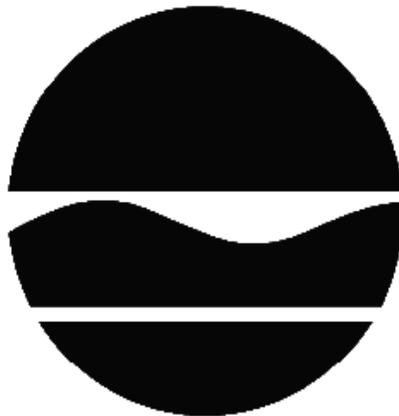


ATTACHMENT 2  
BICC Cables Site  
Operable Unit Number 2  
Hudson River Sediment Remediation EPRI Building DCU 2B  
April 2014

# PROPOSED REMEDIAL ACTION PLAN

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BICC Cables  
Operable Unit Number 02: Hudson River Sediment  
Remediation EPRI Building DCU 2B  
State Superfund Project  
Yonkers, Westchester County  
Site No. 360051  
April 2014



Prepared by  
Division of Environmental Remediation  
New York State Department of Environmental Conservation

# PROPOSED REMEDIAL ACTION PLAN

BICC Cables  
Operable Unit Number 02: Hudson River Sediment  
Remediation EPRI Building DCU 2B  
Yonkers, Westchester County  
Site No. 360051  
April 2014

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## **SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN**

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

## **SECTION 2: CITIZEN PARTICIPATION**

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Yonkers Public Library  
Riverfront Library  
1 Larkin Center

Office Hours:  
Monday - Thursday 9 AM – 8 PM  
Friday 10 AM – 5 PM

Yonkers, New York 10701  
Phone: (914-337-1500)

Saturday 9 AM – 5 PM  
Sunday 12 PM - 5 PM

A 30 day public comment period has been set from May 5, 2014 through June 4, 2014 to provide an opportunity for you to comment on these proposed changes. Written comments may be sent to:

Jeffrey E. Trad, P.E.  
NYS Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway  
Albany, NY 12233-7017  
jetrad@gw.dec.state.ny.us

**A public meeting is scheduled for the following date:**

**May 20, 2014 at 6:30 pm**

**Public meeting location:**

**Yonkers Public Library  
Riverfront Branch  
1 Larking Center Yonkers, NY 10701  
Phone: (914-337-1500)**

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

### **Receive Site Citizen Participation Information By Email**

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

### **SECTION 3: SITE DESCRIPTION AND HISTORY**

#### Location:

The BICC Cables site is located at 1 Point Street in Yonkers, Westchester County, in an urban industrial area adjacent to the Hudson River.

#### Site Features:

The site is approximately 14 acres in area, which at one point contained 360,000 sq. ft. of warehouse and office structures. The Electric Research Power Institute (EPRI) Building, a 29,700 sq. ft. building which is constructed on piles over the Hudson River, is the only remaining structure associated with the site. The rest of the site is open or paved/unpaved lots and is predominantly flat with commercial properties on all sides. The site is primarily described as main areas: the North Yard, the South Yard, the Parking Lot and the Sediment areas within the Hudson River.

#### Current Zoning and Land Use:

The site is currently inactive, and is zoned for industrial/commercial use. The surrounding parcels are currently used for a combination of commercial and industrial. The nearest residential area is approximately 100 feet to the east on Point Street and Ravine Avenue.

#### Past Use of the Site:

The facility, in operation since 1886, manufactured high voltage cables until 1996. The property was expanded (into the Hudson River) using fill material from 1940 to 1976. On-site disposal of waste material, improper handling practices of products and chemicals and spillage are responsible for the PCB and metals contamination present at the site.

Prior to 1898: The landmass beneath the majority of the site buildings was created through filling prior to 1898. Site occupants during that time included: S. S. Hepworth and Co. (c. 1886 to 1890) who manufactured sugar machinery and tools and India Rubber Gutta Percha Insulating Co. (1890 to 1915), a wire and cable manufacturer.

1915 to 1930: At the beginning of their occupancy, Habirshaw Wire Company manufactured paper insulated, lead-jacketed cables at the site. Materials for these cables included: paper insulation wound over a conductor, then oil impregnated, and covered by a lead sheath, bitumen and rubber. Later on Habirshaw expanded their cable and wire product line. They included rubber insulated and jacketed cables that required rubber mixing equipment and continuous vulcanizing steam lines and armored submarine cable that required the use of asphalt and jute to provide water resistance along with braided steel sheathing to protect the cable from mechanical damage.

1930 to 1984: Phelps Dodge acquired the facility in 1930 and continued to produce the Habirshaw Wire Company product line. By the 1960s, production began to focus on paper wrapped cables that included the use of highly refined rosins and later refined hydrocarbon oils as the dielectric fluids to replace the rosins. Rubber jacketed cable manufacturing was phased out at the site by the early 1960s. About that time, the manufacturing of armored submarine cable was also discontinued.

Higher voltage cables and solid dielectric cable with insulation made of polyethylene (PE) and ethylene propylene rubber (EPR) for medium voltage distribution applications were developed and manufactured at the site beginning in the 1960s.

1984 to 1996: Cablec (later merged into BICC Cables Corp.) acquired the facility in 1984. The product line was narrowed further to focus on the growing electric distribution market for which paper, lead, PE and EPR were used. However, Cablec moved the solid dielectric cable manufacture of PE and EPR to other facilities. Some of the PE and EPR cables that were manufactured at other BICC factories were shipped to the site for finishing with application of a lead jacket to provide protection against mechanical abuse and moisture. The principal materials used for cable manufacture after 1984 at the site were paper, dielectric oil and lead with polyethylene or PVC applied as jackets over the lead. As a result of a decline in the market for paper insulated leadjacketed cable, BICC ceased manufacturing operations at the site in 1996.

In 1997, following the end of manufacturing operations, an environmental investigation began at the site in accordance with a Petroleum Spills Order (Administrative Order on Consent DC-0001-97-06). The investigation involved collecting environmental media samples and interior building material samples. Based upon the discovery of PCBs at concentrations above 50 parts per million (ppm) in site soil during the Petroleum Spills Investigation, this property was listed as a class "2" site on the *Registry of Inactive Hazardous Waste Disposal Sites* in 1999. BICC Cables Corporation, a responsible party, conducted a Remedial Investigation/ Feasibility Study (RI/FS) under Administrative Order on Consent. The site remediation is being addressed under the Brownfield Cleanup Program (BCP), based on an exemption that expired in July 2005 that allowed class "2" sites to enter the BCP. One Point Street, LLC, a Volunteer and present owner, entered into a Brownfield Cleanup Agreement in May 2005.

#### Operable Units:

The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigation, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable Unit 1 (OU1) includes upland soils, groundwater, and contaminated sediment in the Hudson River, excluding the sediment beneath the EPRI building. Operable Unit 2 (OU2) includes only the sediment beneath the EPRI building.

#### Site Geology and Hydrogeology:

The North Yard was created through the placement of fill and operational debris. The landmass

west of the railroad tracks (South Yard and below previously removed buildings) was created through the placement of fill. This fill material extends to the silt layer, located a maximum depth of 20 feet below grade. The BICC Parking Lot east of the railroad tracks located on Point Street was raised using clean sand fill. Groundwater is encountered at the site from a minimum of 2.3 feet below ground surface (bgs) to a maximum of 13.5 feet bgs. Artesian conditions were observed in one well. Tidal fluctuations in groundwater elevations in the site wells range from 0 to 2.3 feet. Groundwater flow from the site is southwesterly towards the Hudson River.

Operable Unit (OU) Number 2 is the subject of this document.

A Record of Decision was issued for the site in March 2005 (the “March 2005 ROD”) which included the remediation of the sediment beneath the EPRI Building by dredging. Concurrent with this PRAP, the March 2005 ROD is being amended to define OU1 and eliminate the required cleanup by dredging of the sediment beneath the EPRI Building (see *Proposed Amended Record of Decision* dated April 2014). As amended, the March 2005 ROD is the OU1 ROD.

A site location map is attached as Figure 1.

#### **SECTION 4: LAND USE AND PHYSICAL SETTING**

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted residential use as described in Part 375-1.8(g) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

#### **SECTION 5: ENFORCEMENT STATUS**

##### **Inactive Hazardous Waste Disposal Site Remediation Program**

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Phelps Dodge Corporation

BICC Corporation

BICC Cables Corporation entered into an Administrative Order on Consent on March 17, 2000 (ref. Index No. D-3-0001-00-03) which obligated it to conduct an RI/FS.

## Brownfield Cleanup Program

The site was accepted into the Brownfield Cleanup Program in May 2005. One Point Street, LLC entered into a Brownfield Cleanup Agreement for the remediation of the site, including off-site impacts.

### **SECTION 6: SITE CONTAMINATION**

#### **6.1: Summary of the Remedial Investigation**

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment

#### **6.1.1: Standards, Criteria, and Guidance (SCGs)**

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediment, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see:

### **6.1.2: RI Results**

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

For OU 1

Polychlorinated Biphenyls (PCB)	Lead
Copper	

For OU 2

Polychlorinated Biphenyls (PCB)	Lead
Copper	Arsenic

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- soil
- sediment
- groundwater

### **6.2: Interim Remedial Measures**

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

### **6.3: Summary of Environmental Assessment**

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Nature and Extent of Contamination:

Based on investigations conducted to date, soil, groundwater, sediment and interior building material samples were collected to characterize the nature and extent of contamination. Chemical categories that exceed their SCGs in the environmental media are polychlorinated

biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and inorganic constituents. Sampling of the EPRI Building itself did not indicate contamination above SCGs.

#### Operable Unit 1:

##### Soil

PCBs were identified at concentrations above the SCGs in site soil, site-related impacted sediment and interior building materials. The predominant Aroclor present at the site is Aroclor 1260.

Low level VOCs found in the site environmental media are from petroleum impacted soils. Low levels of tetrachloroethene which is also present but only in site groundwater, not soil, and is suspected to be from an off-site source located to the east of the BICC Site.

Low level SVOCs were found in the site soil/fill are predominantly polycyclic aromatic hydrocarbons (PAHs) PAHs are commonly found in combustion end products routinely observed in historic fill.

The inorganic COPCs at the site are found at concentrations higher than background and higher than uncontaminated fill.

Some of these metals are found in historic fill and some, are likely associated with previous cable manufacturing at the site.

##### Groundwater

Groundwater at the site is encountered at a minimum of 2.3 feet bgs to a maximum of 13.5 feet bgs. The groundwater is located within an unconfined unit that experiences some degree of tidal influence from the Hudson River. Site groundwater flows to the southwest into the Hudson River. Low levels of benzene, xylenes and tetrachloroethene in groundwater were detected at concentrations above groundwater standards; however, higher concentrations of tetrachloroethene were observed in a monitoring well on the upgradient boundary of the site. In light of the finding, the suspected source of tetrachloroethene in site groundwater is an upgradient, off-site source. The source of benzene and xylene in groundwater appear to be the VOC-impacted North Yard soils which were addressed under OU 1.

##### Sediment

As part of the RI, the impacts of site operations on sediment in the Hudson River were investigated. In addition, to determine site background sediment concentrations, sediment samples were also collected upriver of the site.

Comparison to the SCGs indicates that the sediment samples collected adjacent to the North and South Yards, adjacent to site buildings and beneath the EPRI building consistently exceed the

SCGs for PCBs, various PAHs and several inorganic constituents in both the surface sediment (i.e., 0 to 6 inch) samples and the subsurface sediment (6 to 12 inch) samples. In order to evaluate site-related sediment contamination in the context of local sediment conditions in the river, the site sediment sampling results were compared to the average upriver concentrations for inorganics and PAHs. Site sediment results for inorganics were also compared to the average concentrations found downriver from (and presumed out of the influence of) the Harbor at Hastings site. This evaluation was used to describe environmental conditions in five sediment areas, designated as Areas I, II, III, IV and V (Figure 3 and Figure 4). These areas exhibited PCB and lead concentrations indicative of site-related impacts. These two constituents are well correlated with operationally impacted soil and interior building materials.

In Area V, a direct comparison of lead and copper levels to the concentrations of lead and copper in the upriver samples show that sediment samples collected adjacent to the South Yard exhibit slightly higher levels than the upriver samples.

Hudson River sediment was contaminated with levels of PCBs (1,650 ppm), copper (967 ppm), and lead (6,440 ppm). The five sediment remedial areas in the OU1 ROD had an assumed maximum remedial depth of 24 inches in the absence of information indicating that the extent of impacted sediment was deeper. The areas were subdivided into manageable sized Dredge Certification Units (DCUs) based on further characterization in March and May 2007, December 2008 and March 2009.

