ATTACHMENT 1
BICC Cables Site
RECORD OF DECISION
March 2005

Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

BICC Cables Site

Yonkers, Westchester County, New York

Site Number 360051

March 2005

New York State Department of Environmental Conservation

GEORGE E. PATAKI, *Governor* DENISE M. SHEEHAN, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

BICC Cables Inactive Hazardous Waste Disposal Site
Yonkers, Westchester Co., New York
Site No. 360051

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the BICC Cables site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the BICC Cables inactive hazardous waste disposal site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation and Feasibility Study (RI/FS) for the BICC Cables site and the criteria identified for evaluation of alternatives, the NYSDEC has selected soil excavation and removal, building demolition, and sediment removal. The components of the remedy are as follows:

1. A remedial design program to provide the details necessary to implement the remedial program.

2. Removal and off-site disposal of all debris and soil/fill within the identified subsurface structures.

3. Removal and closure of the interior stormwater system including the residual soil/sediment and residual sludge and concrete sidewalls and bottom within the system to prevent releases of contaminants to surface water and groundwater.

4. Removal of the eleven process oil tanks located on the second floor of Buildings 2A and 8.

5. Demolition of all the site buildings. Any floor slabs remaining after demolition would be remediated to meet the surface and bulk standards, criteria and guidance (SCGs). Any

grossly contaminated soil or fill that is found underneath the buildings where the slabs are removed will be excavated, disposed of off-site, and clean fill will be used to backfill the excavation.

6. Excavation and off-site disposal of the PCB and VOC impacted site soil/fill. In the north yard, soil would be excavated within the footprint of PCB and VOC-impacted fill to twelve feet below grade. Below Building soil/fill and South Yard surface soil/fill impacted by PCBs and VOCs would also be removed.

7. Removal of the debris piles located atop the sediment beneath the Site buildings and hot spots beneath Building No. 8.

8. Restoration of the bulkhead beneath the site buildings to prevent continued erosion of fill into the river.

9. Removal of contaminated Hudson River sediments from Area I, II, III and the Area IV sediment riverward of the bulkhead and restoration of the river environment.

10. Covering all vegetated areas with clean soil and all non-vegetated areas with either concrete or a paving system.

11. Development of a site management plan to address residual contamination, use restrictions, indoor air, and operations and maintenance.

12. Imposition of an environmental easement.

13. Annual certification of the institutional and engineering controls.

14. A groundwater monitoring program.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 18 2005

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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APPENDICES

RECORD OF DECISION
BICC Cables Site
Yonkers, Westchester County, New York
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March 2005

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for the BICC Cables site. The presence of hazardous waste has created significant threats to human health and/or the environment that are addressed by this remedy. As more fully described in Sections 3 and 5 of this document, the improper storage, spillage, and sloppy handling of materials have resulted in the disposal of hazardous wastes, including polychlorinated biphenyls (PCBs), lead, and volatile organic compounds (VOCs). These wastes have contaminated the soil, building surfaces, and river sediments at the site and have resulted in:

- a significant threat to human health associated with potential exposure to soils, building materials, and sediments, and

- a significant environmental threat associated with the impacts of contaminants to sediments contaminated with PCBs and metals.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy:

- A remedial design program to provide the details necessary to implement the remedial program.

- Removal and off-site disposal of all debris and soil/fill within the identified subsurface structures.

- Removal and closure of the interior stormwater system including the residual soil/sediment and residual sludge and concrete sidewalls and bottom within the system to prevent releases of contaminants to surface water and groundwater.

- Removal of the eleven process oil tanks located on the second floor of Buildings 2A and 8.

- Demolition of all the site buildings. Any floor slabs remaining after demolition would be remediated to meet the surface and bulk standards, criteria and guidance (SCGs). Any grossly contaminated soil or fill that is found underneath the buildings where the slabs are removed will be excavated, disposed of off-site, and clean fill will be used to backfill the excavation.

- Excavation and off-site disposal of the PCB and VOC impacted site soil/fill. In the north yard, soil would be excavated within the footprint of PCB and VOC-impacted fill to twelve feet below grade. Below Building soil/fill and South Yard surface soil/fill impacted by PCBs and VOCs would also be removed.

- Removal of the debris piles located atop the sediment beneath the Site buildings and hot spots beneath Building No. 8.

- Restoration of the bulkhead beneath the site buildings to prevent continued erosion of fill into the river.

- Removal of contaminated Hudson River sediments from Area I, II, III and the Area IV sediment riverward of the bulkhead and restoration of the river environment.

- Covering all vegetated areas with clean soil and all non-vegetated areas with either concrete or a paving system.

- Development of a site management plan to address residual contamination, use restrictions, indoor air, and operations and maintenance.

- Imposition of an environmental easement.

- Annual certification, unless another time frame is set forth in the site management plan, of the institutional and engineering controls.

- A groundwater monitoring program.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially 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.

SECTION 2: SITE LOCATION AND DESCRIPTION

The BICC Cables Corporation site (i.e., the Site) is located on approximately 13 acres on the eastern shore of the Hudson River in the City of Yonkers, Westchester County. As shown in Figure 1, the Site is bounded to the north and west by the Hudson River. With the exception of the parking lot located on Point Street, the Site is bordered to the east by the Hudson Line of the Metro-North Commuter Railroad. A bus depot and bag factory border the Site to the south. The abandoned Glenwood Power Station is located a short distance upriver to the north of the Site. The Site is located in a mixed industrial/residential area with multiple and single-family residences to the east, and industrial facilities along the river to the north and south.
Located within the facility footprint is the EPRI Laboratory building. This building is not part of the Site as defined in the Registry of Inactive Hazardous Waste Disposal Sites (Registry)[1]. The

[1] The EPRI Laboratory is a freestanding building constructed in or about 1968 on pilings over the Hudson River. This building was formerly used for cables testing and was not used for any manufacturing operations. On November 6, 2000 the NYSDEC

northern portion of the Site is covered with buildings of various ages and the southern portion of the Site is an open area referred to as the Yard. All of the Site landmass located to the west of the railroad tracks was created by filling of the Hudson River. This landfilling, which was conducted in stages, began in the late 1880s and was completed in the mid-1970s. Historic fill, comprised of brick fragments, cinders, slag, coal, ash and shells, was used as fill for the portion of the Site to the west of the tracks. Placement of historic fill in the Hudson River to create landmass was a common practice during that time period. In addition to historic fill, operational debris was also used as fill material in the northern portion of the Yard (i.e., North Yard).

The shoreline along the Site has been stabilized using rip-rap along the Yard and steel sheetpiles and timber bulkheads beneath the Site buildings. The steel sheet piles and timber bulkheads are in poor condition and have allowed the river to erode the underlying fill. This fill erosion has resulted in the subsidence of some building floors and the dock. In addition, the shoreline along the southern portion of the Yard (i.e., South Yard) was recently restabilized to prevent future erosion of soil/fill into the river. Portions of the Site buildings are constructed atop of landmass that is comprised of historic fill, while the remaining buildings are constructed on piles over the river. A Site map showing the approximate location of the shoreline/bulkhead, as well as the Yard and the Site buildings is provided as Figure 2. Site buildings occupy approximately 4.5 acres of the Site while the Yard occupies approximately 8 acres of the Site.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

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 & 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

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approved the petition to removed the EPRI Laboratory from the New York State Registry of Inactive Hazardous Waste Disposal Sites. Therefore, the EPRI Laboratory is not part of the site.

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 lead-jacketed cable, BICC ceased manufacturing operations at the Site in 1996.

Discussion regarding hazardous waste disposal at the Site is provided in Section 5.1.3.

3.2: Remedial History

In 1999 the NYSDEC listed the site as a Class 2 site in the Registry. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

Before this, in 1997, following the closure 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 polychlorinated biphenyls (PCBs) at concentrations above 50 parts per million (ppm) in the Yard soils during the Petroleum Spills Investigation, in 1999 the Site was classified as a Class 2 site under the New York State Inactive Hazardous Waste Disposal Site Program. PCBs at concentrations greater than 50 ppm are a listed hazardous waste in New York State.

SECTION 4: ENFORCEMENT STATUS

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 NYSDEC and BICC Cables Corporation entered into an Administrative Order on Consent on March 17, 2000. The Order obligates the responsible party, BICC Cables Corporation, to conduct a RI/FS. After the remedy is selected, the NYSDEC will approach the PRP to implement the selected remedy under an Order on Consent.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the Site. The RI was conducted between October 1997 and May 2003. The field activities and findings of the investigation are described in the September 2003 RI report.

The following activities were conducted during the RI:

- Research of historical operations and disposal information;
- Geophysical surveys to determine location of subsurface structures below Site buildings and the Yard;
- A soil investigation that included installation of soil borings and test pits to determine the chemical levels and physical properties of the subsurface fill, as well as Site-related impacts. A total of 111 soil borings and four test pits were installed. Borings were generally advanced to the top of the silt layer located at a maximum of 20 feet below grade and samples were generally collected every four feet. Soil samples collected below the Site buildings were generally advanced to shallower depths and samples were collected every two feet.
- Groundwater sampling to evaluate water quality and to estimate flow conditions beneath the Site. This entailed installation of 14 monitoring wells and collection and analysis of a total of 30 groundwater samples from these 14 wells and one dry well.
- A well search in the vicinity of the Site.
- Collection and analysis of two surface water samples for metals.
- Collection of 158 sediment samples for chemical analysis from 56 Site locations and four upriver (i.e., background) locations to evaluate Site-related impacts to sediment. All sediment samples were taken from the 0 to 6 inch and 6 to 12 inch intervals. Samples were also collected from the 12 to 18 inch and 18 to 24 inch intervals at some locations.
- Collection of 898 surface wipe samples from the interior building surfaces to determine surficial building material impacts.
- Collection of 5 bulk surface accumulation samples from interior concrete floor areas.
- Collection of 619 concrete bulk samples to determine the vertical extent of contamination in building materials.
- Collection of 62 wood bulk samples to determine the vertical extent of contamination in building materials.
- Collection of two oil and two water samples from the former reel pit located in Building No. 2.
- Collection of four sludge samples from the interior stormwater trench system prior to its cleaning.
- Collection of nine surface wipe samples and one oil sample from within the former process tanks and piping mounted on the ceiling of Building No. 2A.

