practices will be implemented to minimize wetland impacts during construction. Construction Drawings G-206, G-207, and G-208 (Appendix B) provides typical details of the erosion and sediment control devices to be installed on the Site. A number of additional steps will be taken to minimize adverse impacts at the Site, including the following:

- Staging areas for construction equipment will be located in upland areas. Storage of chemicals, washing or refueling equipment, and mixing concrete will be conducted more than 100 ft away from wetlands and other waters of the U.S.
- Siltation barriers (fencing and/or check dams) will be placed according to the SWPPP prior to commencement of work and will be maintained until Site is stabilized.
- Precautions will be used to prevent the introduction and/or spread of invasive plant species through construction of the project. Machinery and equipment used in the construction will be completely pressure washed prior to delivery to the Site for invasive species spread prevention.
- Mulch (straw, hay, erosion control fabric, or some functional equivalent) will be used to stabilize the soil surface.



**PRE-CONSTRUCTION NOTIFICATION  
NWP 38 and Section 401 WQC  
Joint Permit Application**

Willsboro Black Ash Pond Site  
Town of Willsboro, New York

- Orange construction fencing will be placed along wetland boundaries prior to commencement of work to deter entrance by construction equipment.
- The Boquet River downstream of the Site will be monitored for signs of turbidity or siltation. Construction practices will be modified if sediment is transported into adjacent wetlands.
- Disturbed land surfaces will be stabilized upon project completion.
- Work within waters will occur during periods of low-flow conditions, whenever possible. No work will be conducted during or immediately after significant storm events.
- Compliance with all applicable General, Regional, and Special conditions will be assured.

Site preparation will include mobilization of the Contractor, clearing and grubbing, construction of access roads and staging areas, monitoring well decommissioning, and installation of erosion and sedimentation controls. Mobilization includes the establishment of work zones, surveying, project management, permits, fees, record drawings, and demobilization. To monitor construction progress, quality, design conformance, and variable field conditions and to maintain consistent communication between all parties, the Engineer's RPR will be present for full-time oversight during construction.

## 8. Conceptual Compensatory Wetland Mitigation Plan

The Willsboro Black Ash Pond Remediation Project will provide several benefits to the human and ecological communities. The Boquet River is known for the landlocked salmon fishery that occurs below the Willsboro dam and fishway (<http://www.dec.ny.gov/outdoor/31899.html>). After construction, the newly stabilized berm will function to contain the black ash at the site and limit the potential for migration of ash solids. Because the Site is located just below the dam, implementation of berm stabilization activities described in the RAWP will provide public benefit through increasing and improving recreational and fishing access. This project will provide open space near the river that will be available for public recreation. Inclusion of an inlet/outlet structure through the berm allows for re-establishment of a River/floodplain connection that will provide additional public benefit, which is described further below.

After demonstrating the avoidance and minimization sequencing of the CWA Section 404(b)(1) Guidelines and demonstrating that no practicable alternatives exist, mitigation for unavoidable impacts has been proposed through this Compensatory Wetland Mitigation Plan (Mitigation Plan).

The Mitigation Plan proposes to replace functions and values of impacted wetlands by re-establishing a connection between the Boquet River and the area behind the berm to allow for increased flood storage and flood flow alteration. Construction of an inlet/outlet structure through the berm at the invert elevation of 103 ft will allow water to enter the floodplain area during high-flow conditions in the Boquet River, re-establishing a floodplain area for flood storage. The design includes a check dam with a peak elevation of 105 ft to slowly return water through the inlet/outlet structure resulting in flood peak desynchronization, and limiting the potential for erosion of upland material. Flood storage volume is estimated to be 1.4 ac ft in the area behind the newly stabilized berm.

Appendix F (Floodplain Areal Extent) provides a plan view estimation of the areal extent of flood water behind the berm once the inlet/outlet structure installed. Maximum water depths in this area will be about 2 ft during a flood event where River water levels exceed 103 ft AMSL. Because water will slowly dissipate from behind the berm, the re-establishment of the River and this floodplain area will provide similar functions as the impacted wetland, but over an area that is more than 2 times larger than the existing wetland (Appendix F). With the added wetland hydrology,



**PRE-CONSTRUCTION NOTIFICATION  
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Joint Permit Application**

Willsboro Black Ash Pond Site  
Town of Willsboro, New York

additional wetland may potentially establish within the floodplain area as a result of reconnection to the River.

Wetland shrub vegetation will be planted on the inland side of the inlet/outlet structure as an additional compensatory measure. Species to be planted include silky dogwood (*Cornus amomum*), red osier dogwood (*C. sericea*), and speckled alder (*Alnus incana*). The purpose of these plantings is to provide wildlife habitat and forage, ensure additional soil stabilization, and add to the complexity of wetland vegetation in this area. Approximately 40 bare root plants will be installed at a rate of 2-foot on-center over a 300 square-foot area immediately adjacent to the proposed check dam shown on Construction Drawing G-202 (Appendix B). Prior to planting, existing material will be excavated and the planting area will be covered with topsoil at a minimum depth of 12 inches, maintaining the existing contour elevations.

## 9. References

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ARCADIS. 2012c. Letter to NYSOPRHP – Historic Preservation Field Services Bureau (R. Pierpont) re: cultural resources consultation. August xx, 2012.

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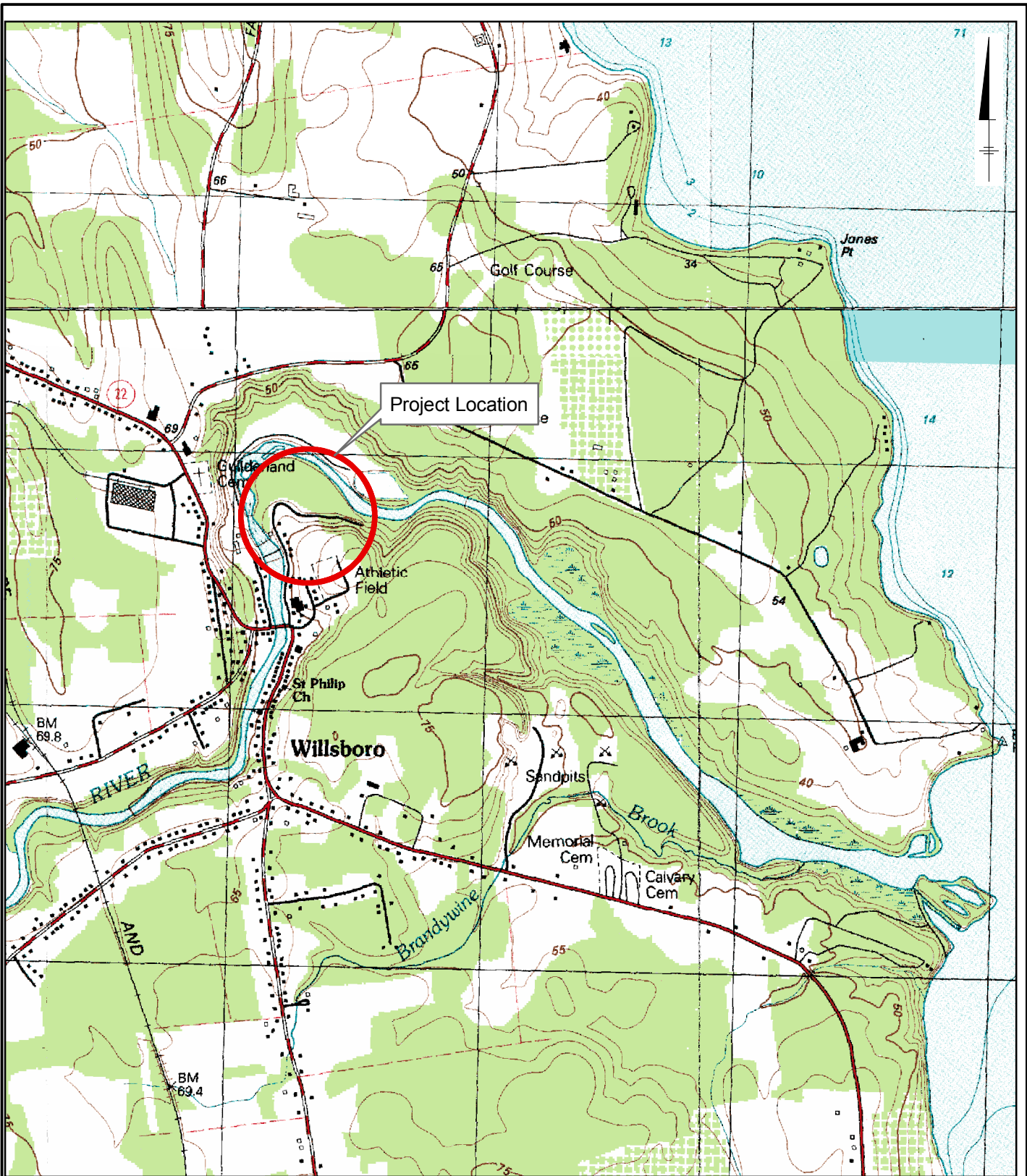
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([http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg\\_supp/NCNE\\_supp\\_v2.pdf](http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/NCNE_supp_v2.pdf))