Sediment remediation under OU1 began in April 2010 and continued until October 2013. All DCUs were remediated in conformance with the OU1 ROD and all Remedial Action Work Plan goals met except DCU 2B under the EPRI Building.

Other significant facets of the site which were investigated and addressed as part of the OU1 ROD were: Interior Building Materials, Lead Extrusion Pits, Interior Stormwater Trench System, Process Oil Tanks and Fuel Oil Tanks and Subsurface Structures.

#### Operable Unit 2: Sediment

DCU 2B area sediment beneath the EPRI building is primarily contaminated with PCBs (some sediment also contains lead above SCGs). The maximum PCB concentration detected in this sediment is 739 ppm. The extent of PCB contaminated sediment is known to extend approximately 150 feet south and 100 feet west of the northeast corner of the EPRI building.

All DCUs were remediated in conformance with the OU1 ROD and all Remedial Action Work Plan goals met except DCU 2B under the EPRI Building. Several dredging techniques were attempted on DCU 2B including diver assisted hydraulic dredging, H&H water-based dredge, Pit Hog water-based dredge, Toyo pump, work boat based mini-excavator and Scan Crawler dredge.

Special Resources Impacted/Threatened: Hudson River Estuary. Some of the site qualifies as tidal wetland; there are federally listed endangered sturgeon in proximity to the site, as well as other fishery resources. A Natural Heritage review has not been conducted recently and additional resources may be present.

Significant Threat: The site represents a significant environmental threat due to the ongoing releases of contaminants from source areas into groundwater and the Hudson River.

#### **6.4: Summary of Human Exposure Pathways**

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

The site is fenced and covered by asphalt or concrete, people will not come into contact with site-related soil and groundwater contamination unless they dig below the surface. Since the contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. It is unlikely that people will come in contact with chemical contaminants in the river sediment that remain below an existing building.

#### **6.5: Summary of the Remediation Objectives**

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

#### **Sediment**

##### **RAOs for Public Health Protection**

- Prevent direct contact with contaminated sediment.

##### **RAOs for Environmental Protection**

- Prevent impacts to biota from ingestion/direct contact with sediment causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.

### **SECTION 7: SUMMARY OF THE PROPOSED REMEDY**

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the November 2013 Dredge Containment Unit (DCU) Area 2B Sediment Remediation Alternatives Analysis Report prepared by PS&S Engineering, Inc.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth at Exhibit D.

For OU 2: The proposed remedy is referred to as the Remedial Action Hudson River Sediment Remediation - EPRI Building DCU 2B.

The elements of the proposed remedy are as follows:

### **1. Remedial Design**

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program.

- The encapsulation system must be able to withstand anticipated maximum wave energy within the tidal estuary predicted for up to a Category 5 hurricane (Saffir–Simpson Hurricane Wind Scale) with river elevations as high as the 500 year flood elevation, as well as impacts due to river, tidal, and wave-induced currents, and turbulence generated by ships/vessels (due to propeller action and vessel draft).
- Ice flow and debris considerations must also be addressed by the design.
- Computer modeling to determine energy levels the Engineered Multilayer Sediment Cover System must withstand are required. Due to the limitations of computer modeling and other factors associated with cap construction, a 50% factor of safety will be added to the energy level which will be incorporated into the final design.
- The upper layer of the Engineered Multilayer Sediment Cover System must consist of a permanent or long lasting material. A wearing layer or sacrificial layer will not be allowed.
- The Engineered Multilayer Sediment Cover System must not unduly/negatively disrupt the water flow within the Hudson River, including river elevations as high as 500-year-flood elevation conditions.
- The cap design should demonstrate that the proposed layers of the cap will sufficiently contain PCBs for the concentrations that are expected at the cap/sediment interface and the timeframe expected for effective isolation. This should include assumptions of porewater movement during cap settling and

chemical constraints of the "active core mat". This analysis needs to also consider the potential for preferential movement of porewater through the gaps caused by the pilings and the treatment at the pilings.

- The design should include a prediction of the expected settlement vertically and horizontally of cap materials. This may vary depending on the armor treatment. Details should be sufficient to understand whether the materials will be stable on the expected slopes, what the expected final grade would be in the near term, and whether sediment will stay in place or move horizontally.
- Any fill material brought to the site for incorporation in the Engineered Multilayer Sediment Cover System will meet unrestricted SCOs as set forth in 6 NYCRR Part 375-6.7(d).
- In conformance with 40 CFR 761.61, the use of the Engineered Multilayer Sediment Cover System to allow in-place management of the PCBs greater than 50 ppm must be approved by USEPA prior to installation. If USEPA does not approve the use or design of the Engineered Multilayer Sediment Cover System, then the NYSDEC will re-evaluate this remedy decision.

Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

## **2. Engineered Multilayer Sediment Cover System**

An Engineered Multilayer Sediment Cover System will be required to address the Hudson River sediment contamination beneath the EPRI building, designed to isolate these areas from uncontaminated sediment, the water column, and biota. The cover system will be placed over all

sediments that exceed the site derived values that would have required dredging under the 2005 ROD (Table 1). The cover will consist of permanent encapsulation by an Engineered Multilayer Sediment Cover System for PCB contaminated sediment beneath the EPRI Building in Dredge Certification Unit 2B.

Details which appear on the figures are for illustrative purposes only and are not intended to depict components of the design element required herein.

### **3. Habitat Mitigation**

The March 2005 OU 1 ROD required restoration of the river environment following the removal of contaminated sediment. Because the Engineered Multilayer Sediment Cover System will prevent the restoration of the aquatic habitat, mitigation to replace the loss of aquatic habitat beneath the EPRI Building is required. The mitigation will be detailed in a mitigation design plan which, at a minimum, will replace a comparable area to the lost aquatic habitat and be consistent with the requirements of 6 NYCRR Part 608 and 661.

### **4. Institutional Control**

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

### **5. Site Management Plan**

A Site Management Plan is required, which includes the following:

- a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The asphalt, concrete or soil cover as required in the 2005 OU 1 ROD and September 19, 2008 USEPA Approval of Self Implementing PCB Cleanup and the DCU Area 2B Engineered Multilayer Sediment Cover System.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
  - a provision for further investigation to refine the nature and extent of contamination where access was previously hindered (i.e., under the EPRI Building in DCU Area 2B if and when the building is demolished);
  - a provision for demolition of the EPRI Building if and when it becomes unsafe or no longer considered necessary;
  - a provision for removal or treatment of the source area located under the EPRI Building if and when the building is demolished;
  - descriptions of the provisions of the environmental easement including any land use, groundwater and/or surface water use restrictions;
  - provisions for the management, repair and inspection of the identified engineering controls;
  - maintaining site access controls and Department notification;
  - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls; and
  - a provision for repair and maintenance of the site mitigation area as specified in the final mitigation plan.
- b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan will be designed to measure PCB and metals concentrations and evaluate the long-term contaminant trends in the affected media (biota, sediment, water). This program will monitor the performance and effectiveness of the remedy in achieving the remedial goals established for the project and will be a component of the monitoring and maintenance of the site. The plan includes, but may not be limited to:
- a schedule of monitoring and frequency of submittals to the Department;
  - long-term sampling of biota; surficial sediment sampling; biota sampling in the vicinity of the site and at reference locations; porewater and surface water sampling in the vicinity of the site and at reference locations; and shoreline and nearshore bathymetry;
  - actions necessary to monitor, measure and observe whether remedy is in place and functional;
  - monitoring of the capped area and, if any portion of a capped area has been eroded, additional monitoring and sampling will be required to determine whether other areas have been contaminated with PCBs released from the damaged areas. Repair of the identified area, or if needed, additional remedial action or enhanced capping may be undertaken to cover any areas

in the main river channel where sampling shows surface sediment PCB concentrations greater than or equal to 1 ppm; and

- monitoring of the mitigation area for restoration success as specified in the final mitigation plan.

## Exhibit A

### Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

Groundwater, surface water, soil and sediment media (other than sediment media beneath the EPRI Building DCU 2B) were addressed in the BICC Cables OU1 ROD dated March 2005 (OU1 ROD). The BICC Cables OU2 PRAP addresses sediment media beneath the EPRI Building in DCU 2B. This contaminated sediment was identified and a table summarizing the findings of the investigation is included. The table presents the range of contamination found in DBU 2B in the sediment media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two categories; pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use.

As described in the RI report, many soil, groundwater, sediment and interior building material samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main chemical categories that exceed their SCGs in sediment media are polychlorinated biphenyls (PCBs) and inorganic constituents.

PCBs are a group of 209 distinct congeneric molecules. In the U.S., PCB mixtures were principally sold under the trade name Aroclor. The various PCB mixtures sold were identified by their chlorine content. For example, Aroclor 1260 is a PCB mixture composed of approximately 60% chlorine. Aroclors were used for various purposes by industry due to their insulating and heat resistance properties. The predominant Aroclor present at the site is Aroclor 1260. PCBs have a very low solubility in water, a relatively low volatility in air and tend to absorb to oils, fats and carbon rich materials, if available. In the environment, PCBs are relatively persistent, and are degraded only under certain conditions. PCBs are reported to pose a health risk to humans and/or ecological receptors depending upon the route and duration of exposure and the dose received. PCBs were identified at concentrations above the SCGs in site soil, site-related impacted sediment and interior building materials.

Inorganics are metals, naturally occurring in the environment. However, the inorganic COPCs at the site are found at concentrations higher than background and higher than uncontaminated fill. The inorganic constituents of concern at the site are the metals arsenic, copper and lead. Some of these metals are found in historic fill and some, such as copper and lead, are likely associated with previous cable manufacturing at the site.

#### Sediment

As part of the RI, the impacts of site operations on sediment in the river were investigated. The investigation began with identification of discharge points from the site into the river. Sediment sampling locations in the river were then selected biased towards these discharge locations. These samples were collected adjacent to and beneath site buildings and adjacent to the Yard. To determine site background sediment concentrations, sediment samples were also collected upriver of the site. Additional horizontal and vertical characterizations of the DCUs were performed as part of preconstruction and construction activities.

Comparison of the site sediment sampling results to SCGs is presented in Table 1.

Comparison to the SCGs indicates that the sediment samples collected adjacent to the Yard and adjacent to and beneath the site buildings consistently exceed the SCGs for PCBs and several inorganic constituents in both the surface sediment (i.e., 0 to 6 inch) samples and the subsurface sediment (as deep as 5.5' to 6' deep interval) samples. In order to evaluate site-related sediment contamination in the context of local sediment conditions in the river, the site sediment sampling results were compared to the average upriver concentrations for inorganics. Site sediment results for inorganics were also compared to the average concentrations found downriver from (and presumed out of the influence of) the Harbor at Hastings site. This evaluation was used to describe environmental conditions in five sediment areas, designated as Areas I, II, III, IV and V. These areas exhibited PCB and lead concentrations indicative of site-related impacts. These two constituents are well correlated with operationally impacted soil and interior building materials. Based on the comparison to both sets of upriver data, the extent of site-related impacted sediment in DCU 2B is presented in Table 1 and Figures CCR-02, CCR-03 and CCR-04.

The BICC Cables OU2 proposed remedial action plan will focus on the DCU 2B. DCU 2B is an area of PCB contaminated sediment beneath the EPRI building, areal extent of approximately 15,300 square feet. Based on additional preconstruction delineation, significant PCB contamination was found within this DCU up to 6 feet deep in the sediment. (The depth of sediment sampling ranged from the sediment surface [0 to 0.5' interval] to 8 feet.). The DCU contains approximately 2,200 yd<sup>3</sup> of contaminated PCB sediments. It was estimated during initial attempts at dredging this material that approximately 4,500 yd<sup>3</sup> would need to be dredged (or over-dredged) to remove this 2,200 yd<sup>3</sup> volume.

The PCB contamination within DCU 2B ranges from 12.4 ppm total PCBs in the surface sediment interval (0 to 0.5 foot deep) to 80ppm (5.0 to 5.5 foot interval), with a maximum PCB concentration of 739 ppm at in the deeper sediment (2.0 to 2.5 foot interval).

Erosion of the DCU 2B sediment or leaching of the PCBs from within the sediment could cause ecological impacts due to the spread of PCB contamination to other river sediment as well as the water column and river biota.