To determine which media (soil, groundwater, etc.) contain chemicals at levels of concern, the RI analytical data were compared to the following environmental standards, criteria and guidance values (SCGs):

Groundwater, drinking water, and surface water SCGs were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 of the New York State Sanitary Code.

Soil SCGs were based on the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046, Determination of Soil Cleanup Objectives and Cleanup Levels and Toxic Substances Control Act (TSCA) standards for PCBs in environmental media as documented in 40 CFR 761, PCB Spill Cleanup Policy.

Sediment SCGs were based on the NYSDEC Technical Guidance for Screening Contaminated Sediments.

The interior building material PCB wipe SCG of 1 $\mu g/100cm^2$ was based on guidance provided by NYSDOH as a re-occupancy guideline following a transformer fire at the Binghamton State Office Building and a transformer fire at the State University of New York New Paltz facility. The interior building material lead wipe SCG of 4.3 $\mu g/100cm^2$ was based on 40 CFR Part 745. A wipe sample is taken by wiping a specified surface area with a piece of gauze and having an analytical laboratory measure the mass of contaminant that is removed from the surface and on the gauze.

The interior building material bulk SCGs of 1 ppm for total PCBs and 500 ppm for lead were based on 40 CFR Part 761 and the TAGM 4046, respectively. A bulk sample is measured by collecting various thicknesses of material (e.g., 1" of concrete flooring or wood) and having a laboratory measure the quantity of contaminant in the material.

Upriver (i.e., background) sediment samples were collected from four (4) locations. These locations were presumed to be upstream of the Site, and were unaffected by historic or current Site operations. The samples were analyzed for PCBs, SVOCs and metals. In addition, seven RI samples collected from the upriver Harbor at Hastings site, but not impacted by that site, were also used in the background sediment data set for the Site. The results from all 11 sample locations were compared to data from the RI (Table 1) to determine whether Site samples are different from river sediments in the vicinity of the Site and to assist in developing remediation goals. For PCBs, a remediation goal of 1 mg/kg was selected for sediments based upon the TAGM 4046 soil cleanup objective for protection of human health. Remedial goals based on background and human health do not relate to the toxicity or bioaccumulative qualities of the contaminants to sediment dwelling organisms. Instead, they are considered during the balancing phase of remedy selection, as discussed in Section 8.

For comparative purposes, the concentrations of organic compounds and inorganic constituents in historic fill from a nearby property along the Hudson River in Yonkers, NY were assembled to evaluate whether the fill used at the Site to create landmass was typical of historic fill in other similar areas or intermixed with operationally related fill. Depending on the analyte, between 31 and 37 soil samples collected from a nearby site were used to establish a historic fill data set for comparative purposes.

Based on the RI results, in comparison to the SCGs, potential public health and environmental exposure routes and upriver sediment concentrations (i.e., sediment background concentrations), certain media and areas of the Site require remediation. These are summarized below. More complete information can be found in the RI report.

5.1.1: Site Geology and Hydrogeology

Using the results of the RI and historical information, the Site was divided into four soil areas: North Yard, South Yard, Below Buildings and BICC Parking Lot. Different materials were used to establish the landmass in these four areas. Test results confirm that clean, sand fill was used to raise the elevation of the BICC Parking Lot east of the railroad tracks located on Point Street. West of the railroad tracks, fill material extends to the silt layer, located a maximum depth of 20 feet below grade. The landmass west of the railroad tracks was created through the placement of historic fill (South Yard and Below Building) and historic fill and operational debris (North Yard).

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, MW-8. 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.

5.1.2: <u>Nature of Contamination</u>

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 the environmental media are polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and inorganic constituents. The two most significant chemicals of potential concern (COPCs) for the interior concrete and wood building material, subsurface structure fill material, and residual sludge in the interior stormwater trench system are PCBs and lead. Lead is the only COPC in the former Lead Extrusion Pits.

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.

VOCs are a group of organic compounds with a high solubility in water and which readily evaporate into air. The predominant VOCs found in the Site environmental media are benzene, ethylbenzene, toluene, xylene and tetrachloroethene. The source of the tetrachloroethene (also known as perchloroethylene), which is only present in Site groundwater, not soil, is suspected to be an off-site source located to the east of the BICC Site.

SVOCs are a group of organic compounds with a moderate to low solubility in water and do not readily evaporate into air. The SVOCs found in the Site soil/fill are: polycyclic aromatic hydrocarbons (PAHs), phenols and phthalates. PAHs are commonly found in combustion end products routinely observed in historic fill. Phthalates are associated with plastics and the phenols are likely also associated with fill 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, iron, lead, mercury, nickel and zinc. 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.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media and interior building materials that were investigated.

Table 1 summarizes the degree of contamination for the contaminants of concern in Site soil, groundwater, sediment, and interior building materials and compares the data with the SCGs for the Site. In this table chemical concentrations are reported in parts per million (ppm) for soil, inorganic constituents in sediment, and building material bulk samples; parts per billion (ppb) for organic compounds in sediment and groundwater; and micrograms per one hundred square centimeters ($\mu g/100\ cm^2$) for wipe samples. For comparison purposes, where applicable, SCGs are provided for each medium.

Soil

Both surface soil samples (i.e., samples within the upper two feet of soil) and subsurface soil samples (i.e., samples greater than 2 feet in depth) were collected at the Site. Based upon historical fill characteristics and operational impacts over periods of time the Site was divided into four soil areas: North Yard, South Yard, Below Building, and BICC Parking Lot. The sample results for surface soil samples and subsurface soil samples provided in Table 1 are divided into these four areas.

As part of the RI the Site-related soil impacts were determined. As discussed above all of the landmass west of the railroad tracks was created using historic fill. Thus, the RI\FS makes a distinction between impacts posed by historic fill and the impacts related to previous Site use (i.e., Site-related impacts). The predominant chemicals defining the Site-related soil impacts are polychlorinated biphenyls (PCBs) detected in site soil and VOCs. A summary of the PCB and VOC concentrations in the Site soil areas is presented in Table 3.

BICC Parking Lot

Unlike the other three soil areas, the BICC Parking Lot is located to the east of the railroad tracks and was formed using clean sand fill to raise the elevation of the area. This entire area is paved. The only chemicals found at concentrations in excess of the SCGs in the BICC Parking Lot are beryllium, iron, mercury, nickel and zinc (see Table 1). Neither the levels of these metals that were detected in the test results nor frequency of detection of these metals in the soils under the parking lot is considered to pose a significant threat. No remedial action is proposed for the soil in the BICC Parking Lot.

South Yard Soil

The total area of the South Yard is 199,800 square feet (sf). The majority of the South Yard is paved. With the exception of a sliver of land along the river that appears to have been constructed using historic fill and operational debris, the South Yard was created between 1898 and 1942 using only historic fill. The historic fill extends down to the silt layer and is at a maximum 20 feet in depth.

In the South Yard, PCB impacts were limited to surface soil and one isolated subsurface soil location 19 to 20 feet bgs within the sliver of fill along the Hudson River. As noted in Table 1, nine out of 23 South Yard surface soil samples exceeded the PCB SCG. The maximum PCB concentration in the South Yard surface soil is 7 ppm. Only one out of the 47 South Yard subsurface soil samples exceeded the PCB SCG. The PCB concentration at this location is 23.3 ppm. The arithmetic average PCB concentration for all South Yard soil samples is less than 1 ppm and below the PCB hazardous waste limit of 50 ppm. With the exception of where PCBs were found the South Yard soil quality is consistent with historic fill concentrations in the Yonkers area along the Hudson River. The extent of PCB-impacted South Yard soil is presented in Figure 3 and summarized in Table 3.

Volatile organic compounds (VOCs) were not found above the soil cleanup objectives. SVOCs and inorganic chemical concentrations were comparable to those levels found in other historic fill in Yonkers. The estimated quantity of PCB-impacted South Yard soil is 2,323 cubic yards (cy) of surface soil and 1,182 cy of subsurface soil.

North Yard Soil

The total area of the North Yard soil is 149,600 sf. The majority of the North Yard is covered with pavement or concrete. The North Yard was constructed between 1942 and 1976 using historic fill and operational debris. The historic fill extends down to the silt layer and is at a maximum 20 feet in depth.

PCB concentrations in both the North Yard surface and subsurface soil are above their SCGs and PCB concentrations are above the PCB hazardous waste limit at a number of North Yard locations. Thus, the data indicates that PCB hazardous waste disposal occurred in the North Yard. Subsurface exceedances of the SCGs for PCBs extend to 20 feet below grade. The maximum PCB concentration in North Yard surface soil (i.e., 2 feet or less in unpaved areas) is 20.1 ppm and the maximum PCB concentration in the subsurface soil is 97,600 ppm. As shown in the following table, the vast majority of the PCB mass (i.e., 99%) and PCB listed hazardous waste (i.e., 99%) is located in the upper twelve (12) feet of the North Yard soil.