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**Figures**



**LEGEND:**

 Project Location

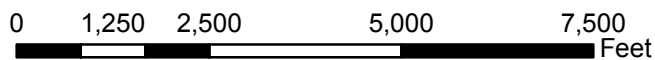
Lat: 44°22'6.98"N Long: 73°23'26.38"W

**NOTES:**

Base Map: USGS Quad at 1:25,000, UTM Zone 18, NAD 27 (Willsboro, 1980)

Source: <http://gis.ny.gov/>

1 inch = 2,500 feet



GEORGIA-PACIFIC LLC  
WILLSBORO, NEW YORK

**WILLSBORO BLACK ASH POND RESTORATION**

**Site Location Map**



FIGURE  
**1**




Project Location

GRAPHIC SCALE

CITY: Albany DIV/GROUP: DB: Sarah Browne LD: PIC: PM: TM: TR:  
 Project (Project #)  
 M:\GIS\MOD\B0066127.0001\Aerial.mxd - 8/2/2012 @ 11:54:00 AM

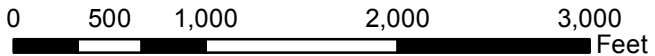
**LEGEND:**

 Project Location  
 Lat: 44°22'6.98"N Long: 73°23'26.38"W

**NOTES:**

Base Map: ArcGIS Map Server New York State 24 inch (2009)  
 Source: NYS DOP <http://services.arcgisonline.com/ArcGIS/services>

1 inch = 1,000 feet



GEORGIA-PACIFIC LLC  
 WILLSBORO, NEW YORK  
**WILLSBORO BLACK ASH POND RESTORATION**

**Aerial Photograph**



**FIGURE 2**

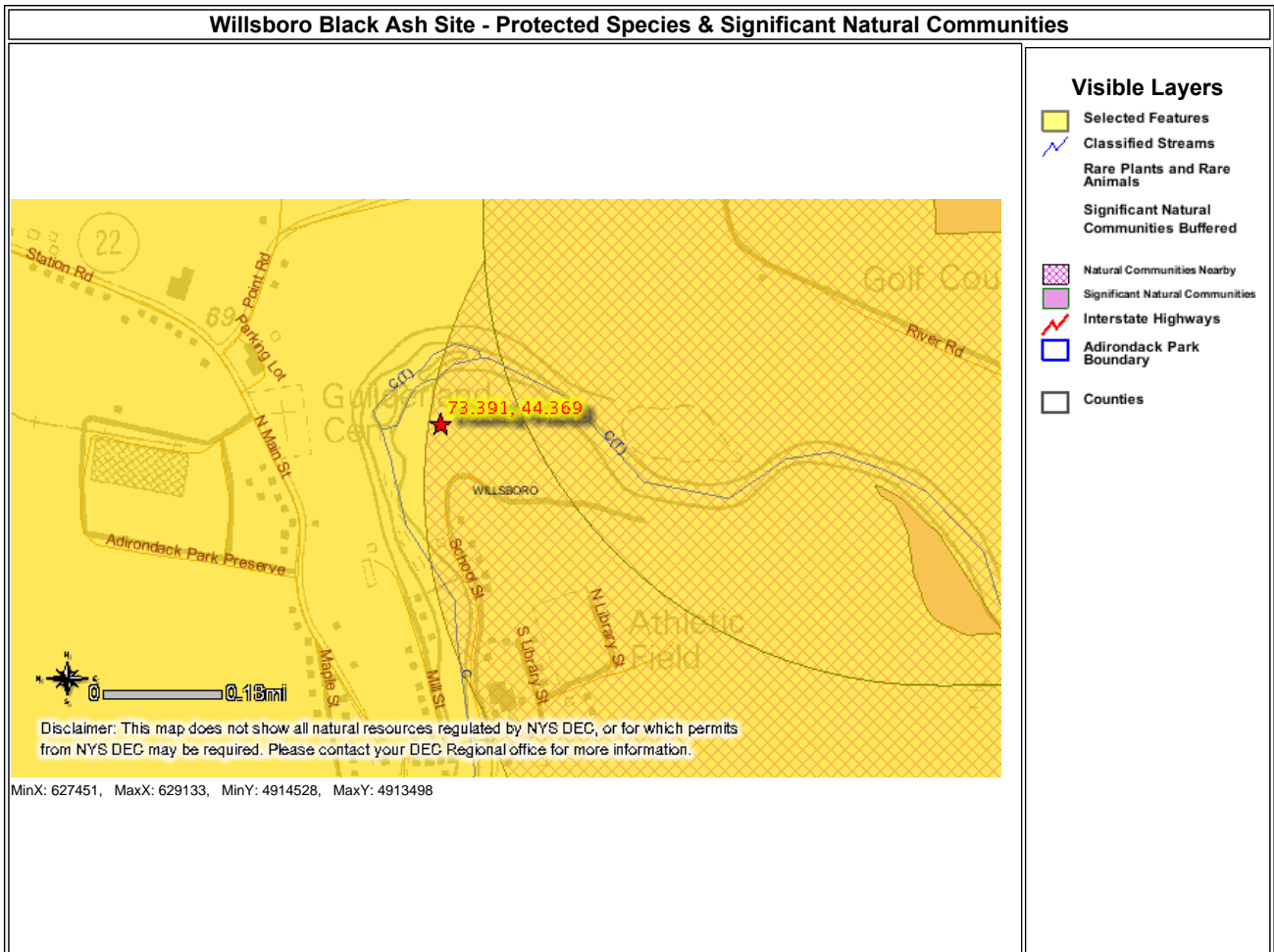


**Appendix A**

Agency Correspondence

[print page] [close window]

Please set your printer orientation to "Landscape".



Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data.

[print page]

[close window]

**The Coordinates of the point you clicked on are:**

NYTM	E : 628185	Longitude/Latitude	W : 73.391
	N : 4914119		N : 44.369

**Rare Plants and Rare Animals**

<b>This location is in the vicinity of one or more :</b>
Rare Animals

**Natural Communities Near This Location:**

Natural Community Name	Location	Ecological System
Floodplain forest	Boquet River Willsboro	Freshwater Nontidal Wetlands

**Adirondack Park Boundary**

The point you clicked on is within the Adirondack Park. For locations of State-Regulated Freshwater Wetlands within the Adirondack Park, please contact the [Adirondack Park Agency](#)

aims.adkbluIn.ADIRONBOUN
2

**USGS Quadrangle**

<b>USGS Quadrangle Name</b>
WILLSBORO

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

**Disclaimer:** If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.



## Essex County

### Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Indiana bat (W/S)	<i>Myotis sodalis</i>	E

Status Codes: E=Endangered, T=Threatened, P=Proposed, C=Candidate, D=Delisted.

W=Winter S=Summer

Information current as of: 7/19/2012

### Willsboro Black Ash Site - Archeologically Sensiti



July 17, 2012

Disclaimer: This map was prepared by the New York State Parks, Recreation and Historic Preservation National Register Listing Internet Application. The information was compiled using the most current data available. It is deemed accurate, but is not guaranteed.



Georgia-Pacific LLC  
133 Peachtree Street NE (30303-1847)  
P.O. Box 105605  
Atlanta, Georgia 30348-5605  
Telephone (404) 652-6869  
Fax (404) 654-4701  
www.gp.com

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July 30, 2012

Mr. Nicholas Conrad  
NYS Department of Environmental Conservation  
Natural Heritage Program  
625 Broadway, 5th Floor  
Albany, New York 12233-4757

Subject:  
Endangered, Threatened, and Rare Species Consultation  
Willsboro Black Ash Site Restoration Project  
Town of Willsboro, Essex County, New York

Dear Mr. Conrad:

Georgia-Pacific LLC (Georgia-Pacific), requests natural resource information for a New York State Environmental Restoration Project in the Town of Willsboro, Essex County, New York (Figure 1). Georgia-Pacific has agreed to implement a remedial action to restore the Site. The Site is located along the south side of the Boquet River just downstream (northeast) of the Willsboro Dam. Figure 2 provides an aerial photograph of the Site and vicinity. The approximate coordinates of the Site location are N 44° 22' 8.4" latitude, and E -73° 23' 27.6" longitude.

The proposed work will stabilize an existing dike in an effort to maintain a barrier between the black ash and the River. The restoration concept generally involves "laying back" slopes on both the river and land side in an effort to stabilize the existing dike.

The letter requests information on the potential presence of state and federally-listed endangered, threatened, or rare species within a one-mile radius of the project perimeter. We also request information on any significant habitats or natural communities that may be near the proposed project.

Thank you for your assistance. Should you have any questions or require any further information, please feel free to call me at (908) 672-4008.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Paul A. Montney'.

Paul A. Montney  
Director, Field Operations  
Georgia-Pacific LLC

Attachments

cc: Lance Ketcham, P.E., ARCADIS



Georgia-Pacific LLC  
133 Peachtree Street NE (30303-1847)  
P.O. Box 105605  
Atlanta, Georgia 30348-5605  
Telephone (404) 652-6869  
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July 30, 2012

Ms. Ruth Pierpont, Director  
Historic Preservation Field Services Bureau  
New York State Office of Parks, Recreation  
and Historic Preservation  
Peebles Island, Resource Center  
Delaware Avenue  
Cohoes, New York 12047

Subject:  
Cultural Resources Consultation  
Willsboro Black Ash Site Restoration Project  
Town of Willsboro, Essex County, New York

Dear Ms. Pierpont:

Georgia-Pacific LLC (Georgia-Pacific), requests cultural resource information for a New York State Environmental Restoration Project in the Town of Willsboro, Essex County, New York (see Figure 1). Georgia-Pacific has agreed to implement a remedial action required by the New York State Department of Environmental Conservation (NYSDEC) to restore the Site. The Site is located along the south side of the Boquet River just downstream (northeast) of the Willsboro Dam. Figure 2 provides an aerial photograph of the Site and vicinity. The approximate coordinates of the Site location are N 44° 22' 8.4" latitude, and E -73° 23' 27.6" longitude.