**Table 1 – Sediment**

Detected Constituents	Concentration Range Detected (ppm) <sup>a</sup>	Site Derived Value (ppm) <sup>c</sup>	Frequency Exceeding Site Derived Value
<b>Inorganics<sup>h</sup></b>			
Lead	12 to 6440	19 to 87.5	54/57
Copper	16.9 to 967	23.3 to 149	56/57
Arsenic	1.4 to 26.5	2.5 to 11.4	34/57
<b>Pesticides/PCBs</b>			
Total PCBs	12.4 to 739	1 ppm to 5 ppm average with depth <sup>c</sup>	36 /171

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;

b - SCG: The Department’s Technical Guidance for Screening Contaminated Sediment.

c - Site Derived Value:

For PCBs refer to March 2010 Final Remedial Action Work Plan For Sediment Remediation for specific criteria:

For samples collected at locations where the sample depth is within 2 feet of the existing (predredge) grade (depths of 0 to 2 feet bgs) the average total PCB concentration of all the samples collected within the DCU is less than 1 mg/kg.

For samples collected at locations where the sample depth is greater than 2 feet below the existing (predredge) grade (2 plus feet bgs) the average total PCB concentration of all the samples in the DCU is less than 5 mg/kg

For Inorganics refer to March 2005 OU 1 ROD Table 2 Range of Upriver Sediment Sampling Results

d - Value is based on Human Health Bioaccumulation

e - Value is based on Benthic Aquatic Life Acute Toxicity

f - Value is based on Benthic Aquatic Life Chronic Toxicity

g - Value is based on Wildlife Bioaccumulation

h - Sediment Inorganic detected constituent results from Remedial Investigation/Feasibility Study Report, Vols. 1 and 2, September 2003, December 2003 and Revised September 2004, ERM.

LEL = Lowest Effects Level and SEL = Severe Effects Level. Sediment is considered contaminated if either of these criteria is exceeded. If the SEL criteria are exceeded, the sediment is severely impacted. If only the LEL is impacted, the impact is considered moderate.

The primary sediment contaminants are PCBs and lead, and to a lesser degree copper and arsenic, associated with the historical manufacture of high voltage cables. As noted on Figures 3 and CCR-02, the primary sediment contamination beneath the EPRI building is found in DCU 2B.

Based on the findings of the Remedial Investigation, the presence of PCBs and lead has resulted in the contamination of sediment. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment to be addressed by the remedy selection process are PCBs and lead.

**Exhibit B**

**Description of Remedial Alternatives**

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

**Alternative 1: No Action**

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

*Present Worth:* ..... \$0  
*Capital Cost:* ..... \$0  
*Annual Costs:* ..... \$0

**Alternative 2: Monitored Natural Attenuation**

Sediment contamination will be addressed with monitored natural attenuation (MNA). Sediment will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breaking down the contamination. It is anticipated that contamination will not decrease significantly in a reasonable period of time (5 to 10 years). Reports of the attenuation will be provided at 5 and 10 years, and active remediation will be proposed if it appears that natural processes alone will not address the contamination.

*Present Worth:* ..... \$440,000  
*Capital Cost:* ..... \$300,000  
*Annual Costs:* ..... \$15,000

**Alternative 3: Engineered Multilayer Sediment Cover System**

Off-site sediment in DCU 2B which exceed Site Derived Values that would have been dredged for PCBs and lead will be capped. The cover will consist of a permanent encapsulation system of the Hudson River sediment impacted by the site beneath the EPRI Building in DCU 2B. The encapsulation system must be able to withstand anticipated wave energy within a tidal estuary created by a Category 5 hurricane (Saffir–Simpson Hurricane Wind Scale) with river elevations as high as the 500 year flood elevation. Ice flow and debris considerations must also be included.

Computer modeling to determine energy levels the Engineered Multilayer Sediment Cover System must withstand are required. The upper layer of the Engineered Multilayer Sediment Cover System must consist of a permanent or long lasting material. A wearing layer or sacrificial layer will not be allowed. The Engineered Multilayer Sediment Cover System must not unduly/negatively disrupt the water flow within the Hudson River, including river elevations as high as 500 year flood elevation conditions.

Any fill material brought to the site will meet the requirements for the unrestricted use as set forth in 6 NYCRR Part 375-6.7(d).

The Engineered Multilayer Sediment Cover System will prevent the restoration of the aquatic habitat, therefore, mitigation to replace the loss of aquatic habitat beneath the EPRI Building is required. The mitigation will be detailed in a mitigation design plan which, at a minimum, will replace lost aquatic habitat and be consistent with the requirements of 6 NYCRR Part 608 and 661.

In conformance with 40 CFR 761.61, the Engineered Multilayer Sediment Cover System must be approved by USEPA prior to installation.

*Present Worth:* ..... \$3,187,000  
*Capital Cost:* ..... \$3,000,000  
*Annual Costs:* ..... \$20,000

**Alternative 4: EPRI Building Demo, Sediment Excavation and EPRI Reconstruction**

The existing EPRI Building would be demolished, DCU 2B contaminated sediment would be excavated, the excavation would be backfilled and restored and the EPRI Building would be reconstructed.

Contaminated sediment in DCU 2B, which exceed Site Derived Values that would have been dredged for PCBs and lead will be excavated and transported off-site for disposal. Approximately 4,500 cubic yards of sediment will be removed from the site and treated prior to disposal.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated sediment and establish the designed grades at the site.

*Present Worth:* ..... \$52,200,000  
*Capital Cost:* ..... \$52,200,000  
*Annual Costs:* ..... \$0

**Alternative 5: Cofferdam, Dewatering, Excavation**

A coffer dam will be placed around DCU 2B or the EPRI Building, the area dewatered, and the sediment exceeding Site Derived Values that would have been dredged for PCBs and lead will be excavated, backfilled and restored as above in Alternative 4.

*Present Worth:* ..... \$44,000,000  
*Capital Cost:* ..... \$44,000,000  
*Annual Costs:* ..... \$0

**Alternative 6: Perimeter Cofferdam with Sediment Encapsulation**

A coffer dam will be placed around DCU 2B or the entire EPRI Building to prevent lateral contaminant migration, then the top of this area encapsulated with a flowable, permanent encapsulation material such as concrete. Encapsulation material/concrete may be placed once the area is dewatered or by tremie method.

A Perimeter Cofferdam with Sediment Encapsulation will prevent the restoration of the aquatic habitat, therefore mitigation to replace the loss of aquatic habitat beneath the EPRI Building is required. The mitigation will be detailed in a mitigation design plan which, at a minimum, will replace lost aquatic habitat and be consistent with the requirements of 6 NYCRR Part 608 and 661.

*Present Worth:* ..... \$80,987,000  
*Capital Cost:* ..... \$80,800,000  
*Annual Costs:* ..... \$20,000

**Alternative 7: Low Profile Mechanical Dredging**

Sediment in DCU 2B which exceed Site Derived Values for PCBs and lead will be dredged using Low Profile Mechanical Dredging techniques. These include using H&H (or Rotomite) Dredge and Work Boat Mounted Mini Excavator.

Contaminated sediment in DCU 2B, which exceed Site Derived Values for PCBs and lead (approximately 4,500 cubic yards) will be excavated, treated and transported off-site for disposal. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated sediment and establish the designed grades at the site.

*Present Worth:* ..... \$25,000,000  
*Capital Cost:* ..... \$25,000,000  
*Annual Costs:* ..... \$20,000

**Exhibit C****Remedial Alternative Costs**

<b>Remedial Alternative</b>	<b>Capital Cost (\$)</b>	<b>Annual Costs (\$)</b>	<b>Total Present Worth (\$)</b>
No Action	0	0	0
Monitored Natural Attenuation	\$300,000 (Baseline Study)	\$15,000	\$440,000
Engineered Multi Layer Sediment Cover System	\$3,000,000	\$20,000	\$3,187,000
EPRI Building Demo, Sediment Excavation and EPRI Reconstruction	\$52,200,000	0	\$52,200,000
Coffer Dam, Dewatering, Excavation	\$44,000,000	0	\$44,000,000
Perimeter Coffer Dam with Sediment Encapsulation	\$80,800,000	\$20,000	\$80,987,000
Low Profile Mechanical Dredging using H&H (or Rotomite) Dredge, Work Boat Mounted Mini Excavator	\$25,000,000	0	\$25,000,000

## Exhibit D

### **SUMMARY OF THE PROPOSED REMEDY**

The Department is proposing Alternative 3, Engineered Multi Layer Sediment Cover System as the remedy for this site. Alternative 3 would achieve the remediation goals for the site by permanently encapsulating the Hudson River sediment impacted by the site beneath the EPRI Building in DCU 2B. The elements of this remedy are described in Section 7. The area of the proposed remedy is depicted in Figure SK-09.

### **Basis for Selection**

The proposed remedy is based on the results of the RI, additional horizontal and vertical characterizations of the OU2 sediment performed as part of preconstruction and construction activities for implementation of the OU1 remedy, and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the November 2013 Dredge Containment Unit (DCU) Area 2B Sediment Remediation Alternatives Analysis report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The proposed remedy, Alternative 3, Engineered Multi Layer Sediment Cover System would satisfy this criterion by permanently encapsulating the Hudson River sediment impacted by the site beneath the EPRI Building in DCU 2B. Encapsulation would prevent direct contact with contaminated sediment and prevent impacts to biota from ingestion/direct contact with sediment causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain. Alternative 6 Perimeter Cofferdam with Sediment Encapsulation also complies with this criterion but to a lesser degree, or with lower certainty, as the flowable encapsulation material would not allow for possible differential settlement.

Alternative 1 (No Action) and Alternative 2 (Monitored Natural Attenuation) do not provide any additional protection to public health and the environment and will not be evaluated further. Alternatives 4, 5 and 7, by removing all sediment contaminated above the Site Derived Values for PCBs and lead, meet these threshold criteria.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternative 3 complies with SCGs to the extent practicable. It addresses source areas of contamination and complies with the sediment Site Derived Values for PCBs and lead at the surface through construction of a cover system. Alternatives 4, 5 and 7 also comply with this criterion. Alternative 6 complies with this criterion but to a lesser degree or with lower certainty. Since Alternatives 4, 5, and 7 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation of the contaminated sediment (Alternatives 4, 5 and 7). Since most of the contamination in DCU 2B is in the upper 2 to six feet of sediment, if successfully excavated, that would remove the need for long-term maintenance of an engineered cover system and long-term monitoring. Alternatives 3 and 6 would provide long-term effectiveness if designs were sufficiently robust to withstand anticipated energy levels over time. Alternative 3 would remain effective in the scenario of moderate to minimal differential settlement, however, the flowable fill contemplated by Alternative 6 would be subject to cracking with even minimal differential settlement. Alternative 6 would have little risk of lateral subsidence if the coffer dam sheet piling was of sufficient depth, while Alternative 3 may require anchoring to resist lateral displacement.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternatives 3 and 6 would limit the mobility of contaminated sediment and control potential exposures with encapsulation only and will not reduce the toxicity or volume of contaminants remaining. Alternatives 4, 5 and 7 excavation and off-site disposal, reduces the toxicity, mobility and volume of on-site waste by transferring the material to an approved off-site location. However, depending on the disposal facility, the volume of the material would not be reduced.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives 3 through 7 all have short-term impacts which could easily be controlled, however, Alternatives 3 and 6 would have the smallest impact. The time needed to achieve the remediation goals is approximately the same for Alternatives 3 through 7.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternatives 3 and 7 are favorable in that they are readily implementable. Alternatives 4, 5 and 6 are also implementable, but include the installation of a coffer dam and dewatering. The results of the pilot testing indicate Alternative 7 could not be easily implemented (i.e., due to the difficulty of working beneath the EPRI Building).

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternatives 4, 5, 6 and 7 have very high capital and present worth costs. Alternative 3 has a low cost, but the contaminated sediment would remain in DCU 2B encapsulated. Alternative 6 provides a similar encapsulation remedy to Alternative 3 but at much greater cost.