North Yard	Cumulative PCB Mass	Cumulative Mass of PCB Listed Hazardous Waste

0-4 feet	86%	87%
0-8 feet	94%	95%
0-12 feet	99%	99%
0-16 feet	99.7%	99.7%
0-20 feet	100%	100%

In addition to PCBs, VOCs are also present in the North Yard soil above their SCGs and petroleum is entrained in the North Yard soil. The extent of PCB and VOC-impacted soil is presented in Figures 4 through 8 and Table 3. Although a number of SVOCs and inorganic constituents in the North Yard soil also exceed their SCGs, the majority of North Yard locations outside the PCB and VOC-impacted soil area, as defined in Figures 4 through 8, are consistent with typical historic fill concentrations. Thus the area of PCB and VOC-impacted soil identified in Figures 4 through 8 also includes the Site-related impacts posed by inorganic constituents and SVOCs. The estimated quantity of PCB and VOC-impacted soil above soil cleanup objectives for PCBs and VOCs is 39 cy of surface soil and 17,118 cy of subsurface soil.

Below Building Soil

The total area of the Below Building soil is 125,000 sf. With the exception of exposed soil area adjacent to the active railroad tracks, this entire soil area is covered with buildings. The Below Building soil consists primarily of historic fill placed prior to 1938. The maximum depth of sampling in this area is 19 feet below the bottom of the floor slab. PCB hot spots were identified in localized soil areas, many of which were correlated with historic operations (i.e., portions of floor trenches with open bottoms, etc.). The maximum PCB concentration in Below Building surface soil is 15.5 ppm and the maximum PCB concentration in the subsurface soil is 5,510 ppm. The extent of PCB and VOC-impacted Below Building soil is presented in Figures 9 and 10 and Table 3. The estimated quantity of PCB and VOC impacted Below Building soil is 24 cy of surface soil and 1,502 cy of subsurface soil.

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 of this organic compound at a location influenced by the flow of groundwater onto the Site, the suspected source of tetrachloroethene in Site groundwater is an upgradient, off-site source of this compound. The source of benzene and xylene in groundwater appear to be VOC-impacted North Yard soil.

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. In addition, to determine Site background sediment concentrations, sediment samples were also collected upriver of the Site.

Comparison of the Site sediment sampling results to SCGs is presented in Table 1. Table 2 contains upriver sediment data.

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, 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. 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 four sediment areas (I-IV) is presented in Table 1 and Figure 11.

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. The extent of sediment adjacent to the Yard having lead and copper concentrations above average upriver levels is depicted in Figure 12 as Area V and Table 1.

Further review of the sediment results indicates that the maximum concentrations of constituents of concern in the surface sediment are frequently comparable to, or lower than, the subsurface sediment intervals, regardless of location. One apparent exception to this is PCBs in select intertidal (areas of sediment that are underwater at low tide and above water at high tide) and subtidal (sediment locations always underwater, regardless of tide) building locations. With respect to the subtidal building area, PCB concentrations in the surface sediment at two locations adjacent to the buildings (SED8W-01 and SED12-02) are higher than in subsurface sediment at those locations. These samples were collected at the end of outfalls that continue to receive stormwater and discharge to the river.

The maximum depth of sediment sampling ranged from 12 inches to 24 inches. A maximum remedial depth of 24-inches was assumed in the absence of information indicating that the extent of impacted sediment was deeper.

Interior Building Materials

Two types of impacted building materials are present at the Site. They include:

- Impacted interior concrete and wood building material limited to surface accumulation/ surface impacts; and
- Impacted interior concrete and wood building materials at depth.

The chemicals of concern for the interior building materials are PCBs and lead. The extent of impacted interior building materials was determined through comparison to the SCGs. Table 4 summarizes the estimated quantity of surficially impacted building material. Figures 13 through 16 present the extent of impacted building material. Table 4 summarizes the surface areas of impacted building material at depth for each floor and provides an estimate of the volume of impacted building material. Portions of the impacted building materials are a listed PCB hazardous waste due to their bulk PCB concentrations.

Lead Extrusion Pits

There are two former lead extrusion pits located on the second floor of Building No. 8. There is a small quantity of sediment in these pits that will be characterized as a RCRA characteristic hazardous waste when removed. However, concrete walls and bottoms of the pits are probably not a hazardous waste, but rather PCB and lead contaminated building materials because of the concentrations.

Interior Stormwater Trench System

The interior stormwater trench system is located on the first floor of the northern buildings and is estimated to be 1,100 linear feet and constructed with concrete walls and bottom for the majority of the trench. Following an initial cleaning of the trench by mechanical means, it was determined that residual soil/sediment remains in inaccessible areas and portions of the trench without a competent bottom. It is estimated that approximately 115 cy of residual sludge remains in the trench system. SVOCs, inorganic constituents, and PCBs were detected in soil/sediment samples prior to the cleaning. The residual soil/sediment likely contains SVOCs, inorganic constituents, and PCBs similar to the soil/sediment that was previously removed.

Process Oil Tanks and Fuel Oil Tanks

The process oil tanks located on the walls of Building No. 8 and ceiling of Building No. 2A were previously drained of their contents, but were not cleaned. Thus, residual oil is located in these process oil tanks and associated piping. Surficial wipe samples revealed PCBs concentrations from the tank interior and manifold piping ranging from non-detect to 9 $\mu g/100\ cm^2$.

At the time of the RI/FS, two 25,000 gallons fuel oil storage tanks were present at the Site. These tanks and their contents are being removed from the Site under the oversight of the NYSDEC.

Subsurface Structures

Five concrete subsurface structures were identified on the first floor during a subsurface geophysical investigation. Four of the five subsurface structures are filled with construction debris and fill. It is estimated that approximately 140 cy of soil/fill are contained within these structures. It is estimated that 6 cy are PCB hazardous waste and the remaining 134 cy are non-hazardous waste. Since the RI was conducted, the debris, water and oil within the fifth structure have been removed.

5.2: Interim Remedial Measures

There were no IRMs conducted at this Site during the RI/FS.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 5 of the RI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Potential Exposure Pathways

Soil

- Direct Contact with both surface and subsurface soils contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs) and metals are potential exposure pathways for trespassers and site workers. However, site access is restricted with a fence that is manned with guards 24 hours a day. Therefore, exposure to trespassers from contaminated soil is not expected. Additionally, most of the site is paved and those areas that are not paved are covered with thick brush thereby limiting access to unpaved areas. Therefore, exposure to site workers from contaminated soil is not expected. The proposed remedy would further minimize potential exposures through the removal of targeted areas of contaminated soil as well as capping of the entire site after building demolition.

Groundwater

- Ingestion of contaminated groundwater is a potential pathway for site workers. However, the facility is supplied with public water. Therefore, ingestion of contaminated groundwater is not expected.

Contaminated Building Materials

- Exposure to building material contaminated with lead and PCBs is a potential exposure pathway for site workers. However, access to those areas with PCB and lead contamination above the established temporary occupancy criteria has been restricted. Therefore, exposure to site workers through direct contact is expected to be minimal. Furthermore, the proposed remedy would further reduce the amount of exposure to PCBs and lead in building materials, by demolishing all on-site buildings and the cleaning the remaining concrete slab areas (Buildings 7, 8 and 9) contaminated above the established surface and bulk SCGs.

River Sediments

- Exposure to contaminated sediment is a potential exposure pathway at this site. However, access to those areas of the Hudson River with contaminated sediment is limited and those areas are not used for recreational purposes. Therefore, exposure to contaminated sediment is not expected. The remedy will further minimize the potential for exposure to contaminated sediment by removing a majority of it for off-site disposal.

Ambient (Outdoor) Air

- Inhalation of PCBs, semi-volatile organic compounds and metals is a potential exposure pathway for nearby businesses/industrial facilities during remediation activities (soil excavation, building demolition, etc.) However, the Community Air Monitoring Plan implemented during demolition and intrusive remediation activities will be designed to prevent the migration of site contaminants in air. Therefore, inhalation exposure is not expected during remediation.

Indoor Air

- Inhalation of volatile organic compounds in indoor air that are a result of vapor intrusion is a potential exposure pathway at this site. However, the proposed remedy includes the provision for the installation of sub-slab depressurization systems (venting system) in all future on-site buildings. Therefore, inhalation exposure to VOCs in the future will be minimized.

- Inhalation of PCBs in indoor air as a result of volatilization from contaminated building materials is a potential exposure pathway to site workers. In 2001, the indoor air at the facility was sampled and analyzed for PCBs. No PCBs were detected in any of the seven samples. Therefore, exposure to PCBs through inhalation is not expected at this site. Additionally, the proposed remedy includes the demolition of the buildings. Therefore, inhalation of PCBs in the indoor air that are a result of contaminated building materials will not be a potential exposure pathway in the future.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future adverse impacts to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The Fish and Wildlife Impact Analysis, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors. The following environmental exposure pathways and ecological risks have been identified:

Sediments in the river adjacent to the site contain levels of PCBs and certain metals that are known to affect the survival of benthic organisms and to bioaccumulate in animals. This results in reduced availability of food for forage species and in reproductive effects in fish, terrestrial wildlife, birds, and other species.

Site contamination has also impacted the shallow groundwater aquifer.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to volatile organic chemicals, semivolative chemicals, PCBs, and inorganic constituents in surface and subsurface soils and sediments in the Hudson River;

- exposures of persons at or around the site to PCBs and inorganic constituents such as lead, associated with the site buildings;

- environmental exposures of flora and/or fauna to PCBs and inorganic constituents in sediments in the Hudson River; and

- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards.