A completed Project Review Cover Form is provided with this letter for your use (Attachment 1). Representative photographs are also enclosed for your review (Attachment 2).

From 1884 until 1964, the Champlain Fiber Company, later known as the Willsboro Pulp Mill, operated a pulp mill on the north side of the Boquet River in Willsboro. During the paper pulp mill operations, a black ash material was managed on the south side of the River within a crescent-shaped dike approximately 12 to 15 feet high and 900 feet long and 400 feet wide along the southern river bank. Over time, the dike constructed to retain the waste has eroded away in some locations exposing the ash.

Proposed Construction Drawings are attached for review (see Sheet G-100 through 102 and G-200 through 208) (Attachment 3). The primary construction methods for Site restoration are as follows:

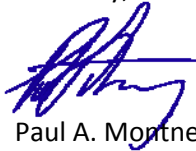
- Establishing erosion and sediment controls consistent with a Storm Water Pollution Prevention Plan developed to protect the Boquet River during remedial activities.
- Clearing of trees and vegetation that interfere with the stream bank stabilization work, as needed (mature trees and vegetation that are found to be stable may be retained).

- Consolidating black ash, excluding certain sections of the riverbank without significant river erosive forces, and movement of the black ash away from the river.
- Grading of the Site to mitigate the infiltration of water by diverting storm water flow around the black ash and reducing the potential for ponding.
- Constructing the stream bank stabilization features along a portion of the riverbank (i.e., given existing conditions and forces on several segments of well-vegetated riverbank, only armoring with riprap at the toe of the slope may be required at those locations), and reinforcing the riverbank with riprap underlain with a geotextile fabric.
- Constructing a soil cover for consolidated black ash, and grading the cover to provide proper storm water control, drainage, and enhance recreational opportunities.
- Constructing an inlet/outfall structure to reconnect the remaining floodplain to the Boquet River.

This letter requests a determination from your office that the proposed activities will not have adverse effect on historic properties listed, determined to be eligible, or potentially eligible for listing on the National Register of Historic Places.

Thank you for your assistance. Should you have any questions or require any further information, please feel free to call me at (908) 672-4008.

Sincerely,



Paul A. Montney  
Director, Field Operations  
Georgia-Pacific LLC

Attachments

cc: Lance Ketcham, P.E., ARCADIS



**Appendix B**

Construction Drawings



CITY: SYRACUSE, NY DIV/GRUP: ENV/CAD DB:K.SARTORI PIC: D.COWIN PM/TM: D.PENNIMAN LYN:ON--OFF--REF--  
 G:\ENV\CAD\SYRACUSE\ACT\B006127000000001\DWG\CONTRACT\G100.dwg LAYOUT: G-100 SAVER: 8/22/12 9:19 AM ACADVER: 18.1S (LMS TECH) PAGESSETUP: DWG TO PDF FULL PLOTSTYLETABLE: PLOTCONT.CTB PLOTTED: 8/20/12 1:28 PM BY: DECLERCO, BRIAN  
 XREFS: IMAGES: PROJECTNAME: stamp\_graveling-ny.dwg  
 86127X00

**GENERAL NOTES:**

1. BASE MAP DEVELOPED FROM AN INSTRUMENT SITE SURVEY COMPLETED BY THE ASSOCIATES ON NOVEMBER 22, 2011.
2. THE BASE MAP IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE) AND VERTICALLY TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ELEVATIONS AND CONTOURS SHOWN REFERENCE NAVD88-GEOD09.
3. NORTH ARROW AS SHOWN INDICATES GRID NORTH REFERENCED TO NAD83 AND PROJECTED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM (EAST ZONE).
4. THE REFERENCE HORIZONTAL AND VERTICAL CONTROL STATION IS A COOPERATIVE BASE NETWORK CONTROL STATION MONUMENT STAMPED "KEESVILLE". KEESVILLE IS AN A ORDER HORIZONTAL AND A SECOND ORDER CLASS 2 CONTROL MONUMENT ESTABLISHED BY THE NATIONAL GEODETIC SURVEY. ELEVATION = 490.87'.
5. CONTOURS SHOWN ON THE BASE MAP WERE GENERATED FROM A DIGITAL TERRAIN MODEL UTILIZING AUTODESK LAND DESKTOP SURVEYING AND ENGINEERING SOFTWARE.
6. THE SLOPE ALONG THE SOUTHERLY EDGE OF THE EXPOSED BLACK ASH AREA IS MOSTLY COMPRISED OF ROOT BALLS, CONCRETE, TRASH, CONSTRUCTION MATERIALS AND OTHER DEBRIS.
7. THE STATIONING SHOWN AT THE CROSS SECTIONS PROTRUDING INTO THE RIVER ARE APPROXIMATE AND FOR REFERENCE ONLY. THE CROSS SECTIONS ARE MARKED BY LATH SET DURING THE SURVEY MARKED WITH THE APPROPRIATE STATION. THERE WAS NO BASELINE ESTABLISHED DURING THE SURVEY.
8. THE CONTRACTOR WILL BE PRESENT AT A PRE-CONSTRUCTION CONFERENCE BEFORE THE WORK IS STARTED.
9. THE LOCATION OF ALL STRUCTURES/UTILITIES SHOWN IS APPROXIMATE. ADDITIONAL SITE FEATURES MAY BE PRESENT THAT ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
10. UNLESS NOTED OTHERWISE, ALL STRUCTURES AND SITE FEATURES, INCLUDING MONITORING WELLS, FENCING, AND ESTABLISHED VEGETATION SHALL BE PROTECTED. VEGETATION EXISTING WITHIN THE LIMITS OF THE EXPOSED BLACK ASH AREA WILL BE CLEARED.
11. LOCATIONS OF ALL PHYSICAL OBSTRUCTIONS AND DEBRIS ARE APPROXIMATE. ONLY KNOWN OBSTRUCTIONS ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL OBSTRUCTIONS WITHIN THE WORK AREA.
12. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SURVEY CONTROL DURING THE PERFORMANCE OF WORK.
13. THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEPARATELY BOUND PROJECT IMPLEMENTATION PLANS AND PERMITS.
14. FILL AND STONE GRADATIONS ARE PROVIDED IN TECHNICAL SPECIFICATIONS.
15. THE CONTRACTOR WILL AT ALL TIMES KEEP THE CONSTRUCTION AREAS FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH; AND PRIOR TO COMPLETION OF THE WORK, REMOVE ANY RUBBISH FROM THE PREMISES AND ALL TOOLS, EQUIPMENT AND MATERIALS.
16. THE CONTRACTOR WILL MAINTAIN SUITABLE TRAFFIC SAFETY SIGNS, EQUIPMENT, AND MANPOWER TO PROVIDE TRAFFIC CONTROL. THE CONTRACTOR WILL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY TO MAINTAIN THE ROADWAYS FREE OF DIRT AND/OR DEBRIS RESULTING FROM PROJECT OPERATIONS.
17. BENCHMARKS: THE CONTRACTOR WILL USE THE BASELINE AND BENCHMARK LOCATIONS NOTED IN THE CONTRACT DRAWINGS AS THE CONTROLLING HORIZONTAL AND VERTICAL MONUMENTS FOR CONSTRUCTION, RESPECTIVELY.
18. PRIOR TO CONSTRUCTION AND UPON COMPLETION, THE CONTRACTOR WILL CONDUCT A GENERAL CLEANUP OF THE SITE TO INCLUDE FLOATING DEBRIS, DEBRIS WASHED ASHORE, REFUSE, AND OTHER ITEMS AND WILL PROPERLY DISPOSE OF ALL DEBRIS.
19. REMOVE AND STOCKPILE EXISTING RIPRAP FROM SHORELINE AS NECESSARY TO ACCESS THE WORK AREA AND COMPLETE WORK. REPLACE RIPRAP AFTER CONSTRUCTION IS COMPLETE.
20. THE EXISTING FENCE WILL BE REMOVED AS NECESSARY TO ACCESS THE WORK AREA. ANY FENCE REMOVED WILL BE REPLACED DURING RESTORATION ACTIVITIES.
21. FINAL PLACEMENT OF EROSION AND SEDIMENTATION CONTROLS WILL DEPEND ON THE CONTRACTOR'S SELECTED ACCESS AND STAGING LAYOUTS. AT A MINIMUM, SILT FENCE WILL BE PLACED ALONG DOWNGRADIENT SIDE OF ALL ACCESS ROADS, AND AROUND ALL STAGING/DECONTAMINATION AREAS. THE CONTRACTOR IS RESPONSIBLE FOR ANY SEDIMENT AND EROSION CONTROL MEASURES REQUIRED BY REGULATORY AUTHORITY REGARDLESS OF WHETHER OR NOT THEY ARE EXPLICITLY STATED IN THE CONTRACT DOCUMENTS.
22. THE CONTRACTOR WILL INSTALL AND MAINTAIN TURBIDITY CONTROL THROUGHOUT REMEDIAL ACTIVITIES.
23. THE CONTRACTOR WILL TAKE DAILY PRECAUTIONS TO MINIMIZE MATERIAL RELEASES INTO THE RIVER DURING CONSTRUCTION.
24. REMOVED MATERIAL PLACEMENT: GEORGIA-PACIFIC LLC WILL NOT APPROVE DEPOSITION OF REMOVED MATERIAL IN PLACES OTHER THAN THOSE DESIGNATED ON THE DRAWINGS OR OTHERWISE PREVIOUSLY APPROVED, AND MAY REQUIRE THE CONTRACTOR TO MOVE SUCH MISPLACED MATERIAL AT HIS OWN EXPENSE. WHEN NOTIFIED BY GEORGIA-PACIFIC LLC, EITHER TO HIS OFFICE OR HIS FOREMAN AT THE JOB SITE, OF ANY VIOLATION OF THE FOREGOING PROVISIONS, THE CONTRACTOR WILL TAKE IMMEDIATE CORRECTIVE ACTION. SHOULD THE CONTRACTOR REFUSE OR FAIL TO PROMPTLY CORRECT SUCH VIOLATION, GEORGIA-PACIFIC LLC MAY ORDER ALL OR PART OF THE WORK STOPPED PENDING CORRECTION. THE CONTRACTOR WILL NOT CLAIM OR BE ENTITLED TO AN EXTENSION OF CONTRACT COMPLETION TIME, EXCESS COSTS OR DAMAGES DUE TO TIME LOST BY SUCH A STOP WORK ORDER.
25. RESTORE NEW ACCESS POINTS TO EXISTING CONDITIONS AT A MINIMUM. RESTORE DISTURBED AREAS WITH IN-KIND PLANTINGS, AS NECESSARY.
26. UPON COMPLETION OF THE CONSTRUCTION, THE CONTRACTOR WILL LEAVE THE WORK AREA IN A CLEAN, NEAT AND ORDERLY CONDITION. DISTURBED AREAS WILL BE RESTORED IN ACCORDANCE WITH CONTRACT DRAWINGS AND APPLICABLE TECHNICAL SPECIFICATIONS.
27. THE BOUNDARY OF THE SITE WORK ZONES WILL BE DELINEATED BY THE CONTRACTOR WITH CAUTION TAPE, SAFETY FENCING, TRAFFIC CONES, BARRICADES, SIGNS, OR OTHER MEANS AS NECESSARY TO EFFECTIVELY IDENTIFY THE BOUNDARIES. THE SIZE AND BOUNDARY OF THE EXCLUSION ZONE WILL BE MODIFIED DAILY (OR MORE FREQUENTLY AS NEEDED) TO DELINEATE THE AREA AS REQUIRED TO SAFELY ACCOMPLISH THE DAY'S PLANNED ACTIVITIES.
28. THE CONTRACTOR SHALL, TO THE EXTENT PRACTICABLE, COMPLETE ALL IN-WATER ACTIVITIES BY SEPTEMBER 15, 2012. ALL IN-WATER ACTIVITIES MUST BE COMPLETED BY OCTOBER 1, 2012, UNLESS SPECIAL PERMISSION IS REQUESTED FROM AND APPROVED BY THE OWNER. UPLAND WORK MAY PROCEED PAST THESE DATES.
29. IF CONSTRUCTION ACTIVITIES (IN-WATER OR UPLAND ACTIVITIES) CONTINUE BEYOND SEPTEMBER 15, 2012, THE CONTRACTOR MUST INSTALL SIGNS TO DIRECT ANGLERS TO THE APPROPRIATE LOCATION(S) TO OBTAIN ACCESS TO THE BOQUET RIVER WITHOUT CROSSING WITHIN THE LIMITS OF THE CONSTRUCTION SITE, AS ESTABLISHED BY THE CONTRACTOR. EVERY ATTEMPT SHALL BE MADE BY THE CONTRACTOR TO PROHIBIT PERSONS NOT AFFILIATED WITH THE CONSTRUCTION ACTIVITIES FROM TRESPASSING ON TO THE CONSTRUCTION SITE.
30. IF SEVERE WEATHER IS PREDICTED IN THE FORECAST, THE CONTRACTOR SHALL MOVE ALL CONSTRUCTION VEHICLES INTO A DESIGNATED PARKING AREA ON HIGHER GROUND AND AWAY FROM THE RIVERBANK. IN ADDITION, IF THE SEVERE WEATHER IS PREDICTED TO OCCUR OUTSIDE OF REGULARLY-SCHEDULED WORK HOURS, AT THE END OF THE WORK DAY THE CONTRACTOR SHALL MOVE ALL CONSTRUCTION VEHICLES INTO SUCH DESIGNATED PARKING AREA FOR OVERNIGHT STORAGE.
31. THE CONTRACTOR SHALL SUFFICIENTLY CLEAN ALL CONSTRUCTION EQUIPMENT PRIOR TO MOBILIZING SUCH EQUIPMENT ON TO THE SITE, AND SHALL EMPLOY ALL BEST MANAGEMENT PRACTICES NECESSARY TO PREVENT THE TRANSPORT OF INVASIVE SPECIES ON TO THE SITE, AND SPECIFICALLY IN TO THE WETLAND AREA ON THE SITE.