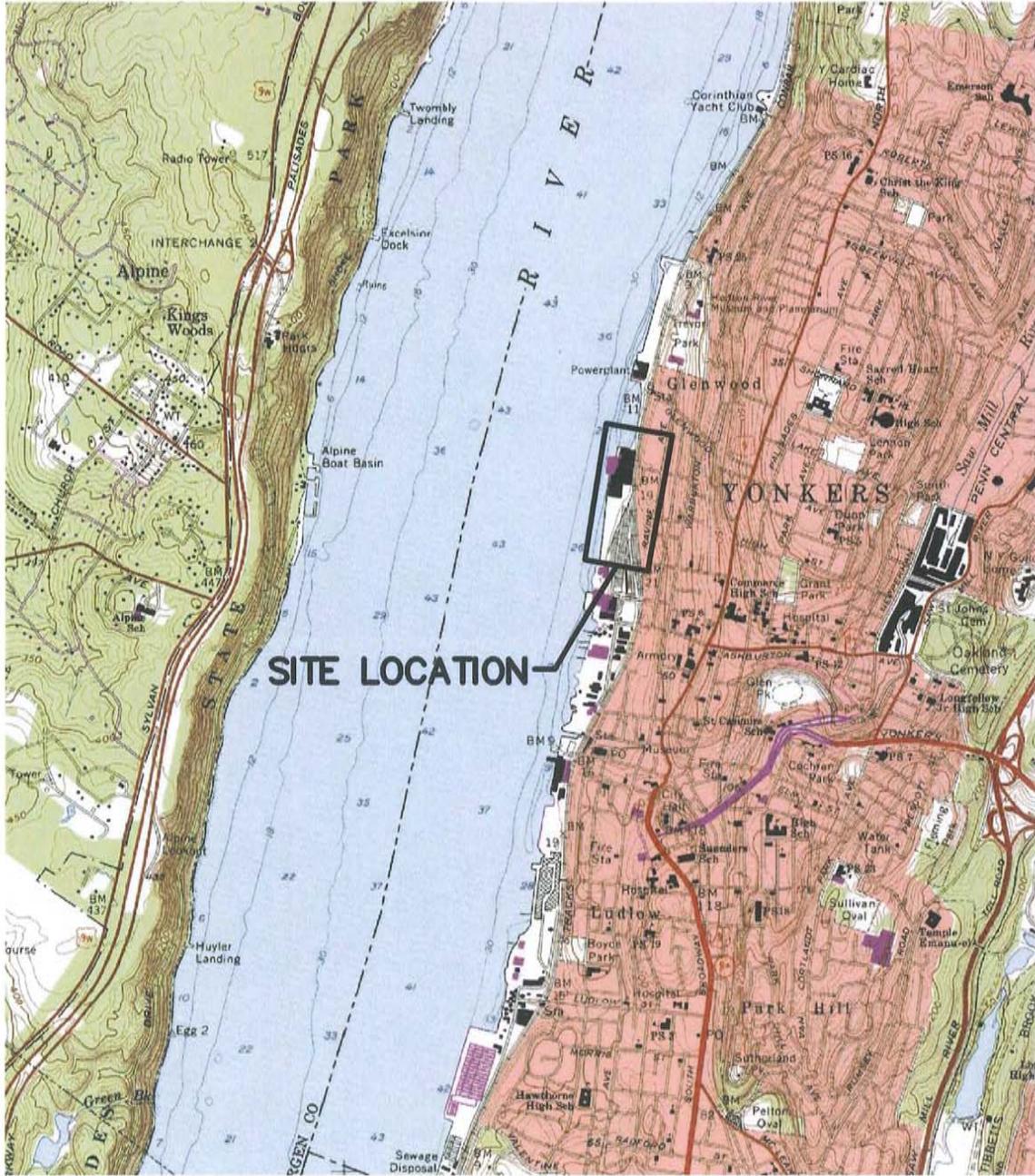
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

Anticipated use of the site is restricted/residential, Alternatives 3, 4, 5, 6 and 7 would be of equivalent desirability for anticipated land use above the river. However, alternatives 4, 5, and 7 would restore the sediments beneath the EPRI building to pre-existing conditions.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes

Alternative 3 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

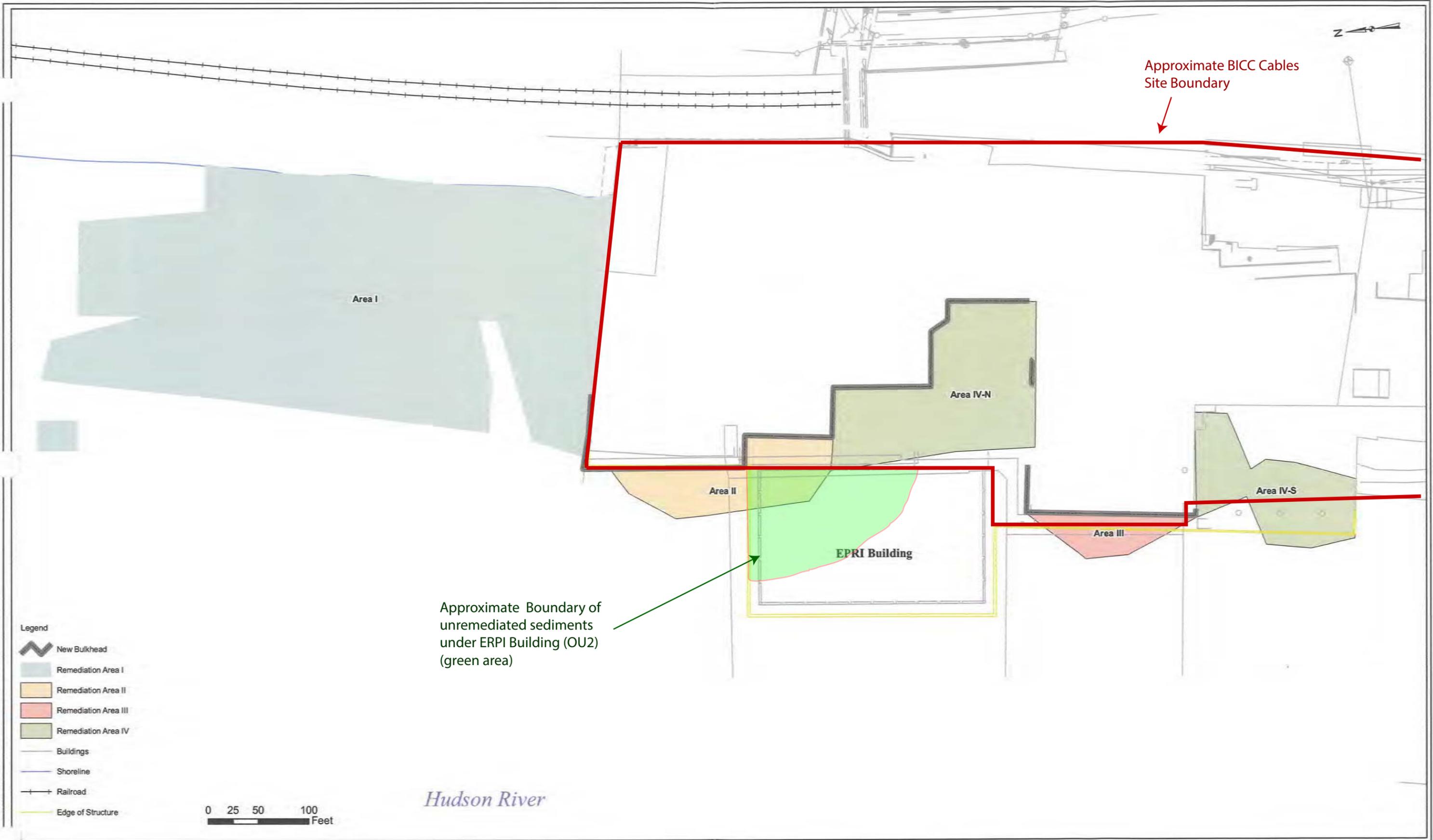


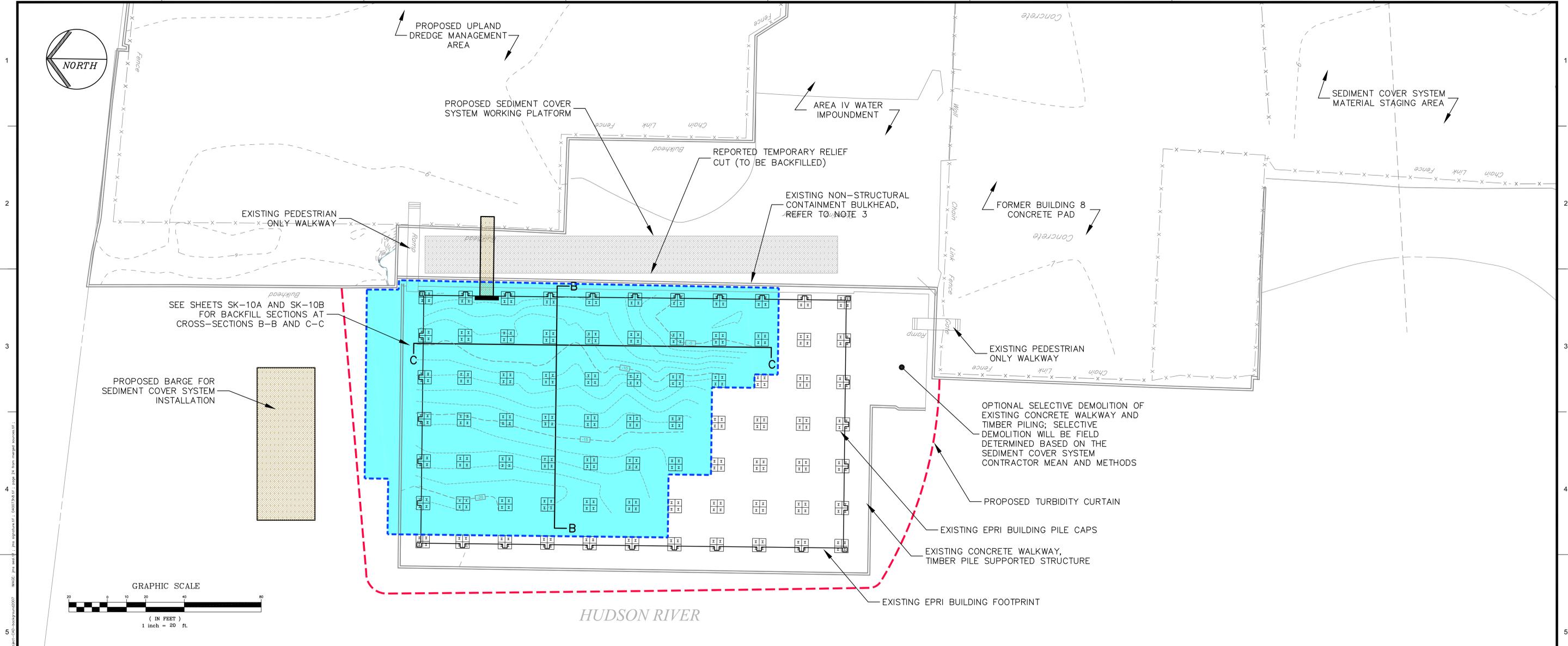
**Figure 1**  
**Site Location Map**  
**Former BICC Cables Site**  
**Yonkers, New York**

Reference:  
 USGS Quadrangle 7.5 minute  
 Yonkers, N.Y. - 1966 (Revised 1979)

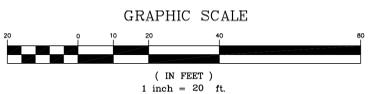
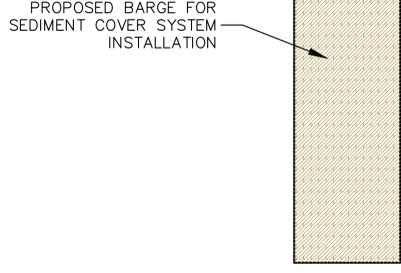
Figure 2 - Operable Units  
BICC Cables (Site #360051)







SEE SHEETS SK-10A AND SK-10B FOR BACKFILL SECTIONS AT CROSS-SECTIONS B-B AND C-C



**LEGEND**

	PROPOSED MULT-LAYER SEDIMENT COVER SYSTEM
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- NOTES:**
1. TOPOGRAPHIC SURVEY DATA SHOWN IS REFERENCED FROM SURVEY PREPARED BY WARD CARPENTER, INC., PREPARED FOR "ONE POINT STREET, INC" AND RECEIVED BY PS&S ON NOVEMBER 17, 2011.
  2. EPRI BUILDING COLUMN AND DREDGE DEPTH DATA SHOWN IS REFERENCED FROM DRAWING PREPARED BY TETRA TECH ENGINEERING CORPORATION, P.C., PREPARED FOR "FORMER BICC CABLES SITE", DRAWING TITLED "EPRI UNDER-BUILDING PILOT STUDY", SHEET NO. 6009, DATED JULY 25, 2012.
  3. UNDER BUILDING BATHYMETRIC DATA SHOWN WAS ACQUIRED FROM A DRAWING TITLED "2013 DCU AREA 2B EXISTING CONDITIONS BATHYMETRIC SURVEY" PREPARED BY "WARD CARPENTER, INC." AND DATED SEPTEMBER 24, 2013. THE SEPTEMBER 2013 DCU AREA 2B BATHYMETRIC SURVEY WAS UPDATED ON OCTOBER 21, 2013 TO DOCUMENT THE OBSERVED ZONE 1A (CELLS A1 AND A2) BATHYMETRY AFTER THE OCTOBER 2013 SCANCRAWLER SEDIMENT EXCAVATION ATTEMPTS.
  4. THE EXISTING NON-STRUCTURAL CONTAINMENT BULKHEAD MAY REQUIRE SELECTIVE DEMOLITION TO ONE FOOT ABOVE THE CURRENT MUD LINE TO ALLOW FOR CONSTRUCTION EQUIPMENT ACCESS FROM THE WATER IMPOUNDMENT.
  5. SELECTIVE DEMOLITION OF THE EXISTING CONCRETE WALKWAY AND TIMBER PILING MAY BE REQUIRED BY THE CONTRACTOR PRIOR TO CONSTRUCTION OF THE MULTI-LAYER SEDIMENT COVER SYSTEM. SELECTIVE DEMOLITION WILL BE NECESSARY FOR CONTRACTOR TO ACCESS UNDER THE EPRI BUILDING AND TO PLACE AND CONSTRUCT THE MULTI-LAYER SEDIMENT COVER SYSTEM. THE EXTENT OF THE SELECTIVE DEMOLITION WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR BASED ON THE EXTENT OF THE COMPLETED SEDIMENT EXCAVATION ACTIVITIES AND THE OBSERVED EXISTING CONCRETE WALKWAY AND TIMBER PILING CONDITIONS.