Further, the remediation goals for the site include attaining to the extent practicable:

- Technical and Administrative Guidance 4046 Soil Cleanup Objectives;

- NYSDEC Technical Guidance for Screening of Contaminated Sediments;

- PCB cleanup criteria in 40 CFR Part 761; and
- ambient groundwater quality standards.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected 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. Potential remedial alternatives for the BICC Cables Corporation Site were identified, screened and evaluated in the FS report which is available at the document repositories established for this site.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth 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. For activities that are not indefinite, their estimated duration has been assumed in the present worth calculation. A discount rate of 5% has been used to determine the present worth of all costs.

7.1 Description of Remedial Alternatives

The following potential remedies were considered to address the Site-related impacted soil, sediment and interior building materials at the Site. The NYSDEC determined that an evaluation of groundwater remedial alternatives was not needed because once the contaminant sources are remediated, groundwater is expected to meet standards for Site-related contaminants in a short period of time. The time to implement noted for each alternative begins after the Remedial Design has been approved and does not include time needed to secure permits.

SOIL

The following remedial alternatives (E1 - E4) address the impacted soil/fill at the Site. With the exception of No Action (Alternative E1), each of the soil/fill remedial alternatives would include certain Common Actions, designated C1, C2 and C4.

Common Action C1 would entail performance of semiannual groundwater monitoring to evaluate post-remedial groundwater concentrations. Five wells would be used to characterize the site and analyses would be limited to VOCs. If groundwater concentrations are stable or decreasing, the need for groundwater monitoring would be reevaluated after two years.

Common Action C2 would entail preparation and implementation of a site management plan to, among other activities, manage future direct contact with chemicals remaining in soil and/or fill following the remedial action and to establish management procedures for any soils, fill, and/or sediment excavated following the remedial action. The plan will (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan would require soil characterization and where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) require the evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) identify any use restrictions; and (d) provide for the operation and maintenance of the components of the remedy.

Common Action C4 would entail restoration of the bulkhead beneath the Site Buildings to prevent continued erosion of fill into the river and loss of landmass. New bulkheads would be constructed alongside the existing bulkhead. The bulkhead would be installed from west of the Building No. 8, along Building Nos. 7, 9, and 12 and on the northern site boundary as shown in Figure 2. As discussed below in the sediment section, this common action would serve to isolate the Area IV sediment located upland of the restored Building No. 8 bulkhead and return the area beneath Building No. 8 to its original state as a bulkheaded area. The new bulkhead would be periodically inspected and repaired as necessary to ensure that no new fill or residual contamination is escaping to the river.

The costs for these Common Actions are incorporated in the capital costs provided below for each alternative.

Alternative E1 – No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the Site soil in its present condition and would not provide any additional protection to human health or the environment.

Present Worth	*$0*
Capital Cost	*$0*
Present Value OM&M	*$0*
Time to Implement	*none*

Alternative E2 – Surface Cover

This alternative would entail covering the North Yard, South Yard and Below Building soil/fill with a surface cover. This surface cover would prevent direct contact with the historic fill, as well as the PCB and VOC-impacted Site soil/fill. A surface cover would be installed over the North Yard and South Yard soil/fill. The existing floor of the East Warehouse, Paint Shop, and Guard House would serve as the surface covers for these soil areas. Surface covers remaining after implementation of the selected building interiors remedy would serve as the surface cover for the soil/fill located beneath the remaining Site buildings. In areas of the North and South Yards that are currently uncovered or have a deteriorated surface cover, a new surface cover would be installed.

This alternative would also include the imposition of an institutional control in the form of an environmental easement that would (a) require compliance with the approved site management plan; (b) identify soil/fill locations exhibiting chemical concentrations in excess of the SCGs; (c) limit the use and development of the property to restricted residential, commercial, or industrial uses only; (d) restrict the use of groundwater as a source of potable water, without necessary water quality treatment as determined by NYSDOH; and (e) require the property owner to complete and submit to the NYSDEC an annual certification.

As noted above, Common Actions C1, C2, and C4 would be conducted under this remedial action.

Present Worth	*$4,313,382*
Capital Cost	*$3,331,448*
Present Value OM&M	*$981,933*
Time to Implement	*6 months*

Alternative E3 – Excavation and Off-Site Disposal with Surface Cover

This alternative would entail excavating the PCB and VOC-impacted Site soil/fill. Prior to excavation, the East and West Warehouses, along with the Paint Shop and the guardhouse would be demolished to access contaminated soil underlying those buildings.

In the north yard, soil would be excavated within the footprint of PCB (greater than 10 ppm) and VOC-impacted fill to one of the following depths: 4 feet, 8 feet, 12 feet, 16 feet, or 20 feet (see Figures 4 - 8). For the deeper excavations pre-design work would be used to determine the excavation engineering approach. Sheeting and shoreline stabilization will be used because of the high watertable. In areas where only surface soil (top two feet) has been impacted with PCBs (greater than 1 ppm) or VOCs, surface soil would be removed to a depth of two feet. In areas where deeper excavation is not called for, the excavated area would be backfilled with clean fill.

Below Building soil/fill and the impacted South Yard surface soil/fill would also be excavated under this alternative as shown in Figures 3, 9, and 10. The depth of excavation in the South Yard would be two feet. As discussed in the FS, there is an isolated exceedance of the subsurface soil PCB SCG in the South Yard along the shoreline at 20 feet bgs (SB-78 in Figure 3). It is the only subsurface soil sample to exceed the PCB SCG in the south yard. Removal of the soil at that one location would require significant engineering controls due to its depth and proximity to the river. Because of the depth and limited scope (one sample), it does not pose a high potential for direct contact. Therefore, the removal of this isolated area is not included in this alternative. Appropriate depths of excavation are shown in Figures 9 and 10 and the appropriateness of these depths would be verified with end point sampling. Any floor slabs remaining will be treated to meet the surface and bulk SCGs. Any grossly contaminated soil or fill that is found underneath the buildings where the slabs are removed will be excavated, disposed of off-site, and clean fill will be used to backfill the excavation. "Grossly contaminated soil" shall mean soil which contains free product which is identifiable visually, through the perception of odor, by elevated contaminant vapor levels, by field instrumentation, or is otherwise readily detectable.

All excavated soil/fill would be transported off-site for disposal. Excavated soil/fill that is characterized as a lead hazardous waste and is also a PCB listed hazardous waste may undergo on-site stabilization to remove the lead hazardous waste characteristic prior to off-site landfill disposal. Clean fill would be used to backfill the excavated areas.

The remaining North Yard, South Yard, and Below Building historic fill areas that have not been excavated would be covered to prevent direct contact with the residual contamination associated with the fill. The remaining areas would be covered with one of the following surface covers: Non-vegetated areas (buildings, roadways, parking lots, etc) would be covered by a paving system or concrete at least 6 inches in thickness. All vegetated areas would be covered by either a one foot (commercial/industrial use) or two foot (restricted residential use) thick cover consisting of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the subsurface soil. These surface covers would prevent direct contact with the historic fill. Surface covers remaining after implementation of the selected building interiors remedy would serve as the surface cover for the Below Building soil/fill. An environmental easement (as described in Alternative E2) would be filed for the Site. As noted above, Common Actions C1, C2 and C4 would be conducted under this remedial action.

E3:0-4 feet

Present Worth	*$8,489,879*
Capital Cost	*$7,686,365*
Present Value OM&M	*$803,515*
Time to Implement	*2 years*

E3:0-8 feet

Present Worth	*$12,895,231*
Capital Cost	*$12,091,716*
Present Value OM&M	*$803,515*
Time to Implement	*2.5 years*

E3:0-12 feet

Present Worth	*$15,658,149*
Capital Cost	*$14,861,791*
Present Value OM&M	*$803,515*
Time to Implement	*3 years*

E3:0-16 feet

Present Worth	*$18,737,914*
Capital Cost	*$17,941,556*
Present Value OM&M	*$803,515*
Time to Implement	*3 years*

E3:0-20 feet

Present Worth	*$20,235,665*
Capital Cost	*$19,439,307*
Present Value OM&M	*$803,515*
Time to Implement	*3 years*

Alternative E4 – Excavation and Off-Site Disposal to Pre-Disposal Conditions and Surface Cover

This alternative would entail excavating all soil/fill placed at the Site after 1940. As discussed in the FS Report, both historic fill and operational debris were deposited in the North Yard and a small section of the South Yard immediately adjacent to the river after 1940. Removal of this post 1940s fill would therefore constitute restoration of the Site to pre-disposal conditions. Similar to Alternative E3, prior to any excavation the East and West Warehouses along with the Paint Shop and the guardhouse would be demolished. The PCB and VOC-impacted Below Building soil/fill and the PCB-impacted South Yard surface soil/fill would also be excavated under this alternative. All excavated soil/fill would be transported off-site for disposal. Excavated soil that is characterized as a lead hazardous waste and is also a PCB hazardous waste may undergo on-site stabilization to remove the lead hazardous waste characteristic prior to off-site landfill disposal. Clean fill would be used to backfill the excavated areas. Considerable sheeting and dewatering would be needed for this alternative.

The remaining soil/fill areas would be covered with a surface cover, similar to that described in Alternative E3. This surface cover would prevent direct contact with the historic fill. Surface covers remaining after implementation of the selected building interiors remedy would serve as the surface cover for the Below Building soil/fill. An environmental easement (as described in Alternative E2) would be filed for the Site. As noted above, Common Actions C1, C2 and C4 would be conducted under this remedial action.