**ABBREVIATIONS:**

- BM - BENCHMARK
- EL - ELEVATION
- HDPE - HIGH DENSITY POLYETHYLENE
- H:V - HORIZONTAL:VERTICAL
- MAX - MAXIMUM
- NAD83 - NORTH AMERICAN DATUM OF 1983
- NGVD29 - NATIONAL GEODETIC VERTICAL DATUM OF 1929
- PDI - PRE-DESIGN INVESTIGATION
- STA - STATION
- TYP. - TYPICAL

SURVEY BENCHMARKS			
LOCATION	NORTHING	EASTING	ELEVATION
BM-1	2019144.2681	782163.0148	119.51
BM-2	2018814.0094	782825.1409	105.53

**BM-1:**  
 YELLOW BENCHMARK SET IN THE EASTERLY FACE OF A 2 BOLE 28-INCH ASPEN TREE, LOCATED APPROXIMATELY 80' SOUTHERLY OF THE SOUTHERLY EDGE OF THE BOQUET RIVER, AND APPROXIMATELY 18' NORTHERLY OF THE MOST NORTHERLY END OF THE EXPOSED BLACK ASH. ELEVATION = 119.51'

**BM-2:**  
 RAILROAD SPIKE FOUND IN THE SOUTHERLY FACE OF A 20-INCH ASPEN TREE, LOCATED APPROXIMATELY 55 FEET SOUTHERLY OF THE SOUTHERLY EDGE OF THE BOQUET RIVER, AND ALSO LOCATED APPROXIMATELY 135 FEET NORTHERLY OF THE EASTERLY END OF THE EXPOSED BLACK ASH AREA. ELEVATION = 105.53'

**LEGEND:**

- CONTOUR MAJOR
- CONTOUR MINOR
- EXISTING FENCE LINE
- WOODEN FENCE
- TURBIDITY CONTROLS **3** G-207
- EROSION AND SEDIMENT CONTROL **1** G-207 **2** G-207
- PROPOSED TEMPORARY ACCESS PAD **1** G-206
- PROPOSED TEMPORARY STAGING AREA **2** G-206
- PROPOSED TEMPORARY LOCATION FOR CONSTRUCTION TRAILERS/SUPPORT FACILITIES
- PROPOSED EQUIPMENT CLEANING AREA **3** G-206
- RIVERBANK STABILIZATION AREA
- RIPRAP
- UPLAND MULCH AND SEED
- RIVERBANK STABILIZATION AREA WITH SOIL COVER, MULCH AND SEED
- WOOD CHIP AREA
- GRAVEL AREA
- RIVERBANK STABILIZATION AREA WITH RIPRAP
- POTENTIAL ACCESS ROAD **4** G-206
- EDGE OF WATER
- LIMITS OF EXPOSED BLACK ASH
- DRIP LINE OF MATURE WOODS
- EDGE OF GRAVEL
- EDGE OF TREES/BRUSH
- PDI-B-3 SOIL BORING
- MW-04 MONITORING WELL (MW)
- TP-10 TEST PIT (TP)
- WETLAND DELINEATION BOUNDARY
- WETLAND DELINEATION FLAG NUMBER

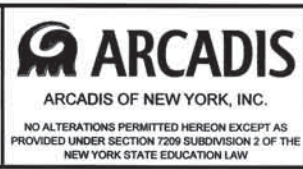
NOT TO SCALE

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name  
**MARK O. GRAVELDING**  
 Professional Engineer's No.  
 069985-1  
 State NY Date Signed 8/3/12 Project Mgr. LSK  
 Designed by LJP Drawn by BKD Checked by LSK