ISSUED FOR CONSTRUCTION (07/16/2013)

REVISIONS/ISSUES					
NO.	DATE	BY	CHK	DESCRIPTION	
1	04/17/13	RP	JMS	ISSUED FOR REGULATORY REVIEW	
2	06/12/13	RP	JMS	REVISED PER NYSDOC COMMENTS	
3	07/16/13	RP	JMS	EDITS TO COVER SYSTEM DETAIL	
4	11/27/13	RP	JMS	REVISIONS TO SEDIMENT COVER SYSTEM DETAIL	
5	04/21/14	RP	JMS	04/16/2014 NYSDOC COMMENTS; ISSUED FOR DCU AREA 2B SCS PRAP	

**BICC Site  
Hudson River Remediation  
DCU Area 2B**

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR, LLC OF ANY CORRECTIONS, OMISSIONS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DOCUMENTS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

THESE CONTRACT DOCUMENTS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT AND CLIENT. THEY ARE NOT INTENDED FOR USE ON OTHERS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.

THE CORING AND/OR MONITORING OF THIS DOCUMENT OR ANY PORTION THEREOF WITHOUT THE WRITTEN PERMISSION OF PAULUS, SOKOLOWSKI AND SARTOR, LLC IS PROHIBITED.

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**JANOS M. SZEMAN, P.E.**  
PROFESSIONAL ENGINEER  
NEW YORK - LIC. NO. 084542-1

*Janos M. Szeman* 04/23/2014  
SIGNATURE DATE

**PS&S**  
Integrating design & engineering

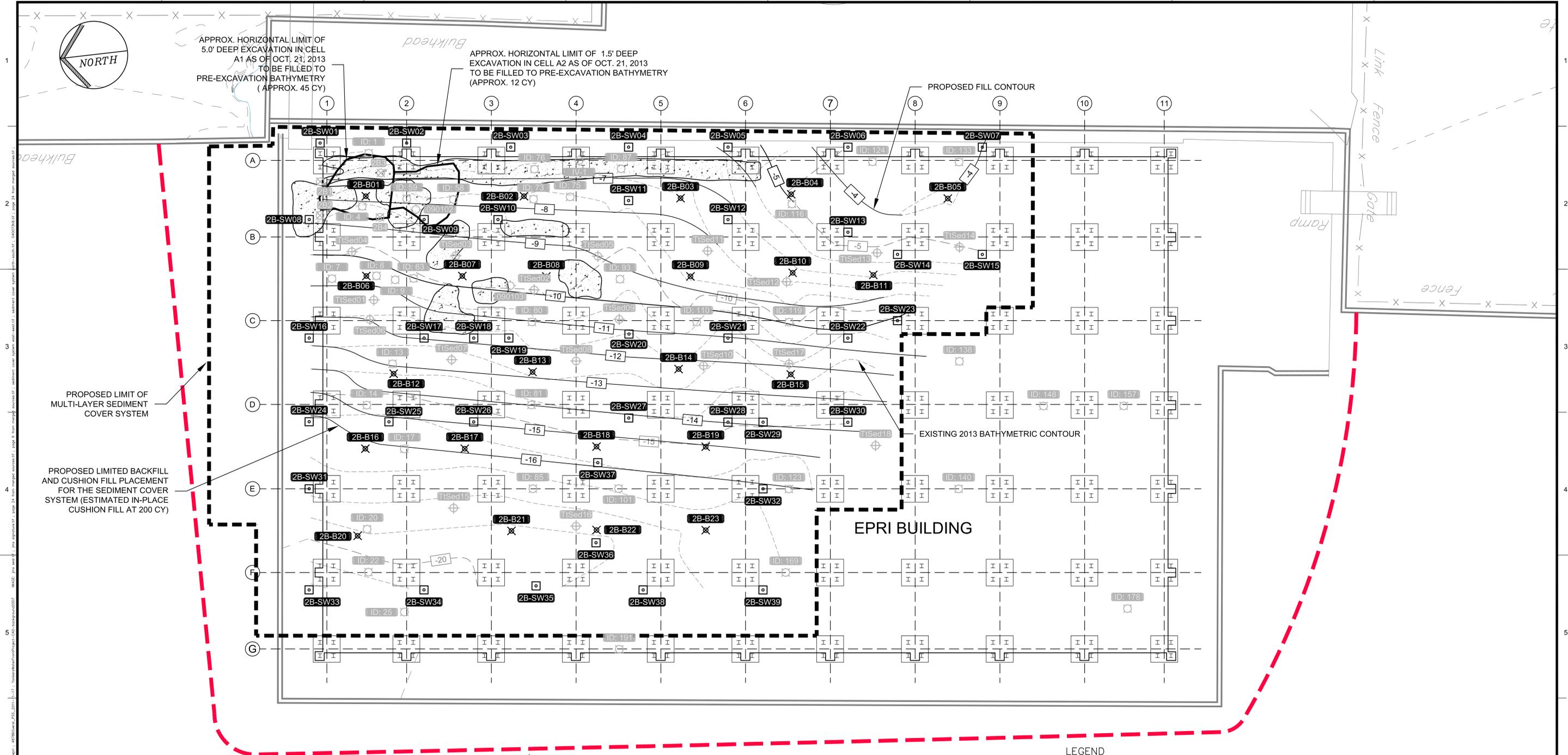
55 MAIN STREET  
3RD FLOOR  
YONKERS, NEW YORK 10791  
PHONE (914) 509-8600

PROJECT TITLE  
**ONE POINT STREET, INC.  
FORMER BICC CABLES  
SITE**

CITY OF YONKERS, NEW YORK

SHEET TITLE  
**PROPOSED SEDIMENT  
COVER SYSTEM  
CONSTRUCTION PLAN**

DATE	04/04/2013	JOB NO.	045210001
SCALE	1"=20'	B/O	
DRAWN	RP	SHEET NO.	
CHKD.	JMS		<b>SK-09</b>



APPROX. HORIZONTAL LIMIT OF 5.0' DEEP EXCAVATION IN CELL A1 AS OF OCT. 21, 2013 TO BE FILLED TO PRE-EXCAVATION BATHYMETRY (APPROX. 45 CY)

APPROX. HORIZONTAL LIMIT OF 1.5' DEEP EXCAVATION IN CELL A2 AS OF OCT. 21, 2013 TO BE FILLED TO PRE-EXCAVATION BATHYMETRY (APPROX. 12 CY)

PROPOSED FILL CONTOUR

EXISTING 2013 BATHYMETRIC CONTOUR

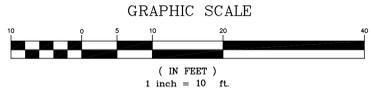
EPRI BUILDING

HUDSON RIVER

PROPOSED LIMIT OF MULTI-LAYER SEDIMENT COVER SYSTEM

PROPOSED LIMITED BACKFILL AND CUSHION FILL PLACEMENT FOR THE SEDIMENT COVER SYSTEM (ESTIMATED IN-PLACE CUSHION FILL AT 200 CY)

PROPOSED TURBIDITY CURTAIN



LEGEND

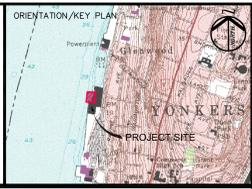
- [2010] ESTIMATED AREA OF HARD MATERIAL
- PROPOSED SEDIMENT EXCAVATION "BOTTOM OF EXCAVATION" CONFIRMATORY SAMPLE (1 SAMPLE APPROXIMATELY EVERY 900 SF)
- PROPOSED MULTI-LEVEL SEDIMENT EXCAVATION "SIDEWALL OF EXCAVATION" CONFIRMATORY SAMPLE (1 SAMPLE APPROX EVERY 30LF). SEE TO DETAIL SW
- [2012] SEDIMENT CORE LOCATIONS (REFER TO SHEET SK-02A)
- [2012] STUDY CONFIRMATORY SAMPLES (REFER TO SHEET SK-02A)
- [2008] REMEDIAL INVESTIGATION IN AREA 2B2 (REFER TO SHEET SK-02A)
- [2008] DEBRIS LOCATION (REFER TO SHEET SK-04A)
- 15- SEPTEMBER 2013 WARD CARPENTER BATHYMETRIC SURVEY
- 15- PROPOSED LIMITED BACKFILL AND CUSHION FILL GRADING (BATHYMETRY) PLAN

REFERENCE NOTES:

1. TOPOGRAPHIC SURVEY DATA SHOWN IS REFERENCED FROM A SURVEY PREPARED BY WARD CARPENTER, INC., PREPARED FOR "ONE POINT STREET, INC" AND RECEIVED BY PS&S ON NOVEMBER 17, 2011.
2. EPRI BUILDING COLUMNS AND 2012 PROPOSED DREDGE DEPTH DATA SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER-BUILDING PILOT STUDY"; DRAWING TITLED "FIGURE 4 PROPOSED DREDGE CUTS FOR FULL SCALE REMEDIATION"; SHEET NO. G004; DATED JULY 25, 2012.
3. UNDER BUILDING BATHYMETRIC DATA SHOWN WAS ACQUIRED FROM A DRAWING TITLED "2013 DCU AREA 2B EXISTING CONDITIONS BATHYMETRIC SURVEY" PREPARED BY "WARD CARPENTER, INC." AND DATED SEPTEMBER 24, 2013. THE SEPTEMBER 2013 DCU AREA 2B BATHYMETRIC SURVEY WAS UPDATED ON OCTOBER 21, 2013 TO DOCUMENT THE OBSERVED ZONE 1A (CELLS A1 AND A2) BATHYMETRY AFTER THE OCTOBER 2013 SCANCRAWLER SEDIMENT EXCAVATION ATTEMPTS.
4. DEBRIS LOCATION AND BICC POLING DEBRIS LOCATIONS CHART SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING, PC; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER BUILDING PILOT STUDY"; DRAWING TITLED "FIGURE 9 EPRI BUILDING DREDGING KNOWN DEBRIS LOCATIONS"; SHEET NO. G009; DATED JULY 25, 2012
5. LOCATION OF ESTIMATED HARD MATERIAL SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "POINT STREET FACILITY - EPRI LAB BUILDING"; DRAWING TITLED "EXTENTS OF PRELIMINARY PROBE SURVEY AND SEDIMENT CORE COLLECTION LOCATIONS"; SHEET FIG. 1; NOT DATED.
6. LIMITED BACKFILL AND CUSHION FILL MATERIAL (I.E., IMPORTED FILL MATERIAL) WILL BE PLACED IN SUCH A MANNER AS TO CONSTRUCT A UNIFORM DOWNSLOPING GRADE (I.E., BATHYMETRY) FROM THE EAST AT COLUMN LINE A TO THE WEST AT COLUMN LINES E AND F.
7. THE PRIME REMEDIATION CONTRACTOR WILL BE RESPONSIBLE FOR PROCURING, DELIVERING, AND PLACING THE LIMITED BACKFILL AND CUSHION FILL MATERIAL. THE PRIME REMEDIATION CONTRACTOR AND THE ENGINEER WILL SUBMIT THE IMPORTED FILL MATERIAL DOCUMENTS AND THE SEDIMENT COVER SYSTEM OPERATIONS TO NYSDEC FOR THE PROJECT RECORD.