Present Worth	*$43,646,124*
Capital Cost	*$42,988,725*
Present Value OM&M	*$803,515*
Time to Implement	*5 years*

SEDIMENT

The following remedial alternatives address the Area I through V sediment. However, sediment alternatives were developed separately for sediment Areas I through IV ("A" alternatives) and Area V ("B" alternatives). All alternatives with remedial activities requiring work in the River would have to meet the substantive technical requirements of 6 NYCRR Part 608 Use and Protection of Waters which is a location specific SCG.

AREAS I THROUGH IV

With the exception of No Action (Alternative S1), each of the sediment remedial alternatives S2A - S4A related to sediment Areas I through IV would include certain Common Actions, designated Common Actions C2, C4, C5 and C8. Common Action C2 would entail preparation and implementation of a Site management plan to prevent direct contact with chemicals remaining in soils following the remedial action.

Common Action C4 would entail restoration of the bulkhead beneath the Site Buildings to prevent continued erosion of fill into the river and loss of landmass. Common Actions C2 and C4 were also discussed as part of the soils remedy.

Common Action C5 would consist of removal of the interior stormwater system including the residual soil/sediment within the system. This action is also mentioned in conjunction with the interior remedial alternatives.

Common Action C8 would entail removal of the debris piles located atop the sediment beneath the Site buildings and hot spots beneath Building No. 8 prior to the restoration of the bulkhead (see Figure 17 for location of debris piles and hot spots). At each hotspot location, approximately a 10ft. X 10 ft. X 2 ft. area would be removed. Post excavation sampling would be done to ensure the hotspot was removed. In combination, Common Actions C4, C5 and C8 would eliminate future potential erosion of contamination from the Site to the Hudson River.

The cost for Common Action C8 is incorporated in the capital costs provided below for each alternative. Though Common Actions C2, C4 and C5 afford certain environmental benefits to the sediment remedial alternatives, the costs for these common actions are included in either the soil/fill or building interior remedial costs and hence, are not repeated in the sediment remedial alternative cost estimates.

Because bulkhead restoration would be expected to effectively isolate the intertidal portion of the Area IV sediment and return the area to bulkheaded fill, the intertidal portion of Area IV is not included in the sediment remedial alternatives. Hot spot areas of lead contamination, as well as debris piles, within this portion of Area IV would be addressed under Common Action No. 8 prior to bulkhead restoration (i.e., Common Action No. 4).

<u>Alternative S1A – No Action</u>

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the Areas I through IV sediment in its present condition and would not provide any means to confirm additional protection to human health or the environment.

Present Worth	*$0*
Capital Cost	*$0*
Present Value OM&M	*$0*
Time to Implement	*none*

<u>Alternative S2A – Monitored Natural Recovery</u>

This alternative would rely on Monitored Natural Recovery (MNR) in conjunction with Common Actions C2, C4, C5 and C8 to meet the remedial goals for the Area I through IV sediment. MNR is a sediment management tool that depends on a variety of natural physical, chemical, and biological processes that reduce chemical concentrations, exposure, and mobility. MNR requires a goal that defines the expected contaminant concentrations to be reached in a specified time period. Natural recovery in sediments is not to be equated with ‘no action.’ The MNR alternative includes the completion of pre-design investigations to refine the application of a monitored recovery model, long term monitoring, and institutional controls to protect the integrity of the remedy and ensure long-term protectiveness of human health and the environment. Monitoring the effectiveness of natural recovery would be described in a long-term monitoring plan and include evaluations of

PCBs, lead, and copper concentrations in sediment over time. In combination, Common Actions C4, C5 and C8 would eliminate some future potential contamination sources from the Site to the Hudson River. A comprehensive monitoring program would be undertaken to determine if clean or relatively cleaner suspended sediment in the river deposits over impacted sediment thus reducing the chemical concentrations to which humans, wildlife, and other biota could be exposed. Sediment deposition is a natural process that would need to be verified through ongoing monitoring. Following bulkhead restoration, baseline studies would be conducted to determine river and riverbed characteristics and finalize the delineation of the extent of impacted sediment. Long-term studies would then be conducted to determine if adequate deposition is occurring. The time frame for this remedy has not yet been estimated.

Present Worth	*$1,131,666*
Capital Cost	*$346,500*
Present Value OM&M	*$785,200*
Time to Implement	*To Be Determined*

<u>Alternative S3A – Sediment Removal</u>

This alternative would rely on removal of the Area I, II and III sediment and the Area IV sediment riverward of the bulkhead in conjunction with Common Actions C2, C4, C5 and C8 to meet the remedial goals for the Area I through IV sediment. As discussed above, the Area IV sediment upland of the bulkhead would be addressed by Common Actions C4 and C8. Prior to beginning the remedial action, pre-design studies would be conducted to refine the vertical and horizontal limits of dredging and establish the bottom elevation in the dredging areas. Silt curtains would be installed in the river prior to dredging activities to contain re-suspended sediments that are generated during the dredging activities. Hydraulic dredging of the sediment has been assumed. The final sediment removal techniques would be refined during the Remedial Design. Removed sediment would be staged on-site, dewatered and transported off-site for landfill disposal. The remediated area would be backfilled with clean material to restore the Hudson River environment. Assuming a 20% contingency, approximately 3,940 cy of sediment would be removed under this alternative. This alternative would also include the backfilling of dredged areas with material consistent with the particle size distribution of the sediment removed, to restore the pre-remedial topography of the river bottom. The time to implement the remedy does not include the time to obtain the required permits.

Present Worth	*$2,964,617*
Capital Cost	*$2,964,617*
Present Value OM&M	*$0*
Time to Implement	*<1 year*

<u>Alternative S4A – Sediment Removal/Capping</u>

This alternative would rely on capping of the Area I, II and III sediment and removal of the Area IV sediment riverward of the bulkhead in conjunction with Common Actions C2, C4, C5 and C8 to meet the remedial goals for the Area I through IV sediment. Due to access restrictions and sediment cap construction requirements, capping would not be conducted in the intertidal areas (i.e., Area IV sediment riverward of the bulkhead). Sediment removal would not be conducted prior to capping in the subtidal areas since these areas are sufficiently submerged. The final cap design would be determined during the Remedial Design. For FS purposes a two-layer cap was assumed. First, a 6-inch thick layer of hydrated clay intermixed with gravel would be installed over the sediment. This would then be overlain with a 6-inch benthic substrate layer. All dredged sediment would be staged on-site, dewatered and transported off-site for landfill disposal. Assuming a 20% contingency, approximately 2,275 cy would be removed under this alternative and approximately 21,510 sf would be capped. Ongoing monitoring of the cap would be conducted to confirm that the cover is intact. The time to implement the remedy does not include the time to obtain the required permits.

Present Worth	*$3,821,223*
Capital Cost	*$2,859,431*
Present Value OM&M	*$969,791*
Time to Implement	*<1 year*

AREA V

There would be no Common Actions associated with the Area V alternatives.

Alternative S1B – No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the Area V sediment in its present condition and would not provide any means to confirm additional protection to human health or the environment.

Present Worth	*$0*
Capital Cost	*$0*
Present Value OM&M	*$0*
Time to Implement	*none*

Alternative S2B – Monitored Natural Recovery

This alternative would rely on MNR to meet the remedial goals for the Area V sediment. Some degree of sediment deposition is believed to be currently occurring in this area. Following bulkhead restoration, baseline studies would be conducted to determine river and riverbed characteristics and finalize the extent of impacted sediment subjected to MNR. Long-term studies would then be conducted to confirm that adequate deposition is occurring. The time frame for this remedy has not yet been estimated.

Present Worth	*$695,721*
Capital Cost	*$138,600*
Present Value OM&M	*$557,121*

Time to Implement *To Be Determined*

<u>Alternative S3B – Sediment Removal</u>

This alternative would entail removal of the Area V sediment. Prior to beginning the remedial action, pre-design studies would be conducted to refine the vertical and horizontal limits of dredging and establish the bottom elevation in the dredging area. Silt curtains would be installed in the river prior to dredging activities to contain re-suspended sediments that are generated during the dredging activities. Hydraulic dredging of the sediment has been assumed. The final sediment removal techniques would be refined during the Remedial Design. Removed sediment would be staged on-site, dewatered and transported off-site for landfill disposal. The remediated area would be backfilled with clean material to restore the Hudson River environment. Assuming a 20% contingency, approximately 1,593 cy of sediment would be removed under this alternative. This alternative would also include the backfilling of dredged areas with material consistent with the particle size distribution of the sediment removed, to restore the pre-remedial topography of the river bottom. The time to implement the remedy does not include the time to obtain the required permits.

Present Worth	*$857,615*
Capital Cost	*$857,615*
Present Value OM&M	*$0*
Time to Implement	*<1 year*

<u>Alternative S4B – Sediment Capping</u>

This alternative would entail capping the Area V sediment. For FS purposes a two-layer cap was assumed. First, a 6-inch thick layer of hydrated clay intermixed with gravel would be installed over the sediment. This would then be overlain with a 6-inch benthic substrate layer. The final cap design would be determined during the Remedial Design. Prior to installation of the cap, one foot of sediment would be removed from Area V to ensure that the sediment topography is not raised in this area. All dredged sediment would be staged on-site, dewatered and transported off-site for landfill disposal. Assuming a 20% contingency, approximately 796 cy would be removed under this alternative and approximately 17,920 sf would be capped Ongoing monitoring of the cap would be conducted to confirm that the cover is intact. The time to implement the remedy does not include the time to obtain the required permits.

Present Worth	*$2,345,452*
Capital Cost	*$1,438,010*
Present Worth OM&M	*$907,443*
Time to Implement	*<1 year*

INTERIOR BUILDING MATERIAL

The following remedial alternatives (I1 - I4) address the impacted interior building material. With the exception of No Action (Alternative I1), each of the interior building remedial alternatives would include certain Common Actions, designated Common Actions C3, C5, C6, and C7.