GEORGIA-PACIFIC LLC • WILLSBORO, NEW YORK  
 WILLSBORO BLACK ASH POND  
 FINAL REMEDIAL ACTION WORK PLAN

**GENERAL NOTES, LEGEND, AND ABBREVIATIONS**

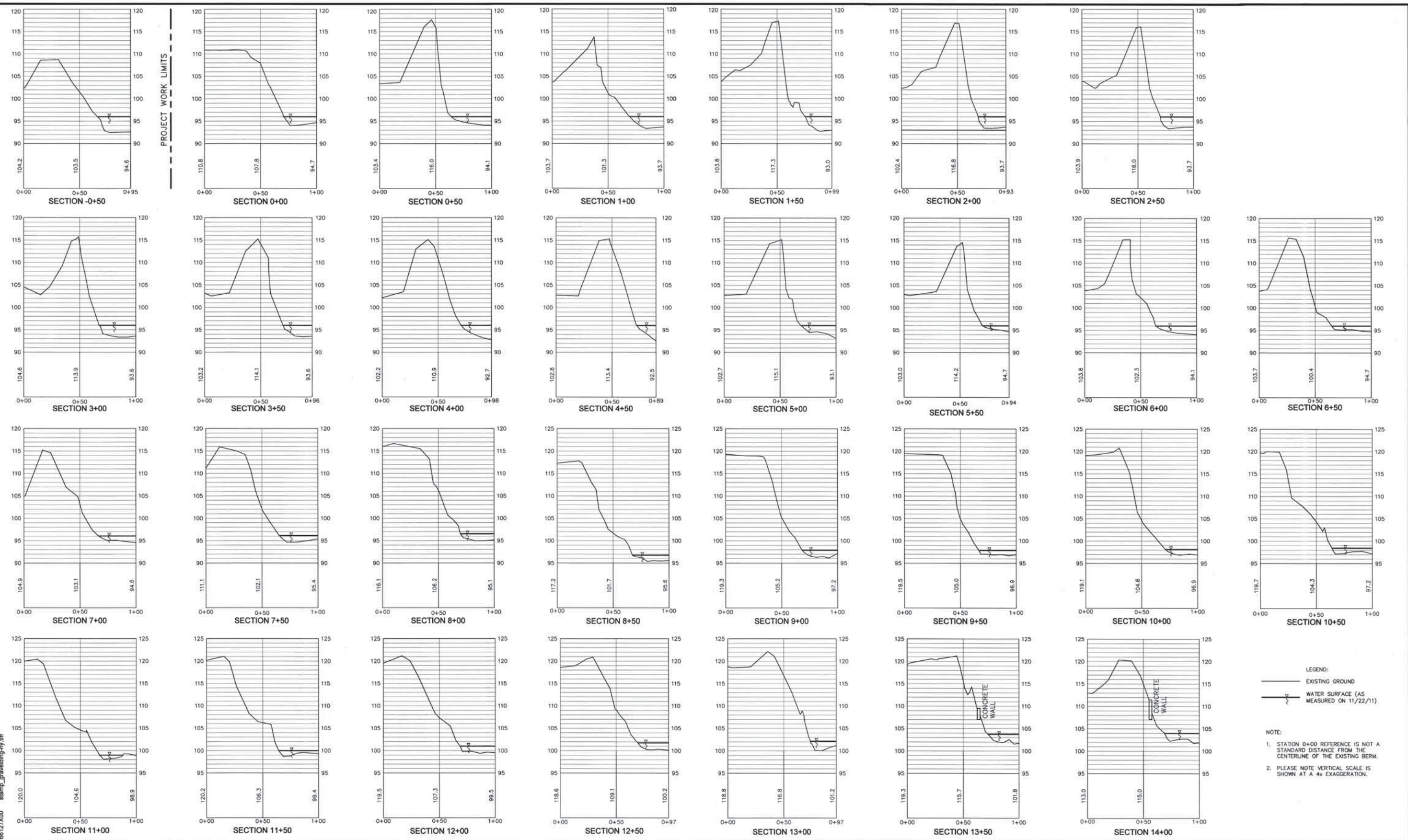
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ARCADIS Project No.  
 B006127.0001.00001  
 Date  
 AUGUST 2012  
 ARCADIS OF NEW YORK  
 6723 TOWPATH ROAD  
 P.O. BOX 66  
 SYRACUSE, NEW YORK  
 TEL. 315.446.9120

**G-100**

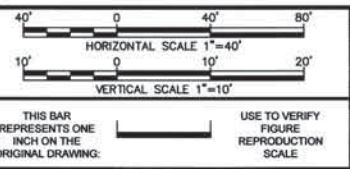


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**LEGEND:**  
 ——— EXISTING GROUND  
 ——— WATER SURFACE (AS MEASURED ON 11/22/11)

**NOTE:**  
 1. STATION 0+00 REFERENCE IS NOT A STANDARD DISTANCE FROM THE CENTERLINE OF THE EXISTING BERM.  
 2. PLEASE NOTE VERTICAL SCALE IS SHOWN AT A 4x EXAGGERATION.



No.	Date	Revisions	By	Ckd

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**MARK O. GRAVELDING**  
 Professional Engineer's No.  
 069985-1  
 State: NY Date Signed: 8/3/12 Project Mgr.: LSK  
 Designed by: LJP Drawn by: BKD Checked by: LSK



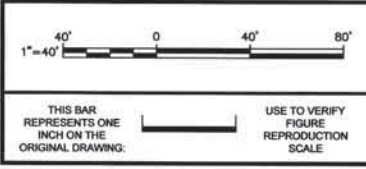
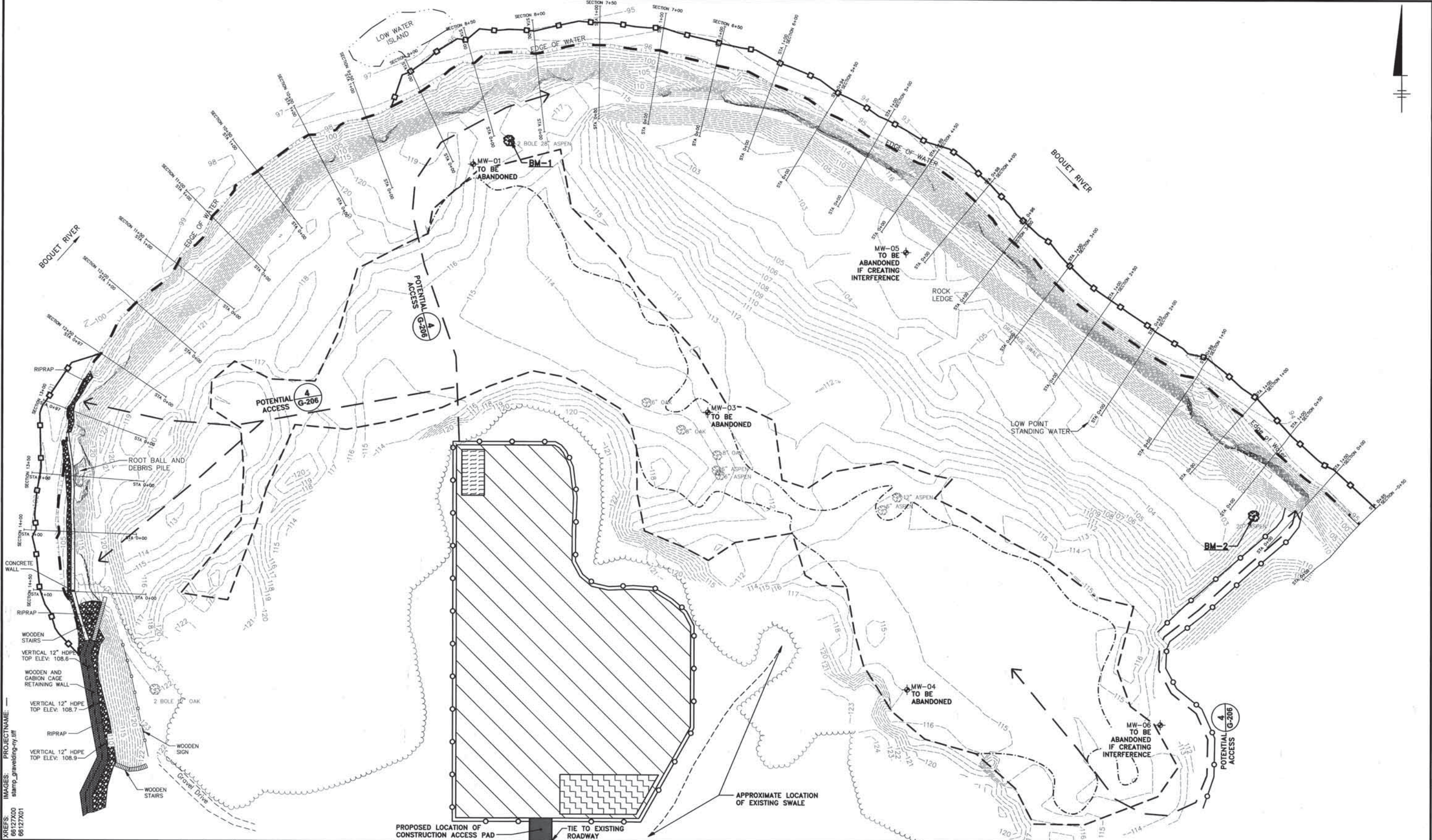
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**WILLSBORO BLACK ASH POND**  
 FINAL REMEDIAL ACTION WORK PLAN  
**CROSS SECTIONS - EXISTING CONDITIONS**  
 GENERAL

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**G-102**

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Professional Engineer's Name  
**MARK O. GRAVELDING**  
Professional Engineer's No.  
069985-1  
State: NY  
Date Signed: 8/3/12  
Project Mgr.: LSK  
Designed by: LJP  
Drawn by: BKD  
Checked by: LSK