REVISIONS/ISSUES			
NO.	DATE	BY	DESCRIPTION
1	11/13/13	RP	ISSUED FOR REGULATORY REVIEW
2	11/27/13	RP	REVISIONS TO SEDIMENT COVER SYSTEM DETAIL
3	04/21/14	RP	04/18/2014 NYSDEC COMMENTS; ISSUED FOR DCU AREA 2B SCS PREP

BICC Site  
Hudson River Remediation  
DCU Area 2B



ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PS&S IMMEDIATELY AND NOTIFY ALL OF ANY CONTRACTOR, SUBCONTRACTOR OR SUPERVISOR BEFORE PROCEEDING WITH CONSTRUCTION.  
ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.  
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JANOS M. SZEMAN, P.E.  
PROFESSIONAL ENGINEER  
NEW YORK LIC. NO. 084542-1  
Signature: Janos M. Szeman, 04/23/2014 DATE



PROJECT TITLE  
ONE POINT STREET, INC.  
FORMER BICC CABLES  
SITE  
CITY OF YONKERS, NEW YORK

SHEET TITLE  
SEDIMENT COVER  
SYSTEM SITE PLAN  
& LIMITED BACKFILL  
MATERIAL PLAN

DATE	10/22/2013	JOB NO.	048170002
SCALE	1"=10'	B/O	
DRAWN	RP	SHEET NO.	
CHKD.	JMS		SK-09A



APPROX. HORIZONTAL LIMIT OF OCTOBER 2013 5.0' DEEP EXCAVATION APPROX. 45 CY

APPROX. HORIZONTAL LIMIT OF OCTOBER 2013 1.5' DEEP EXCAVATION APPROX. 12 CY

EXISTING NON-STRUCTURAL CONTAINMENT BULKHEAD, REFER TO SHEET SK-00, SITE IMPROVEMENT NOTES, NOTE 1.

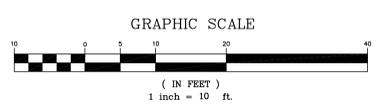
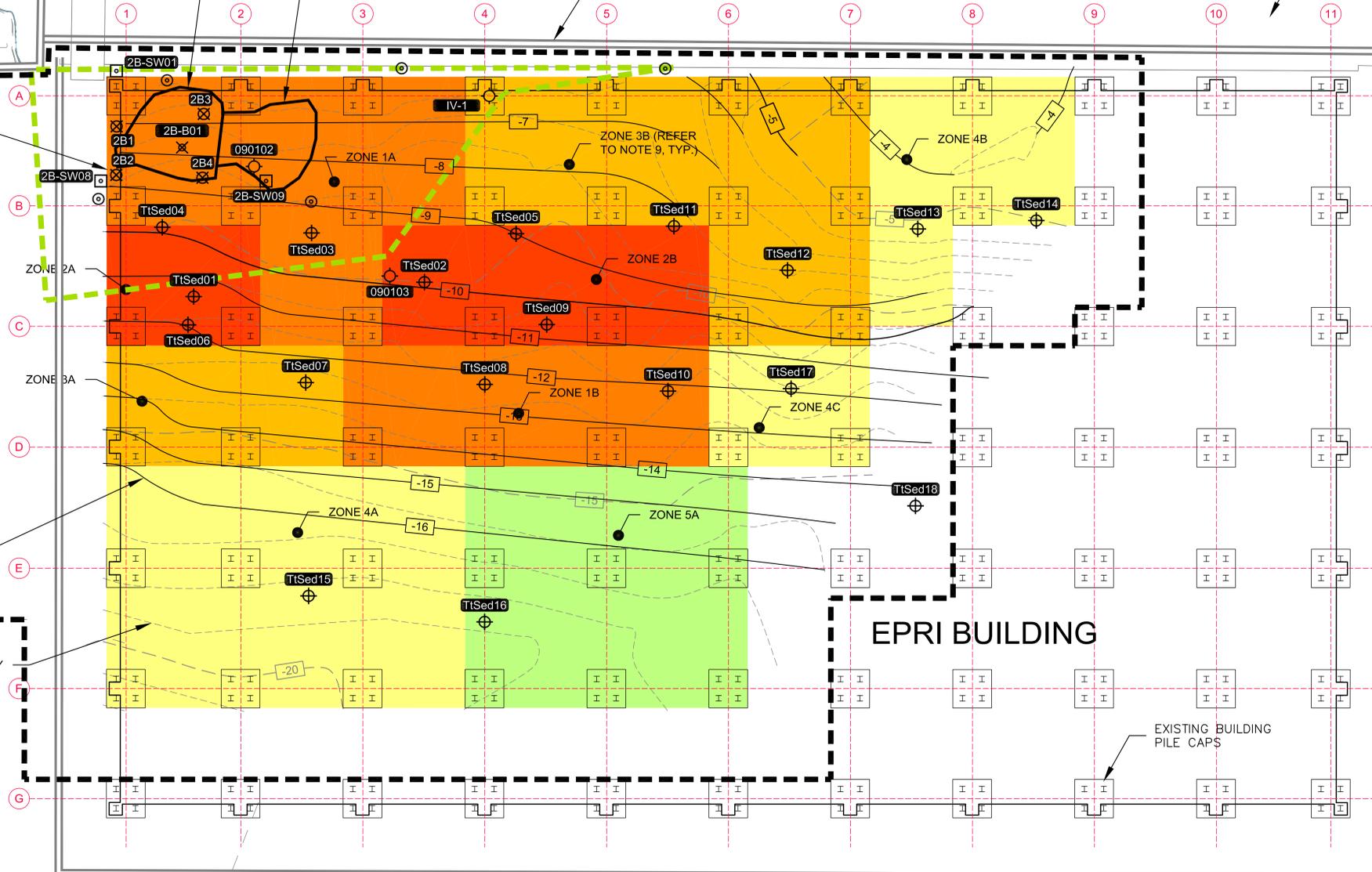
AREA IV WATER IMPOUNDMENT

HISTORIC 2008 REMEDIAL INVESTIGATION SAMPLING RESULTS AT SAMPLE LOCATIONS 2B1, 2B2, 2B3 AND 2B4 HAVE BEEN SUPERSEDED BY SAMPLING RESULTS SHOWN ON SHEET CCR-01

PROPOSED LIMIT OF MULTI-LAYER SEDIMENT COVER SYSTEM

PROPOSED LIMITED BACKFILL BATHYMETRY

EXISTING 2013 BATHYMETRY



HUDSON RIVER

- REFERENCE NOTES:
1. TOPOGRAPHIC SURVEY DATA SHOWN IS REFERENCED FROM A SURVEY PREPARED BY WARD CARPENTER, INC., PREPARED FOR "ONE POINT STREET, INC" AND RECEIVED BY PS&S ON NOVEMBER 17, 2011.
  2. EPRI BUILDING COLUMNS, ESTIMATED DEPTH OF IMPACTED SEDIMENT AND PROPOSED DREDGE DEPTH SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING CORPORATION, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER-BUILDING PILOT STUDY"; DRAWING TITLED "FIGURE 4 PROPOSED DREDGE CUTS FOR FULL SCALE REMEDIATION"; SHEET NO. 6004; DATED JULY 25, 2012.
  3. PILOT STUDY DREDGE LOCATION AND POST-DREDGE SAMPLING SUMMARY DATA TABLE SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING CORPORATION, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER-BUILDING PILOT STUDY"; DRAWING TITLED "PILOT STUDY AREA & POST-DREDGE SAMPLE LOCATIONS"; SHEET NO. FIGURE 3; DATED OCT. 8, 2012.
  4. SEDIMENT CORE LOCATIONS SHOWN ARE REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; REPORT TITLED "INTERIM SUMMARY OF SEDIMENT CORING/SAMPLING PROGRAM"; DRAWING TITLED "FIGURE 1 CORE LOCATION MAP", DATED JAN. 20, 2012.
  5. SEDIMENT SAMPLING SUMMARY TABLE SHOWN IS REFERENCED FROM A TABLE PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; TABLE TITLED "SEDIMENT SAMPLING SUMMARY FOR AREA BENEATH EPRI BUILDING"; DATED JAN. 20, 2012.
  6. REMEDIAL INVESTIGATION AREAS IN 2B2 LOCATIONS AND THE TABLE SHOWN ARE REFERENCED FROM A DRAWING PREPARED BY H2M GROUP, INC.; DRAWING TITLED "REMEDIAL INVESTIGATION AREAS - AREA II"; FIGURE 2-3; DATED MARCH 2010.
  7. UNDER BUILDING BATHYMETRIC DATA SHOWN WAS ACQUIRED FROM A DRAWING TITLED "2013 DCU AREA 2B EXISTING CONDITIONS BATHYMETRIC SURVEY" PREPARED BY "WARD CARPENTER, INC." AND DATED SEPTEMBER 24, 2013.
  8. POST EXCAVATION SAMPLES WERE COLLECTED ON NOVEMBER 10, 2013 USING AN ECKMAN SAMPLING DREDGE. RESULTS ARE PRESENTED AS TOTAL POLYCHLORINATED BIPHENYL (PCBS) CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg).
  9. HISTORICAL 2010 SAMPLE LOCATIONS HAVE BEEN SUPERSEDED BY SAMPLING RESULTS OBTAINED DURING TETRA TECH'S MARCH 2012 SAMPLING EVENT AND BY SAMPLING RESULTS SHOWN ON CCR-01.

- MARCH 2005 RECORD OF DECISION (ROD) SEDIMENT CLEANUP OBJECTIVES (SCOS):
1. MAXIMUM AVERAGE CONCENTRATION OF 1 MG/KG (MILLIGRAMS PER KILOGRAM) FOR TOP 2 FEET OF ALL SEDIMENT EXCAVATIONS: IF THE END-POINT ANALYTICAL RESULTS INDICATE THE AVERAGE PCB CONCENTRATION OF ALL THE SAMPLES IS LESS THAN 1 MG/KG AND NO SAMPLE WITH A CONCENTRATION GREATER OR EQUAL TO 5 MG/KG IS OBSERVED THEN THE DCU SEDIMENT REMEDIATION WOULD BE CONSIDERED COMPLETE IN THE AREA AND NO FURTHER REMEDIATION ACTION WOULD BE REQUIRED;
  2. AVERAGE CONCENTRATION OF 5 MG/KG FOR SEDIMENT EXCAVATIONS DEEPER THAN 2 FEET: IF THE END-POINT ANALYTICAL RESULTS INDICATE THE AVERAGE PCB CONCENTRATION OF ALL THE SAMPLES IS LESS THAN 5 MG/KG AND NO SAMPLE WITH A CONCENTRATION GREATER OR EQUAL TO 15 MG/KG, SEDIMENT REMOVAL WOULD BE CONSIDERED COMPLETE IN THE AREA AND NO FURTHER REMEDIATION INVESTIGATION WOULD BE REQUIRED; AND
  3. MAXIMUM CONCENTRATION OF 15 MG/KG FOR SEDIMENT EXCAVATIONS DEEPER THAN 2 FEET: IF THE END-POINT ANALYTICAL RESULTS INDICATE THE AVERAGE PCB CONCENTRATION IS GREATER OR EQUAL TO 5MG / KG OR ANY SAMPLE IS GREATER THAN 15 MG/KG, AN ADDITIONAL FOOT OF SEDIMENT WOULD BE DREDGED IN THE CUT AREA AND BE RETESTED.