Common Action C3 would entail removal and off-site disposal of all debris and soil/fill within the identified subsurface structures. Debris was located in three subsurface structures within Buildings 2, 4, and 15, (shown in Figure 9). If a structure has no sound bottom, post excavation endpoint sampling will be used to verify that all contaminated material has been removed.

Common Action C5 would entail removal of the entire interior stormwater/trench system including residual sludge and concrete sidewalls and bottom. If any structure has no sound bottom, post excavation endpoint sampling will be used to verify if all contaminated material has been removed.

For Common Action C6, the eleven process oil tanks located on the second floor of Buildings 2A and 8 would be removed.

Finally, Common Action C7 would consist of removal of accumulated surface material from the floors and wall surfaces of the lead extrusion pits followed by pressure washing of exposed concrete surfaces.

The costs for these Common Actions are incorporated in the capital costs provided below for each alternative.

<u>Alternative I1 – No Action</u>

This No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the interior building materials in their present condition. Under this alternative, existing controls, including exterior perimeter fencing with locked gates and interior fencing with locked gates, would be maintained. Additional fencing would be installed to provide continuous perimeter fencing and deter trespassers from entering the Site. Signs would be posted on the exterior perimeter fencing stating that contamination is present at the Site.

Present Worth	*$60,255*
Capital Cost	*$14,775*
Present Value OM&M	*$37,000*
Time to Implement	*immediate*

<u>Alternative I2 – Building Material Encapsulation and Removal</u>

This alternative would entail encapsulation of the impacted interior building material using an epoxy coating and maintenance of the existing floor cover materials (i.e., tile and carpet). Interior building material that is not amenable to encapsulation (i.e., uncovered wood in high traffic areas, subsiding concrete flooring) and exceeds the SCGs would be removed, disposed of off-site, and replaced. As a precaution, washing and vacuuming of interior building material would be performed in areas where interior building materials PCB and lead concentrations are below their SCGs. The timber support piles and roof systems would be restored to prevent any releases of impacted building materials to the river. All known lead-based paint, regardless of its condition would be abated. Asbestos containing material (ACM) abatement would be performed as necessary to comply with asbestos regulations.

The epoxy encapsulation, existing tile and carpet surface covers, roof systems and timber support piles would be inspected routinely and repaired as needed. For the purposes of the evaluation, an additional 30 year life-span of the buildings was factored into the evaluation after which demolition of the Site buildings would be performed.

Present Worth	*$18,172,564*
Capital Cost	*$12,598,595*
Present Value OM&M	*$2,363,508*
Time to Implement (Encapsulation Year 1)	<1 year to apply encapsulant
Time to Implement (Demolition at Year 30)	<1 year

<u>Alternative I3 – Building Remediation</u>

This alternative would entail remediation of the impacted interior building material through concrete micro-removal (e.g., shot blasting, milling) and bulk concrete and wood removal. Interior building materials with bulk concentrations in excess of the SCGs would be addressed in the following manner:

Bulk removal of concrete with concentrations exceeding the bulk SCG would be performed for concrete slabs on grade impacted to depths greater than 0.5-inch, for concrete slabs supported on piles impacted to depths greater than 1-inch, and for concrete slabs that are structurally unstable to support micro-removal equipment. Bulk removal of impacted wood building material would be performed in areas where bulk samples exceeded the bulk SCG. Milling would be performed for concrete slabs on grade impacted to depths less than or equal to 0.5-inch and concrete slabs supported on piles to depths less than or equal to 1-inch. Shot blasting would be performed for concrete slabs that exhibit residual lead surface concentrations above the surface SCG after surface accumulation removal.

Washing and vacuuming of concrete and wood building materials would be performed for areas that are not addressed by the technologies above and exhibit post-clean surface concentrations less than the surface SCG. Additionally, walls and ceilings in all remediated areas would be pressure washed. All known lead-based paint, regardless of its condition, and all known ACM, with the exception of the exterior asbestos containing building material, would be abated.

Present Worth	*$15,175,048*
Capital Cost	*$15,175,048*
Present Value OM&M	*$0*
Time to Implement	*12 to 14 months*

<u>Alternative I4 – Building Demolition</u>

Alternative I4 would entail demolition of all the Site buildings to address the impacted building materials. This does not include the East and West Warehouses, Paint Shop and guardhouse because, as discussed above, the East and West Warehouses, Paint Shop and guardhouse are addressed in the soil/fill alternatives. Under this alternative, all buildings located north of Buildings 7, 8 and 9 and constructed on soil/fill would be removed, including the concrete slab on grade. The concrete slab on grade would be replaced with asphalt to provide a cover for the Below Building historic fill (see Figure 18). The second, third and fourth floors of the southern buildings constructed on timber support piles (Building Nos. 7, 8, and 9) would be removed. The first floor concrete slab supported by the timber piles would remain in place (see Figure 18). This slab would be treated to meet the surface and bulk SCGs. Areas of the remaining concrete slab that exceed the bulk SCG would be subject to either concrete micro-removal or bulk removal, as needed. The remaining floor slab would be treated to meet the surface SCGs. Peeling and chipping lead-based paint on building surfaces would be removed prior to building demolition. All known ACM would be removed and disposed of prior to demolition activities.

Present Worth	*$10,749,525*
Capital Cost	*$10,610,383*
Present Value OM&M	*$139,142*
Time to Implement	*8 to 12 months*

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of inactive hazardous waste disposal sites in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS 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.

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 NYSDEC has determined to be applicable on a case-specific basis.

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

3. Short-term 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.

4. 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.

5. 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.

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.

7. Cost-Effectiveness. Capital costs and 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 for each alternative are presented in Table 5.

This final criterion 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.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised.

In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected the following alternatives as the remedy for this site. The elements of this remedy are described at the end of this section.

Common Action C1 - groundwater monitoring;
Common Action C2 - Preparation and implementation of a Site management plan;
Common Action C3 - removal and off-site disposal of all debris and soil/fill within the identified subsurface structures;
Common Action C4 - restoration of the bulkhead;
Common Action C5 - removal and closure of the interior stormwater system including the residual soil/sediment and sludge within the system as well as the concrete sidewalls and bottom;
Common Action C6 - removal of eleven process oil tanks located on the second floor of Buildings 2A and 8; and

Common Action C8 - removal of the debris piles located atop the sediment beneath the Site buildings and hot spots beneath Building No. 8.

The NYSDEC is selecting the following Alternative for the remediation of the soil at the site: Alternative E3 – Excavation and off-site Disposal with Surface Cover (0 - 12 feet).

The NYSDEC is selecting the following Alternative for the remediation of the sediment at the site: Alternative S3A – Sediment Removal of Areas I, II and III sediment and the Area IV sediment riverward of the bulkhead and Alternative S1B - No Action for Area V.

The NYSDEC is selecting the following Alternative for the remediation of the building interiors at the site. Alternative I4 – Building Demolition.

The selected remedy is based on the results of the RI and generally on the evaluation of alternatives presented in the FS. The elements of the selected remedy are as follows:

Soils Component

Alternative E3 (0-12 feet) in conjunction with Common Actions C1 (Groundwater Monitoring), C2 (Site Management Plan), and C4 (Bulkhead Restoration) were selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing most of the soils that create the most significant threat to public health and the environment. Common Action C2 (site management plan) will be protective of future occupants of the site that may come in contact with remaining soils and Common Action C1 will continue to monitor groundwater after the completion of the remedy to ensure that levels do not increase. Common Action C4 (bulkhead restoration) would prevent fill from continuing to erode into the river. Alternatives E1 and E2 would not adequately meet the threshold criteria of protecting human health and the environment nor comply with New York State SCGs, and therefore were not considered further in this evaluation. Alternative E4 would be protective of human health and the environment and would meet the SCGs but the balancing criteria must be considered.

Both Alternatives E3 and E4 would be an effective remedy in the long term. Choosing Alternative E3 with excavation to 12 feet will remove 99% of the PCB mass in the soil at the site. Also, E3 and E4 have short term impacts that could be controlled. Both Alternative E3 and Alternative E4 would be effective in reducing the toxicity and volume of material at the site.

Alternative E3 is desirable because it is implementable. Because the watertable is shallow at the site and because of the proximity of the Hudson River, dewatering and slope stabilization will be necessary. Pre-design studies will be necessary to determine the engineering design of the excavation. The deeper the excavation, the more difficult it will become and the greater the dewatering needs. The NYSDEC must balance the amount of contamination removed vs. the implementability of the remedy. Alternative E3 (0-12 ft) will be implementable and remove 99% of the PCB mass in the north yard. Very high concentrations of PCBs were found in SB-79 between 8-12 ft bgs (1970 ppm) and in SB-50 between 10-12 ft bgs (459 ppm), which will be removed as part of this remedy.

The cost of the alternatives varies greatly. Alternatives E1 and E2 are less expensive than the others but do not meet the threshold criteria. Alternative E4 is the most expensive ($43.6 million) but may be difficult to implement. Alternative E3 (0-12 feet) has a present value of approximately $15.7 million. Choosing Alternative E3 at a deeper depth will increase the cost, up to a maximum of just over $20 million for a depth of 20 feet bgs. The increase in cost and the increased difficulties with implementation, with only a modest increase in the amount of contamination removed from the Site is not justified, since most of the contamination is contained in the top twelve feet of soil.