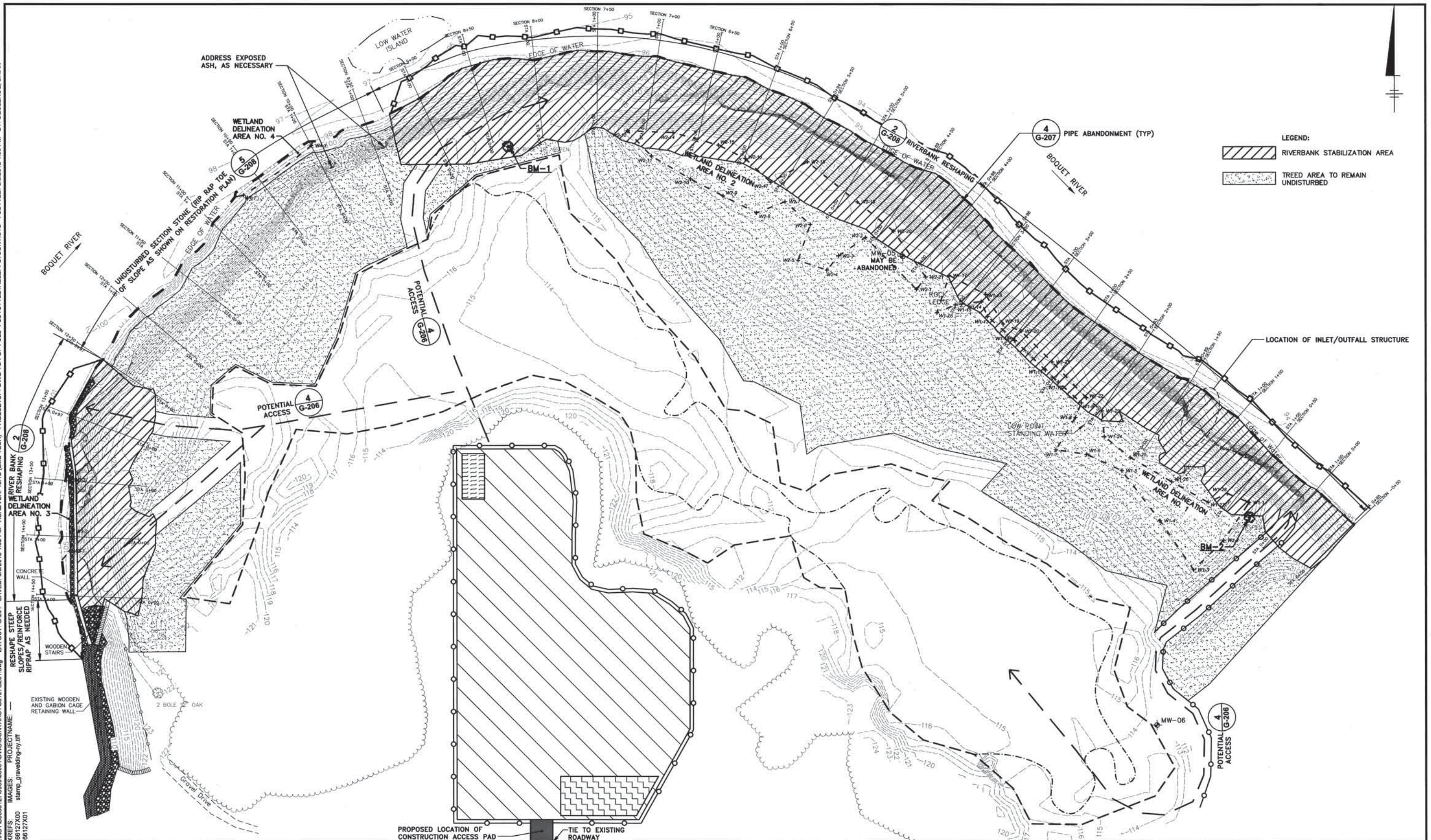
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WILLSBORO BLACK ASH POND  
FINAL REMEDIAL ACTION WORK PLAN  
**SITE DEVELOPMENT PLAN**  
GENERAL

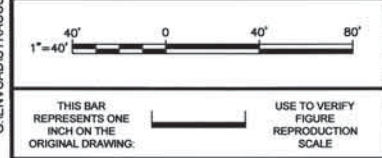
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**G-200**

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LEGEND:  
 RIVERBANK STABILIZATION AREA  
 TREED AREA TO REMAIN UNDISTURBED



No.	Date	Revisions	By	Ckd

Professional Engineer's Name  
**MARK O. GRAVELDING**  
 Professional Engineer's No.  
 069985-1  
 State NY Date Signed 8/3/12 Project Mgr. LSK  
 Designed by LJP Drawn by BKD Checked by LSK



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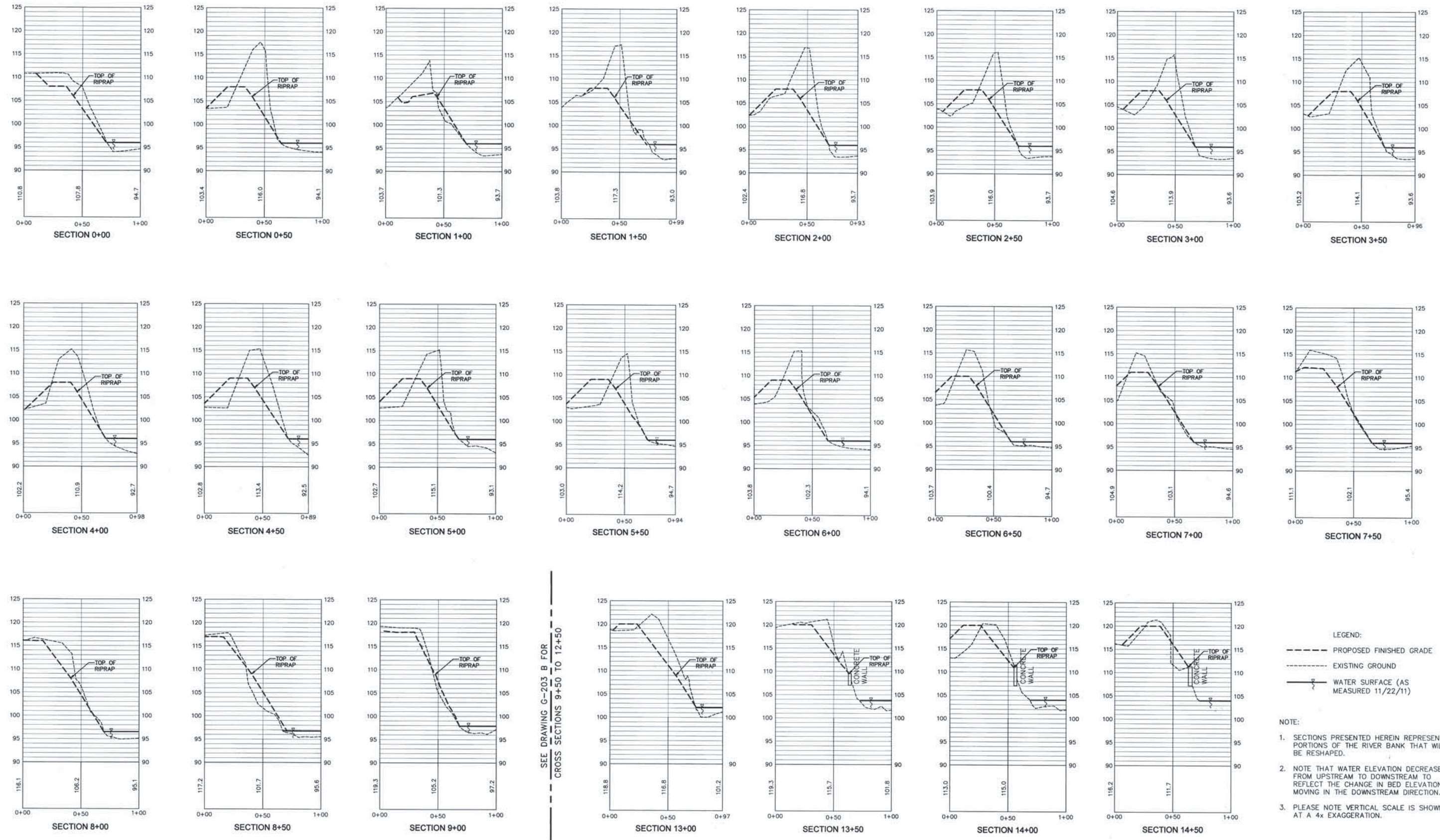
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 WILLSBORO BLACK ASH POND  
 FINAL REMEDIAL ACTION WORK PLAN  
**EXCAVATION PLAN**  
 GENERAL

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**G-201**



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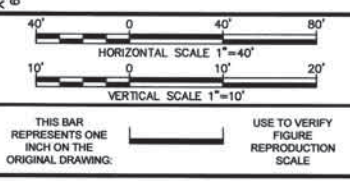
**LEGEND:**

- PROPOSED FINISHED GRADE
- - - EXISTING GROUND
- ~ WATER SURFACE (AS MEASURED 11/22/11)

**NOTE:**

- SECTIONS PRESENTED HEREIN REPRESENT PORTIONS OF THE RIVER BANK THAT WILL BE RESHAPED.
- NOTE THAT WATER ELEVATION DECREASES FROM UPSTREAM TO DOWNSTREAM TO REFLECT THE CHANGE IN BED ELEVATION MOVING IN THE DOWNSTREAM DIRECTION.
- PLEASE NOTE VERTICAL SCALE IS SHOWN AT A 4x EXAGGERATION.