LEGEND

- 8' THICK SEDIMENT REMEDIATION (ZONES 2A AND 2B)
- 6' THICK SEDIMENT REMEDIATION (ZONES 1A AND 1B)
- 4' THICK SEDIMENT REMEDIATION (ZONES 3A AND 3B)
- 3' THICK SEDIMENT REMEDIATION (ZONES 4A, 4B AND 4C)
- 2' THICK SEDIMENT REMEDIATION (ZONE 5A)
- [2010] REPORTED SEDIMENT REMEDIATION AREA 2B
- [2012] SEDIMENT CORE LOCATIONS
- [2012] STUDY CONFIRMATORY SAMPLES
- [2008] REMEDIAL INVESTIGATION IN AREA 2B
- [2010] POST-DREDGING SAMPLING LOCATIONS, SEE NOTE 10
- PROPOSED BOTTOM OF EXCAVATION CONFIRMATORY SAMPLE
- PROPOSED SIDEWALL OF EXCAVATION CONFIRMATORY SAMPLE
- SEPTEMBER 2013 WARD CARPENTER BATHYMETRIC SURVEY
- PROPOSED LIMITED BACKFILL AND CUSHION FILL GRADING (BATHYMETRY) PLAN

HISTORIC 2012 SEDIMENT SAMPLING SUMMARY (REFER TO REFERENCE NOTE 4)

Top	Bottom	TiSed01	TiSed01A	TiSed02	TiSed02A	TiSed03	TiSed03A	TiSed04	TiSed04A	TiSed05	TiSed05A	TiSed06	TiSed06A	TiSed07	TiSed07A	TiSed08	TiSed08A	TiSed09	TiSed09A	TiSed10	TiSed10A	TiSed11	TiSed11A	TiSed12	TiSed12A	TiSed13	TiSed13A	TiSed14	TiSed15	TiSed15A	TiSed16	TiSed16A	TiSed17	TiSed18
0	0.5	0.818	0.466	2.883	0.2945	3.582	0.419	12.4	ND	2.71	1.506	0.423	0.112	0.668	0.551	0.567	0.915	0.717	1.123	0.913	0.691	2.16	2.84	2.832	1.047	4.68	0.492	1.52	1.324	1.542	0.528	0.7403		
0.5	1	3.93	2.469	14.95	0.4517	8.61	0.436	29.1	0.289	4.46	3.052	1.077	0.104	1.594	0.545	0.748	1.097	1.065	1.72	1.349	0.59	1.547	1.229	0.668	5.981	6.19	1.564	1.128	4.48	0.441	7.61	0.592	2.18	
1	1.5	116.8	3.976	3.029	0.3467	2.436	1.183	7.66	3.201	2.68	1.418	4.385	0.247	1.495	0.283	2.111	1.179	0.5334	0.773	2.481	0.68	1.006	0.672	0.773	0.938	0.578							2.307	
1.5	2	5.73	1.621	4.71	1.625	4.52	1.767	3.8	0.563	2.824	4.731	7.48	0.167	6.737	1.635	1.462	1.816	0.871	1.203	5.088	0.698	1.109	6.05	28.09	0.317	0.671							2.49	
2	2.5	0.569		1.03	3.345	88.4	3.748	0.379	2.875	2.99		103	0.802	0.28		45.09	1.063	2.84	2.651	1.663	1.86	2.489	1.511		1.708									
2.5	3	0.492		0.273	3.316	0.0802		ND	21.92	738		ND	0.751	ND		2.85	7.75	49.24	3.598	7.9	8.623	1.401	1.725		1.437									
3	3.5	4.07		7.61	4.248			ND	82.9	45		ND	2.018	ND		27.2	5.25	27.93	1.866	2.342	4.2	1.072	1.481		5.25									
3.5	4	0.237		36.3	5.2			ND	3.182	0		553	3.745	ND		43.17	3.006	6.12	6.17	1.023	3.048	2.16	ND		4.13									
4	4.5	ND		0.271	9.84			ND	3.08	8.53		118	7.25	ND		ND	ND	103.2	84.63	2.742	2.791	17.33	ND		1.815									
4.5	5	ND		ND	2.084			ND	2.09	5.31		5.033	ND	ND		ND	ND	1.206	ND	ND	32.71	5.391			1.727									
5	5.5	ND		89.3	3.228			ND	4.69	4.73		3.157	ND	ND		ND	ND	3.157	ND	ND	0.758	ND			1.621									
5.5	6	ND		0.195				ND	80	37.3		ND	ND	ND		ND	ND	ND	ND	3.646					1.2									
6	6.5	ND		1.53				ND	0.459																									
6.5	7	ND		ND				ND																										
7	7.5	ND		ND				ND	0.307																									
7.5	8	ND		ND				ND																										

Individual sample >15 ppm (any depth)  
 Individual sample >5 ppm (top 2 feet only)  
 ND Not detected  
 FOR PROPOSED SEDIMENT EXCAVATION DEPTHS SEE FIGURE SK-05  
 Samples IDs followed by the letter "A" were collected by hand coring; all other samples were collected using sonic drilling methods  
 Heavy black horizontal lines indicate the bottom of the first core barrel deployments recovery at each roto-sonic core location

REVISIONS/ISSUES

NO.	DATE	BY	CHK	DESCRIPTION
0	11/13/13	RP	JMS	ISSUED FOR REGULATORY REVIEW (12/2013)
1	04/21/14	RP	JMS	ISSUED FOR DCU AREA 2B SC5 PRAP

**ONE POINT STREET, INC.**  
 FORMER BICC CABLES SITE  
 NYSDEC SITE NUMBER: C360051  
 BROWNFIELD'S SITE CLEANUP AGREEMENT  
 INDEX NUMBER: W3-1063-05-03

ORIENTATION/KEY PLAN

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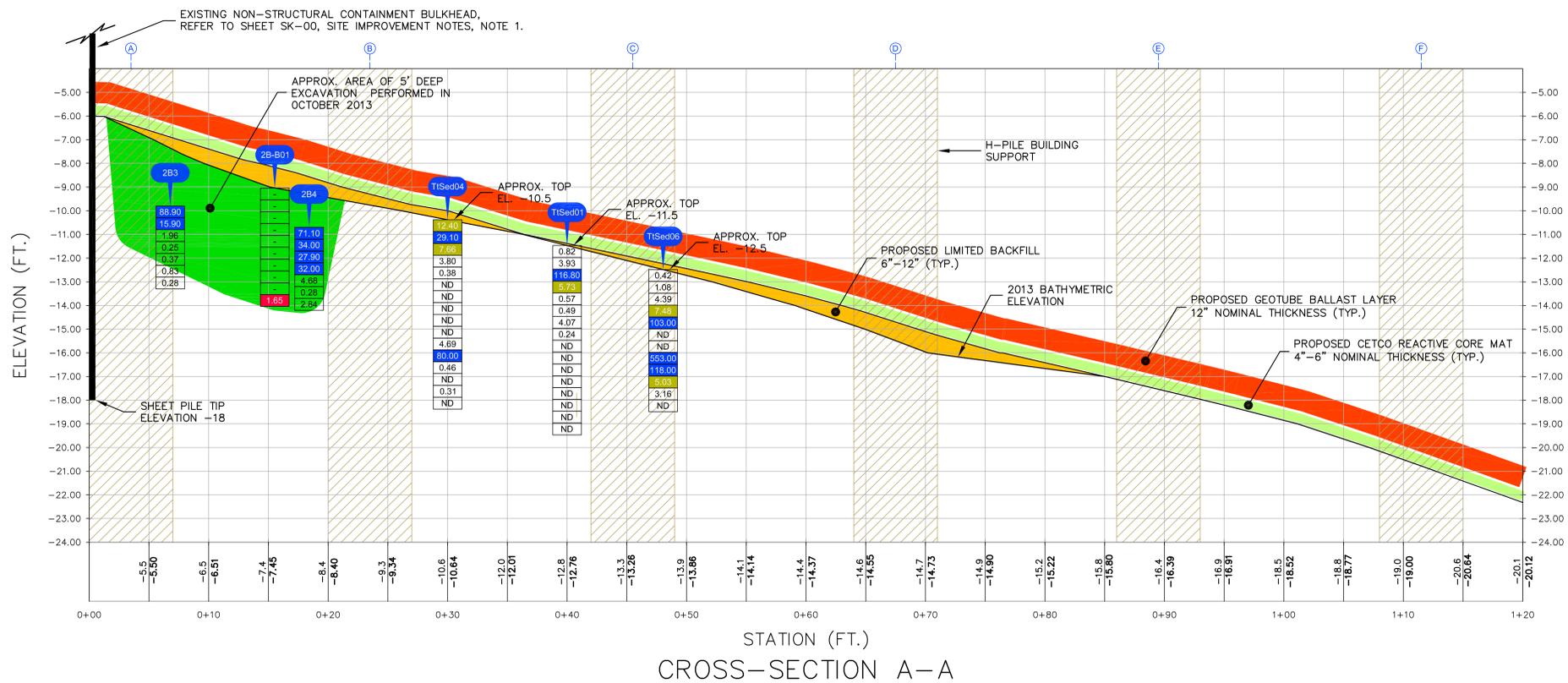
JANOS M. SZEMAN, P.E.  
 PROFESSIONAL ENGINEER  
 NEW YORK LIC. NO. 084542-1  
 Signature: Janos M. Szeman, 04/23/2014 DATE

**PS&S**  
 Integrating design & engineering  
 55 MAIN STREET  
 3RD FLOOR  
 YONKERS, NEW YORK 10791  
 PHONE (914) 509-8600

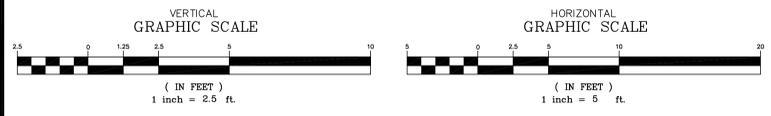
PROJECT TITLE  
 DCU AREA 2B  
 CFR 761.61(c)  
 RISK BASED  
 APPROACH  
 APPLICATION

SHEET TITLE  
 2013 DCU AREA 2B  
 REMAINING  
 CONTAMINATION DATA  
 AFTER PROPOSED  
 EXCAVATION

DATE 01/31/14  
 SCALE 1"=10'  
 DRAWN RP  
 CHKD. JMS  
 JOB NO. 048170002  
 SHEET NO. CCR-02



CROSS-SECTION A-A

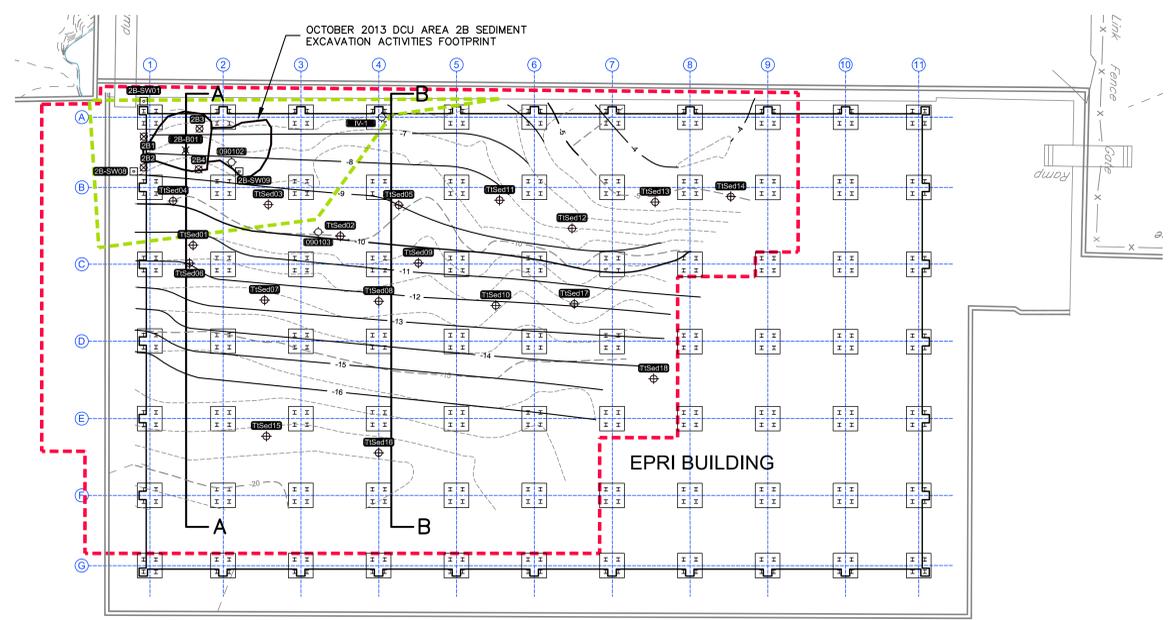


LEGEND

- [NOVEMBER 10, 2013] INDIVIDUAL 0.5' CORE SAMPLE SECTION
- [2012] INDIVIDUAL 0.5' CORE SAMPLE SECTION >15 PPM
- [2012] INDIVIDUAL 0.5' CORE SAMPLE SECTION >5 PPM
- [2012] NOT DETECTED; [2010] NOT DETECTED AT IV-1
- PROPOSED GEOTUBE BALLAST LAYER
- PROPOSED LIMITED BACKFILL
- PROPOSED CETCO REACTIVE CORE MAT
- [OCTOBER 2013] SCANCRAWLER SEDIMENT EXCAVATION
- LIMITS OF PROPOSED MULTI-LAYER SEDIMENT COVER SYSTEM
- [2010] PROPOSED REMEDIATION AREA 2B
- [SEPTEMBER 2013] WARD CARPENTER BATHYMETRIC SURVEY
- PROPOSED LIMITED BACKFILL AND CUSHION FILL GRADING (BATHYMETRY) PLAN