Sediment Component Areas I-IV

Alternative S3A (Sediment Removal of Areas I, II and III sediment and the Area IV sediment riverward of the bulkhead) and Alternative S1B (No Action for Area V) in conjunction with Common Actions C4 (bulkhead restoration), C5 (closure of storm water system), and C8 (debris and hotspot removal) were selected because, as described below, they satisfy the threshold criteria and provide the best balance of the primary balancing criteria described in Section 7.2.
Alternative S3A will achieve the remediation goals for the site by removing sediments from the river that contain the most PCBs, lead, and copper contamination. Alternative S1A (No Action) would not be protective. Alternative S2A (Monitored Natural Recovery) relies on the assumption that contaminants would eventually be covered and/or dispersed. This would not be protective for PCBs in particular because PCBs are highly persistent in the environment. Alternative S4A would rely on capping that requires continued maintenance. This alternative may or may not be protective, however the sediment capping in Alternative S4A would not meet the requirements of 6 NYCRR Part 608. Alternative S3A will be more protective than Alternatives S1A, S2A, and S4A. Also, in combination, Common Actions C4, C5, and C8 will eliminate additional future potential discharges of contamination from the Site to the Hudson River. None of the alternatives will achieve the NYSDEC sediment SCGs, however Alternative S3A will come closest to compliance with SCGs since areas of sediment contamination will be permanently removed from the river, particularly PCBs, and replaced with clean substrate.

Since Alternative S1A does not include any activities, it would not present any short term impacts. Alternative S2A would have limited short term impacts. Alternative S3A, and S4A would have short term impacts associated with sediment removal, handling, treatment, and transportation that could be easily managed. Also, Common Actions C4, C5, and C8 will have short term impacts that could be easily managed.

Alternative S1A would not be an effective remedy in the long term. It would not reduce the toxicity, mobility, or volume of the contamination in the river. Alternatives S2A, and S4A may not be effective in the long term or reduce the toxicity, mobility, or volume of the contamination in the river. Alternative S3A in conjunction with C4, C5, and C8 will be effective in the long term by permanently removing contaminated sediments from the river and reduce the toxicity, mobility, and volume of contamination.

Alternative S1A require no action and is therefore implementability is not an issue. Alternative S2Awould not require any special technologies, materials, or labor and is readily implementable. Common Action C5 will not require any special technologies, materials, or labor and is readily implementable. There are implementability concerns with Alternatives S3A and S4A and Common

Actions C4 and C8. Removal of sediments and debris piles from beneath the buildings could be challenging because of access difficulties, however the demolition of most of the buildings will allow for additional easier access. Handling and treatment of sediments that have been removed are readily implementable. Restoring the bulkhead in areas on the outer limits of the buildings is more implementable than restoration of the bulkhead further beneath the site buildings and could be designed to meet the requirements of 6 NYCRR Part 608. For Alternative S4A, the need to install capping material underneath the remaining buildings and around pilings would be difficult. In conclusion, although Alternative S3A in conjunction with C4, C5, and C8 will have some implementability concerns, because of the demolition of the site buildings most of these issues should be manageable.

The cost of the alternatives varies greatly. Alternative S1A would have no costs associated with it. Alternative S2A is less expensive than S3A and S4A but may not meet the threshold criteria. Alternative S3A is very favorable because it will meet the threshold criteria and be a long term effective remedy.

Sediment Component Area V

Alternative S1B (No Action for Area V) in conjunction with Common Actions C4 (bulkhead restoration), C5 (closure of storm water system), and C8 (debris and hotspot removal) (Common Actions are addressed above) were selected because, as described below, they provide the best balance of the criteria described in Section 7.2.

None of the Area V sediment alternatives suggested would achieve the NYSDEC sediment SCGs. Alternative S2B (Monitored Natural Recovery) relies on the assumption that contaminants would eventually be covered and/or dispersed. Alternative S4B would rely on capping that requires continued maintenance. This alternative may or may not be protective, however the sediment capping in Alternative S4B would not meet the requirements of 6 NYCRR Part 608. Alternative S3B would be more protective than Alternative S1B, S2B, and S4B, however, the area of sediment that is adjacent to the south yard (Area V) is a small area of sediment with contaminant levels close to background levels so the balancing criteria must be considered.

Since Alternative S1B does not include any activities, it will not present any short term impacts. Alternative S2B would have limited short term impacts. Alternatives S3B, and S4B would have short term impacts associated with sediment removal, handling, treatment, and transportation that could be easily managed.

Alternative S3B would be most effective in the long term and reduce the toxicity and volume of contamination the most. Alternatives S1B and S2B would be comparable in terms of long term effectiveness. Alternative S4B would be no less effective than S1B and S2B and only more effective if the long term maintenance was uninterrupted. Alternative S1B, S2B, and S4B would be comparable in terms of reduction of toxicity and volume. The same amount of contaminated material would remain in Area V, although with Alternative S4B the sediment would be covered.

Alternative S1B requires no action and therefore implementability is not an issue. Alternative S2B would not require any special technologies, materials, or labor and is readily implementable. There are implementability concerns with Alternatives S3B and S4B. Hydraulic dredging in the river could be challenging but sediment removal has been successfully performed in the past. Handling and treatment of sediments that have been removed are readily implementable. Capping the sediments would also be challenging but it is doable. In conclusion, although Alternatives S3B and S4B would have some implementability concerns, these issues should be manageable. Alternative S1B and Alternative S2B do not have implementability concerns.

The cost of the alternatives varies greatly. Alternative S1B will have no costs associated with it. Alternatives S2B and S3B are comparable, Alternative S3B costing about 25% more than S2B. Alternatives S2B and S3B are less expensive than S4B.

In summary, Alternative S2B would not result in a reduction of the toxicity or volume of the contamination compared to Alternative S1B but would require significant expenditure of effort and cost. Also the amount of contamination in the combination of Common Actions C4, C5, and C8 will eliminate additional future potential discharges of contamination from the Site to the Hudson River. Hence, the concentrations in Area V will not be expected to increase due to the Site. Monitoring contaminant levels as part of Alternative S2B would not necessarily provide valuable information in regard to the remedy.

Although Alternative S3B would result in a reduction of toxicity and volume compared to Alternative S1B, it would be more expensive. Because Area V is a small area of sediment (approximately 1/3 acre) with contaminant levels close to background levels, while Alternative S3Bwould remove lead and copper contaminated sediments, the concentrations of lead and copper in these sediments is not sufficiently higher than background sediments to justify their removal and the disturbance of this area.

Alternative S4B would be the most expensive, require continued maintenance, and not provide a reduction in toxicity or volume of contamination. S4B is the most expensive but holds little advantage over Alternative S1B and Alternative S2B.

<u>Building Interior Component</u>

Alternative I4 (Building Demolition) in conjunction with C3 (subsurface structure debris removal), C5 (removal and closure of stormwater system), and C6 (removal of process tanks) was selected because, as described below, it satisfies the threshold criteria and provide the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing the contaminated building materials that could be detrimental to human health and the environment. Alternative I1 would not be protective of human health and the environment nor would it comply with NYS SCGs. The only means of protecting human health and the environment would be through perimeter fencing around the site. Also the building infrastructure would not be maintained. Alternative I2 would rely upon barriers (encapsulation) and limited removal would be used to reduce the potential for exposure. Therefore maintenance of those barriers would be essential to protection of human health and the environment. Alternative I3 would use various building material removal and cleaning technologies to remove contaminants that exceed the SCGs. Very extensive environment sampling was conducted inside the buildings and although there is a high degree of confidence that contamination has been properly delineated, it is possible that with

Alternative I3 some unknown contamination could be left behind. Alternative I4 will be the most protective of human health and also comply with SCGs. Building demolition will permanently remove contaminants from the site and the associated potential for exposure. The remaining southern slab supported by timber piles will be remediate using concrete removal technologies and comply with SCGs.

Since Alternative I1 does not include any remedial activities, there would be no short term impacts. Short term impacts from Alternatives I2, I3, and I4 would mostly consist of air emissions, transportation of waste materials, and remedial contractor worker safety. Intrusive activities such as shot blasting and milling would have a greater impact on air emissions than encapsulation. Demolition will also create air emissions. There are short term impacts that could be minimized by engineering controls. The three latter alternatives would also all have risks associated with transporting the waste off site. Remedial worker safety would also be at issue for all alternatives except Alternative I1. Overall, Alternative I1 would have the least short term impacts but does not meet the threshold criteria. The other alternatives have short term impacts that can be successfully mitigated using engineering controls, proper equipment, and logistical planning.

Alternative I4 will be the most desirable because it will permanently remove the contamination from the site, and hence reduce the toxicity, mobility, and volume on site. Alternative I1 will not be effective long term nor would it reduce the toxicity, mobility or volume of the contamination on site. Alternative I2 would involve encapsulating most of the contamination but does not reduce the volume. It would be effective only in the long term if proper maintenance of protective barriers were implemented. Alternative I3 would be effective in the reduction of toxicity, mobility, and volume of contamination and effective in the long term.

Alternative I1 could be implemented without any difficulty. The materials and experienced personnel are readily available to perform Alternatives I2, I3, and I4. Any implementability issues could be effectively managed with common engineering and construction practices and planning.

Alternative I1 has minimal associated costs. Alternatives I2, I3, and I4 have similar capital costs. Alternative I2 has significant OM&M costs while Alternative I3 and Alternative I4 do not. The net present value of Alternative I2 and Alternative I3 are greater than Alternative I4.

The estimated present worth cost to implement the remedy is $29,372,291. The cost to construct the remedy is estimated to be $28,436,791 and the estimated present worth for operation, maintenance, and monitoring costs for five years are $942,657. See Table 5.