SEE DRAWING G-203 B FOR CROSS SECTIONS 9+50 TO 12+50



No.	Date	Revisions	By	Ckd

Professional Engineer's Name  
**MARK O. GRAVELDING**  
Professional Engineer's No.  
069985-1

State: NY    Date Signed: 8/3/12    Project Mgr.: LSK  
Designed by: LJP    Drawn by: BKD    Checked by: LSK



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WILLSBORO BLACK ASH POND  
FINAL REMEDIAL ACTION WORK PLAN

**CROSS SECTIONS - RESHAPED CONDITIONS  
STATIONS 0+00 TO 9+00 AND 13+00 TO 14+50**

GENERAL

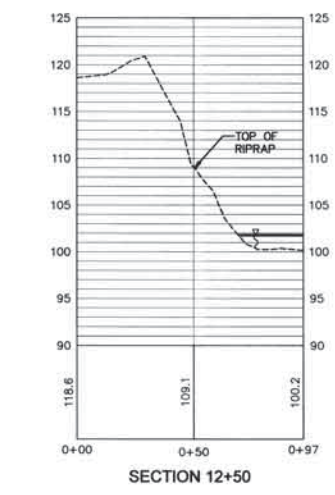
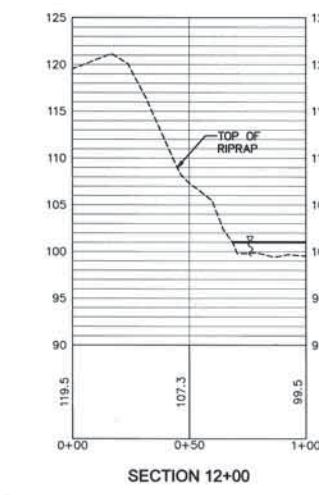
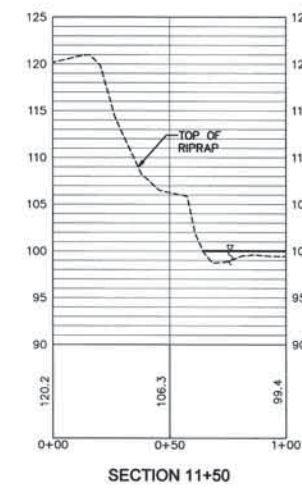
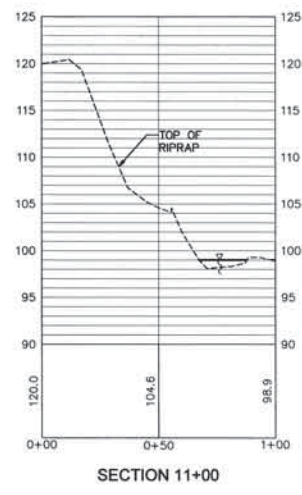
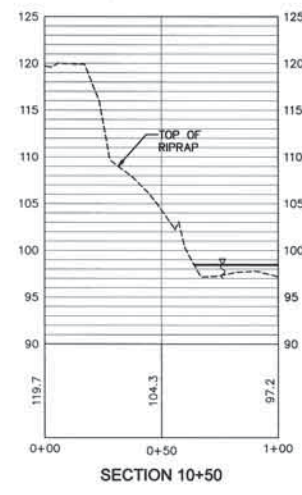
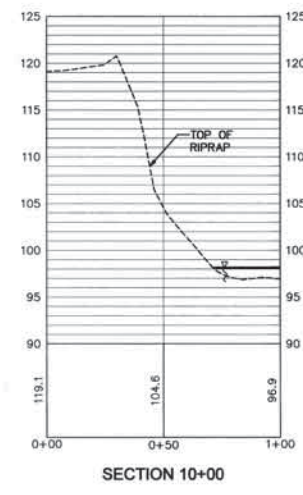
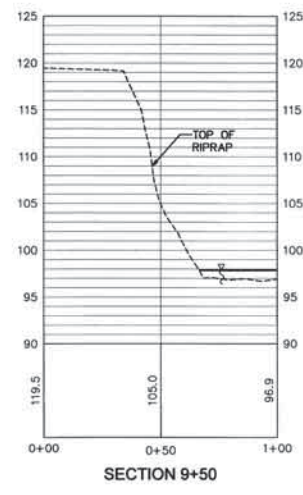
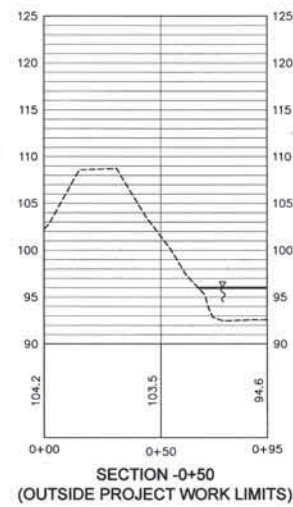
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Date  
AUGUST 2012

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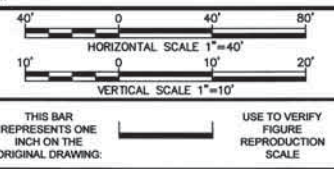
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**LEGEND:**  
 - - - - - EXISTING GROUND  
 ——— WATER SURFACE (AS MEASURED 11/22/11)

- NOTE:**
- SECTIONS PRESENTED HEREIN REPRESENT PORTIONS OF THE RIVER BANK THAT WILL BE UNDISTURBED, WITH THE EXCEPTION OF PLACEMENT OF RIPRAP AS INDICATED.
  - NOTE THAT WATER ELEVATION DECREASES FROM UPSTREAM TO DOWNSTREAM TO REFLECT THE CHANGE IN BED ELEVATION MOVING IN THE DOWNSTREAM DIRECTION.
  - PLEASE NOTE VERTICAL SCALE IS SHOWN AT A 4x EXAGGERATION.



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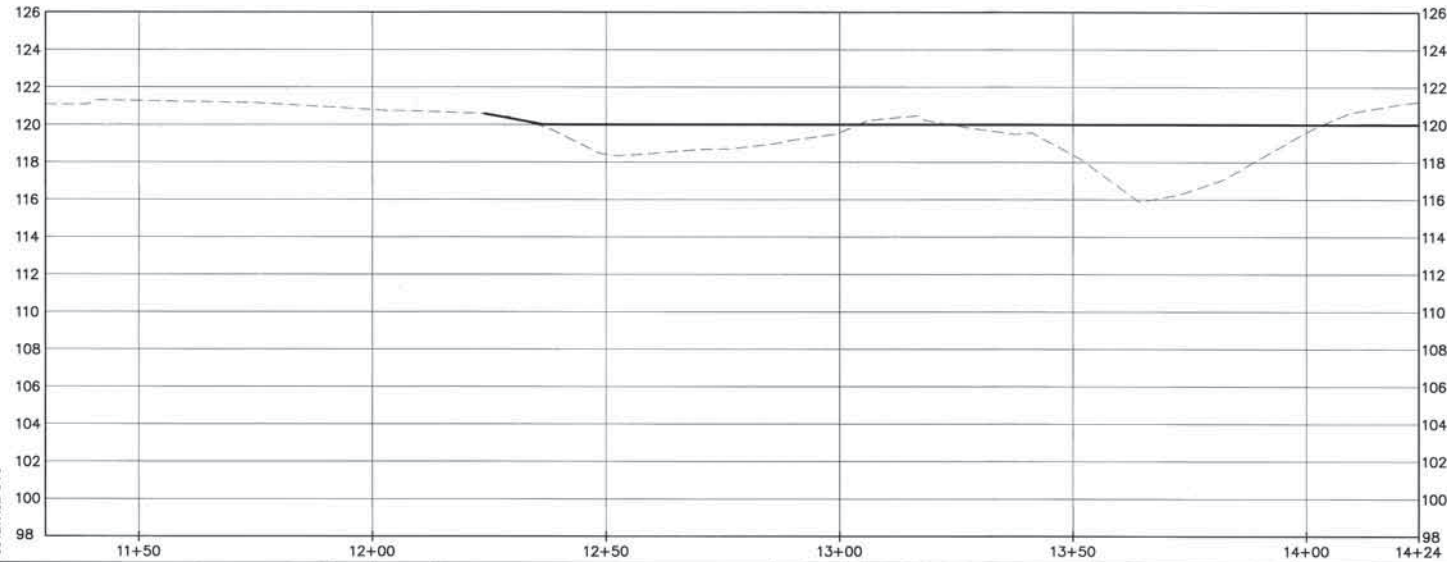
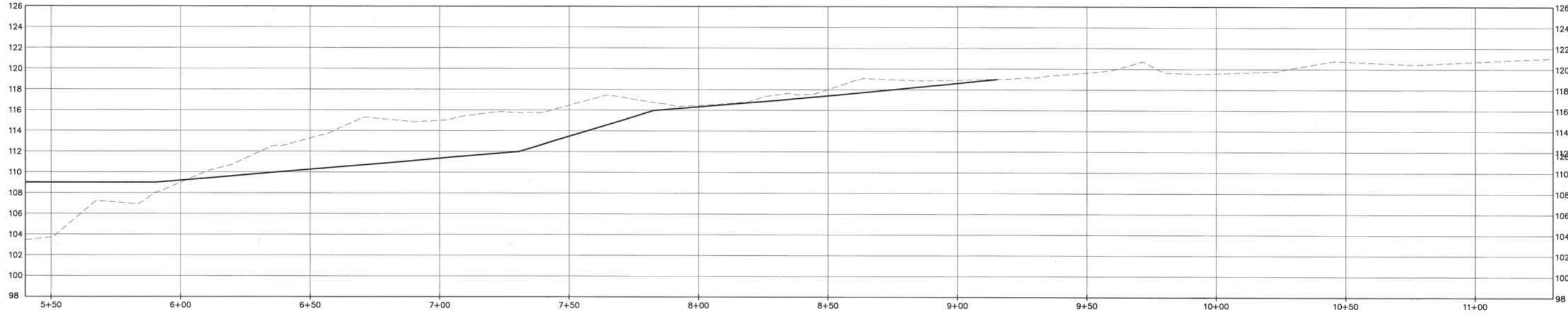
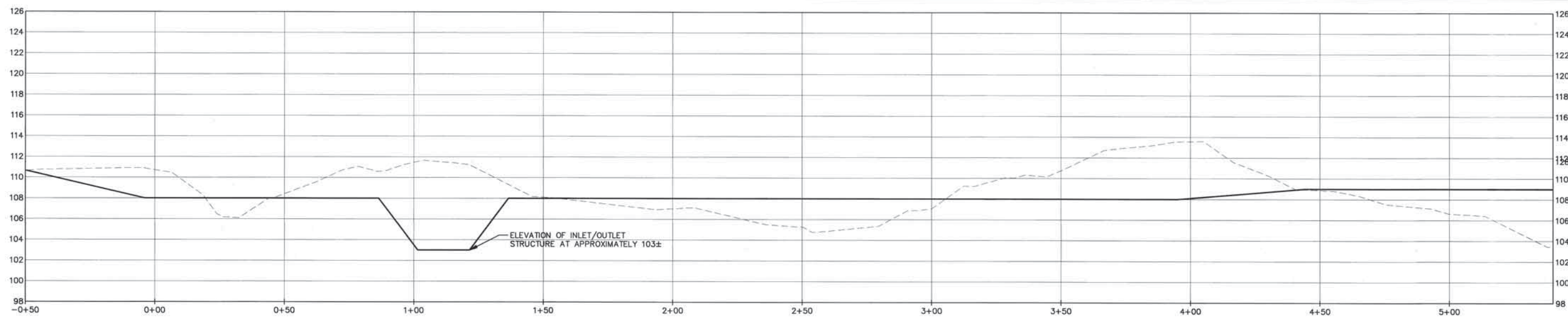
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GEORGIA-PACIFIC LLC • WILLSBORO, NEW YORK  
 WILLSBORO BLACK ASH POND  
 FINAL REMEDIAL ACTION WORK PLAN  
**CROSS SECTIONS - RESHAPED CONDITIONS  
 STATIONS -0+50 AND 9+50 TO 12+50**  
 GENERAL