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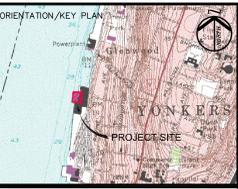


2013 COMPLETED PROPOSED DCU AREA 2B SEDIMENT EXCAVATION EFFORTS

REVISIONS/ISSUES			
NO.	DATE	BY	DESCRIPTION
0	11/13/13	RP	JMS ISSUED FOR REGULATORY REVIEW (12/2013)
1	04/21/14	RP	JMS ISSUED FOR DCU AREA 2B SCS PRAP

**ONE POINT STREET, INC.**  
FORMER BICC CABLES SITE

NYSDEC SITE NUMBER: C360051  
BROWNFIELD'S SITE CLEANUP AGREEMENT  
INDEX NUMBER: W3-1063-05-03



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**JANOS M. SZEMAN, P.E.**  
PROFESSIONAL ENGINEER  
NEW YORK - LIC. NO. 084542-1

*Janos M. Szeman* 04/23/2014  
SIGNATURE DATE

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Integrating design & engineering

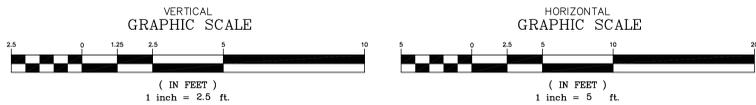
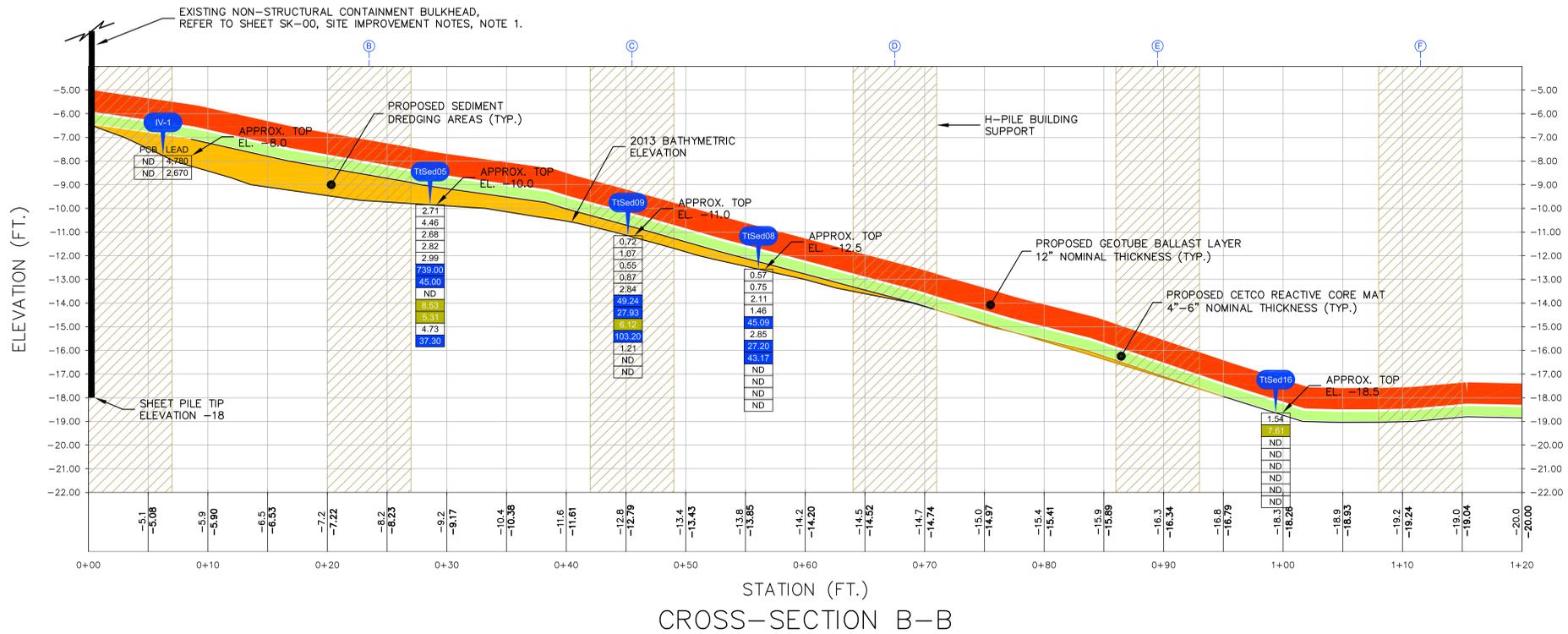
55 MAIN STREET  
3RD FLOOR  
YONKERS, NEW YORK 10791  
PHONE (914) 509-8600

PROJECT TITLE  
**DCU AREA 2B  
CFR 761.61(c)  
RISK BASED  
APPROACH  
APPLICATION**

1 POINT STREET, YONKERS, NEW YORK

SHEET TITLE  
**PROPOSED SEDIMENT  
REMEDATION  
CROSS-SECTIONS**

DATE	01/31/14	JOB NO.	048170002
SCALE	AS NOTED	B/G	
DRAWN	RP	SHEET NO.	
CHKD.	JMS		<b>CCR-03</b>

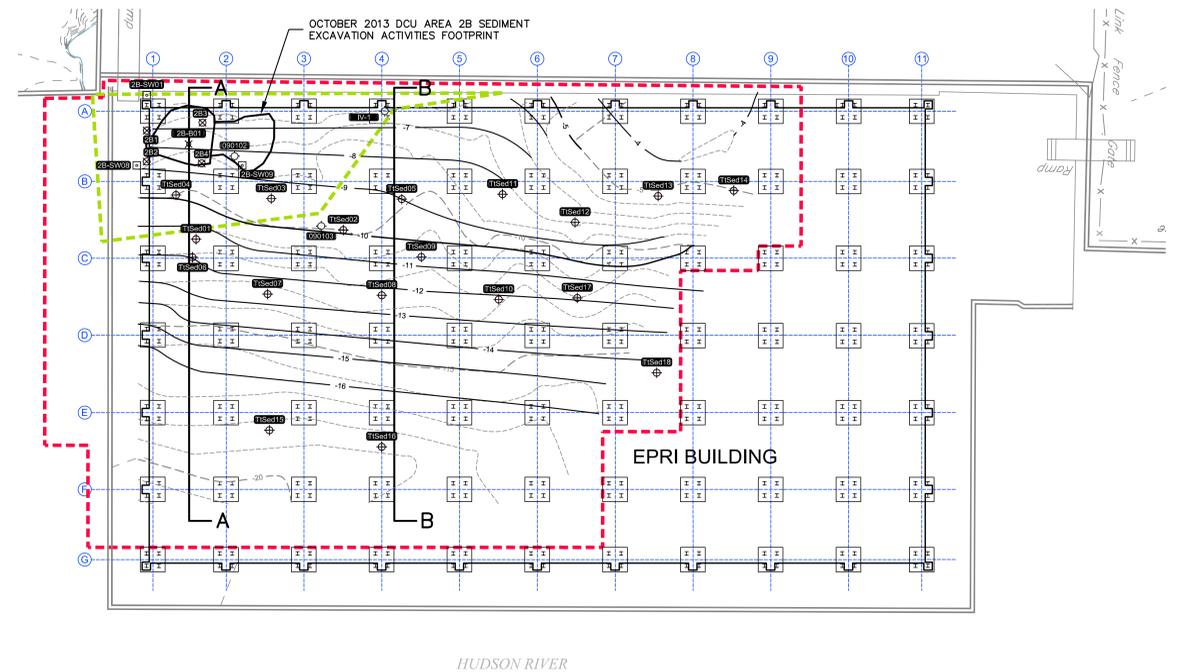


LEGEND

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- [2012] INDIVIDUAL 0.5' CORE SAMPLE SECTION >15 PPM
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- PROPOSED GEOTUBE BALLAST LAYER
- PROPOSED LIMITED BACKFILL
- PROPOSED CETCO REACTIVE CORE MAT
- [OCTOBER 2013] SCANCRAWLER SEDIMENT EXCAVATION
- LIMITS OF PROPOSED MULTI-LAYER SEDIMENT COVER SYSTEM
- [2010] PROPOSED REMEDIATION AREA 2B
- [SEPTEMBER 2013] WARD CARPENTER BATHYMETRIC SURVEY
- PROPOSED LIMITED BACKFILL AND CUSHION FILL GRADING (BATHYMETRY) PLAN

REFERENCE NOTES:

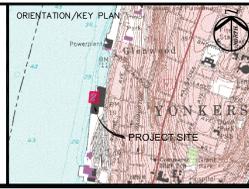
1. TOPOGRAPHIC SURVEY DATA SHOWN IS REFERENCED FROM A SURVEY PREPARED BY WARD CARPENTER, INC., PREPARED FOR "ONE POINT STREET, INC" AND RECEIVED BY PS&S ON NOVEMBER 17, 2011.
2. EPRI BUILDING COLUMNS AND PROPOSED DREDGE DEPTH SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING CORPORATION, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER-BUILDING PILOT STUDY"; DRAWING TITLED "FIGURE 4 PROPOSED DREDGE CUTS FOR FULL SCALE REMEDIATION"; SHEET NO. G004; DATED JULY 25, 2012.
3. PILOT STUDY DREDGE LOCATION AND POST-DREDGE SAMPLING SUMMARY DATA SHOWN IS REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING CORPORATION, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; PROJECT TITLED "EPRI UNDER-BUILDING PILOT STUDY"; DRAWING TITLED "PILOT STUDY AREA & POST-DREDGE SAMPLE LOCATIONS"; SHEET NO. FIGURE 3; DATED OCT. 8, 2012.
4. SEDIMENT CORE LOCATIONS SHOWN ARE REFERENCED FROM A DRAWING PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; DRAWING TITLED "FIGURE 1 CORE LOCATION MAP"; DATED JAN. 20, 2012.
5. SEDIMENT SAMPLING DATA SHOWN IS REFERENCED FROM A TABLE PREPARED BY TETRA TECH ENGINEERING, P.C.; PREPARED FOR "FORMER BICC CABLES SITE"; REPORT TITLED "INTERIM SUMMARY OF SEDIMENT CORING/SAMPLING PROGRAM"; TABLE TITLED "SEDIMENT SAMPLING SUMMARY FOR AREA BENEATH EPRI BUILDING"; DATED JAN. 20, 2012.
6. REMEDIAL INVESTIGATION LOCATIONS IN AREA 2B AND THE DATA SHOWN ARE REFERENCED FROM A DRAWING PREPARED BY H2M GROUP, INC; DRAWING TITLED "REMEDIAL INVESTIGATION AREAS - AREA II"; FIGURE 2-3; DATED MARCH 2010.
7. UNDER BUILDING BATHYMETRIC DATA SHOWN WAS ACQUIRED FROM A DRAWING TITLED "2013 DCU AREA 2B EXISTING CONDITIONS BATHYMETRIC SURVEY" PREPARED BY "WARD CARPENTER, INC." AND DATED SEPTEMBER 24, 2013.



2013 COMPLETED PROPOSED DCU AREA 2B SEDIMENT EXCAVATION EFFORTS

REVISIONS/ISSUES				
NO.	DATE	BY	CHK	DESCRIPTION
0	11/13/13	RP	JMS	ISSUED FOR REGULATORY REVIEW (12/2013)
1	04/21/14	RP	JMS	ISSUED FOR DCU AREA 2B SCS PRAP

**ONE POINT STREET, INC.**  
**FORMER BICC CABLES SITE**  
 NYSDEC SITE NUMBER: C360051  
 BROWNFIELD'S SITE CLEANUP AGREEMENT  
 INDEX NUMBER: W3-1063-05-03



ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI, AND SARTOR, LLC OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.  
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**JANOS M. SZEMAN, P.E.**  
 PROFESSIONAL ENGINEER  
 NEW YORK - LIC. NO. 084542-1  
 Signature: *Janos M. Szeman* 04/23/2014 DATE

**PS&S**  
 Integrating design & engineering  
 55 MAIN STREET  
 3RD FLOOR  
 YONKERS, NEW YORK 10791  
 PHONE (914) 509-8600

PROJECT TITLE  
**DCU AREA 2B  
 CFR 761.61(c)  
 RISK BASED  
 APPROACH  
 APPLICATION**  
 1 POINT STREET, YONKERS, NEW YORK

SHEET TITLE  
**PROPOSED SEDIMENT  
 REMEDIATION  
 CROSS-SECTIONS**

DATE	01/31/14	JOB NO.	048170002
SCALE	AS NOTED	B/G	
DRAWN	RP	SHEET NO.	
CHKD.	JMS		<b>CCR-04</b>