ARCADIS Project No.  
 B0066127.0001.00001  
 Date  
 AUGUST 2012  
 ARCADIS OF NEW YORK  
 6723 TOWPATH ROAD  
 P.O. BOX 66  
 SYRACUSE, NEW YORK  
 TEL: 315.446.9120

**G-203  
 B**

CITY, SYRACUSE, NY DIV/GROUP: ENV/CAD DB/K.SARTORI PIC: D.COWAN PM/TM: D.PENNIMAN LYN: ON="OFF" REF: G:\ENV\CAD\SYRACUSE\ACT\80066127\00000001\DWG\CONTRACT\66127G204.dwg LAYOUT: G-204 SAVED: 8/3/2012 9:55 AM ACADVER: 18.1S (LMS TECH) PAGES: 18.1S (LMS TECH) PAGES: 18.1S (LMS TECH) PLOT: 8/3/2012 1:30 PM BY: DECLERCO, BRIAN



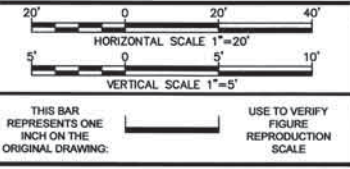
**LEGEND:**

----- EXISTING GROUND ELEVATION AT PEAK OF PROPOSED BERM

———— PROPOSED FINISHED GROUND ELEVATION AT PEAK OF PROPOSED BERM

**NOTE:**

1. PROFILE FOR "EXISTING GROUND ELEVATION" REPRESENTS THE CURRENT ELEVATION AT THE CENTERLINE OF THE PROPOSED BERM.
2. PLEASE NOTE VERTICAL SCALE IS SHOWN AT A 4x EXAGGERATION.



No.	Date	Revisions	By	Ckd

Professional Engineer's Name  
**MARK O. GRAVELDING**

Professional Engineer's No.  
069985-1

State: NY Date Signed: 8/3/12 Project Mgr.: LSK

Designed by: LJP Drawn by: BKD Checked by: LSK



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GEORGIA-PACIFIC LLC • WILLSBORO, NEW YORK  
WILLSBORO BLACK ASH POND  
FINAL REMEDIAL ACTION WORK PLAN

**PROFILE - EXISTING AND RESHAPED CONDITIONS**

GENERAL

ARCADIS Project No.  
80066127.0001.00001

Date  
AUGUST 2012

ARCADIS OF NEW YORK  
6723 TOWPATH ROAD  
P.O. BOX 66  
SYRACUSE, NEW YORK  
TEL. 315.446.9120

**G-204**











**Appendix C**

Wetland Delineation Plan





**Appendix D**

Wetland Determination Data  
Forms

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Willsboro Black Ash Site City/County: Essex Sampling Date: 5/17/12  
 Applicant/Owner: Town of Willsboro / Georgia Pacific LLC State: NY Sampling Point: W2-6  
 Investigator(s): P. Gabriel Section, Township, Range: Willsboro  
 Landform (hillslope, terrace, etc.): disturbed floodplain Local relief (concave, convex, none): slightly concave  
 Slope (%): 0.9 Lat: 73° 23' 26.28" W forest Long: 44° 22' 6.98" N Datum: NAV87  
 Soil Map Unit Name: UmF NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland Area 2</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;">Soils assumed hydric based on significant hydrologic evidence.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input checked="" type="checkbox"/> High Water Table (A2)</li> <li><input checked="" type="checkbox"/> Saturation (A3)</li> <li><input checked="" type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> Marl Deposits (B15)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>
--	--

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>@ 4 in</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>@ 3 in</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W2-6

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Populus deltoides</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Ulmus americana</u>	<u>10</u>			Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____				
5. _____				
6. _____				
7. _____				
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b>
Sapling/Shrub Stratum (Plot size: <u>10 ft</u> )				Total % Cover of: _____ Multiply by: _____
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	OBL species _____ x 1 = _____
2. _____				FACW species _____ x 2 = _____
3. _____				FAC species _____ x 3 = _____
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
6. _____				Column Totals: _____ (A) _____ (B)
7. _____				Prevalence Index = B/A = _____
<u>10</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb Stratum (Plot size: <u>5 ft</u> )				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
1. <u>F. pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Parthenocissus quinquefolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> Prevalence Index is $\leq 3.0^1$
3. <u>Impatiens capensis</u>	<u>5</u>			<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. <u>Cornus amomium</u>	<u>5</u>			<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>30</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				<b>Definitions of Vegetation Strata:</b>
1. _____				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2. _____				<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3. _____				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
4. _____				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Willsboro Black Ash Site City/County: Essex Sampling Date: 5/17/12  
 Applicant/Owner: Georgia-Pacific / Town of Willsboro State: NY Sampling Point: W3-2  
 Investigator(s): P. Gabriel Section, Township, Range: Willsboro  
 Landform (hillslope, terrace, etc.): riverbank (altered) Local relief (concave, convex, none): sloped berm to  
 Slope (%): 3% Lat: 44°22'6.98" N Long: 73°23'26.28" W Datum: NAV87 riverbank  
 Soil Map Unit Name: UMF NWI classification: RSB4

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;"><u>Fringe emergent wetland along Boquet River</u></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4"</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: \_\_\_\_\_

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Herb Stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex spp.</u>	<u>50</u>	<u>✓</u>	<u>FACW</u>
2. <u>Scirpus microcarpus</u>	<u>20</u>	<u>✓</u>	<u>FACW</u>
3. <u>Unidentified Grass</u> <u>(no seed head)</u>	<u>10</u>		
4. _____	_____	_____	_____
5. <u>Polygonum hydropiper</u>	<u>5</u>		
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- Rapid Test for Hydrophytic Vegetation
  - Dominance Test is >50%
  - Prevalence Index is ≤3.0<sup>1</sup>
  - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)





**Appendix E**

Representative Photographs



Photo 1: Southeast end of Wetland Area 1 looking west. Photo taken from berm to be used for access at the southeast Site limit.



Photo 2: Northwest end of Wetland Area 1 looking southeast.



Photo 3: Taken from near flag W2-10 looking east-northeast.



Photo 4: Wetland Area 3 looking north.



Photo 5: Taken from the base of berm looking west-southwest near Section 10+50. (western part of Wetland Area 4)..



Photo 6: Looking north-northwest from on top of berm near Section 8+00.



**Appendix F**

Floodplain Areal Extent