The elements of the selected remedy (C1 - C6, C8, E3, S3A, and I4) are as follows:

1. A remedial design program to provide the details necessary to implement the remedial program.

2. Removal and off-site disposal of all debris and soil/fill within the identified subsurface structures.
3. Removal and closure of the interior stormwater system including the residual soil/sediment and residual sludge and concrete sidewalls and bottom within the system to prevent releases of contaminants to surface water and groundwater.

4. Removal of the eleven process oil tanks located on the second floor of Buildings 2A and 8.

5. Demolition of all the site buildings. The East and West Warehouses, Paint Shop and guardhouse will be removed to access contaminated soil/fill underneath. Also, all buildings located north of Buildings 7, 8 and 9 and constructed on soil/fill will be removed, including the concrete slab on grade. The second, third and fourth floors of the southern buildings constructed on timber support piles (Building Nos. 7, 8, and 9) will be removed. The first floor concrete slab supported by the timber piles will remain in place. Any floor slabs remaining will be treated to meet the surface and bulk SCGs. Any grossly contaminated soil or fill that is found underneath the buildings where the slabs are removed will be excavated, disposed of off-site, and clean fill will be used to backfill the excavation. "Grossly contaminated soil" shall mean soil which contains free product which is identifiable visually, through the perception of odor, by elevated contaminant vapor levels, by field instrumentation, or is otherwise readily detectable.

6. Excavation and off-site disposal of the PCB and VOC-impacted site soil/fill. In the North Yard, soil will be excavated within the footprint of PCB and VOC-impacted fill to a depth of twelve feet below grade. Below Building soil/fill and South Yard surface soil/fill impacted by PCBs or VOCs will also be removed.

7. Removal of the debris piles located atop the sediment beneath the Site buildings and hot spots beneath Building No. 8.

8. Restoration of the bulkhead beneath the site buildings to prevent continued erosion of fill into the river.

9. Removal of contaminated Hudson River sediments from Area I, II and III and the Area IV sediment riverward of the bulkhead and restoration of the river environment. This will include the backfilling of dredged areas with material consistent with the particle size distribution of the sediment removed, to restore the pre-remedial topography of the river bottom. All remedial work in the river will have to meet the substantive technical requirements of 6 NYCRR Part 608 Use and Protection of Waters
10. All vegetated areas would be covered by either a one foot (commercial/industrial use) or two foot (restricted residential use) thick cover consisting of clean soil underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the subsurface soil. Non-vegetated areas (buildings, roadways, parking lots, etc.) will be covered by a paving system or concrete at least 6 inches in thickness.

11. Preparation and implementation of a Site management plan to manage future direct contact with chemicals remaining in soil, fill and/or sediments following the remedial action. The plan will (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) require the evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) identify any use restrictions; and (d) provide for the operation and maintenance of the components of the remedy.

12. Imposition of an institutional control in the form of an environmental easement that will (a) require compliance with the approved site management plan; (b) identify soil/fill locations exhibiting chemical concentrations in excess of the SCGs; (c) limit the use and development of the property to restricted residential, commercial, or industrial uses only; (d) restrict the use of groundwater as a source of potable water, without necessary water quality treatment as determined by NYSDOH; and (e) require the property owner to complete and submit to the NYSDEC an annual certification.

13. The property owner will provide an annual certification, unless another time frame is set forth in the site management plan, prepared and submitted by a professional engineer or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls and engineering controls are still in place, allow the NYSDEC access to the site, and that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan.

14. Since the remedy results in untreated hazardous waste remaining at the site, a groundwater monitoring program will be instituted. Semiannual groundwater monitoring to evaluate post-remedial groundwater concentrations of volatile organic compounds. The need to continue groundwater monitoring will be reevaluated after two years if groundwater concentrations are stable or decreasing. This program will allow the effectiveness of the soil excavation and removal to be monitored and will be a component of the operation, maintenance, and monitoring for the site.

SECTION 9: <u>HIGHLIGHTS OF COMMUNITY PARTICIPATION</u>

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.

- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- A Fact Sheet was sent out to the mailing list when the work plan was finalized and also prior to the public meeting mentioned below.

- A public meeting was held on January 12, 2005 to present and receive comment on the PRAP.

- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

BICC Cables
Yonkers, Westchester County, New York
Site No. 360051

The Proposed Remedial Action Plan (PRAP) for the BICC Cables site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on November 30, 2004. The PRAP outlined the remedial measure proposed for the contaminated soil, sediments, and buildings at the BICC site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on January 12, 2005 which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period was to have ended on January 18, 2005. However, it was extended to February 2, 2005 at the request of the public.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received during the public meeting, with the NYSDEC and NYSDOH's responses:

COMMENT 1: *Do you know where the PCBs you found came from? Were they used in any manufacturing process on the site?*

RESPONSE 1: PCBs were used in transformers at the site and that caused some of the contamination. PCBs may have been used in other capacities at the site, including manufacturing of wire, but the NYSDEC does not have definitive information on other sources.

COMMENT 2: *With this remedy, will there be any health exposure issues remaining?*

RESPONSE 2: Once the remedy is implemented as presented in the Record of Decision (ROD), the potential human exposure pathways at the site will be addressed. For further information regarding potential human exposure at the site, please see section 5.3 of the Record of Decision.

COMMENT 3: *In air monitoring for the site, what limits would contaminants have to hit to raise a concern for you? What criteria are we using for air monitoring? What guidelines are you using for the building interior cleanup?*

RESPONSE 3: The criteria to be used for air monitoring is 1 ug/m3 for PCBs. For the building interior cleanup, 1ug/100 cm2 was used for PCBs on the surface, 1 ppm PCBs in the bulk samples, and 4 ug/100 cm2 lead on the surface. However, since the remedy calls for all buildings to be demolished, those cleanup criteria will apply only to any floor slabs that remain.

COMMENT 4: *In terms of the sediments, how deep were the core samples, what was tested for, how large an area of the sediments has been affected by this site, and how far out did you go?*

RESPONSE 4: The core samples were up to two feet deep. The cores were tested for semivolatile organic compounds, metals, and PCBs. The samples went out into the river until levels started to approach background, approximately 150-200 feet beyond the buildings on the site.

COMMENT 5: *With this remedy, there will be a lot of trucking of the contamination from the site. How will this be done to both protect the public and to limit negative impacts on the local roads? How will you keep trucks that move off the site from tracking contamination off-site? How will you move trucks on and off the site since they are only two access gates? How will the trucking plan work?*

RESPONSE 5: The details of moving trucks on and off the site have not yet been established although this will be addressed in the design phase. It is standard practice to set up a decontamination area on the site so that if trucks drive over contamination they would be washed prior to leaving the site. In addition, the trucks will be covered to minimize any loss of soil during transport.

COMMENT 6: *If the ROD is issued along the lines of the PRAP, what uses would be allowed on the remediated property? Would any new owner or developer incur liability for the remedial costs and/or health risks to future employees and/or occupants?*

RESPONSE 6: Site use will be limited to restricted residential, commercial, or industrial uses only. Whether or not a new owner or developer would be responsible for remedial costs or have future liability depends on many factors beyond the scope of this ROD. Legal counsel should be consulted regarding liability.

Once the remedy is implemented as presented in the Record of Decision (ROD), the potential human exposure pathways at the site will be addressed, i.e, it will be protective of human health and future health risks will be eliminated.

COMMENT 7: *In this multi million-dollar remediation, how much will the State or taxpayers be paying for?*

RESPONSE 7: It is expected that the state will not be paying for the cleanup. If a Volunteer under the Brownfield Cleanup Program (BCP) stepped forward to remediate the site, they would be responsible for the cost of remediation and would be eligible for three state tax credits: brownfield redevelopment credit, remediated brownfield credit for real property taxes, and environmental remediation insurance credit, provided they complete the remedial project to the NYSDEC's satisfaction. If a BCP party fails to complete the entire remedial project, the NYSDEC would negotiate a consent order with the responsible parties to implement this ROD. If those negotiations fail, the NYSDEC would implement the ROD and pursue the responsible parties to recover the State's costs.

COMMENT 8: *You said this landfilling went on till around the 70's Was this done illegally?*

RESPONSE 8: The filling in of the river's edge was not done illegally.

COMMENT 9: *Can the fill be removed? Did you consider just digging out all the fill portion of the site, and let the river go back to its natural shoreline?*

RESPONSE 9: The NYSDEC did consider alternative E4 which was the removal of all fill placed on the site after 1940. As discussed above (see Section 8), the remedy the NYSDEC has selected will remove 99% of the PCB and VOC contamination associated with site operations. Comparing the cost of the selected soil remedy ($15.7 million) and removal of 99% of contamination and the cost of E4 ($43.6 million) and removal of a very small additional percentage of contamination, the NYSDEC did not believe that the extra expense justified the small additional contaminant removal.

COMMENT 10: *The Hudson River is one of our most precious natural resources. When this resource can be protected while at the same time allowing for adaptive re-use of brownfield sites, it is a real benefit for all concerned. I think the DEC, DOH, and the Property Owners should all be commended for the extensive testing and careful consideration that has gone into this PRAP. Hudson River is our most valuable asset in the area and the adaptive reuse of shoreline properties is an important component of redevelopment. I want to compliment the DEC for the amount of work that went into RI/FS: the work they did with the responsible party to ensure the problems were identified and a good plan developed to address the problems to allow the property to be redeveloped.*

RESPONSE 10: Acknowledged.

COMMENT 11: *This is one of the most valuables sites in Yonkers. What is the being done to ensure the site is saved, particularly the buildings for jobs, etc.? If a developer came onto this site how would he assure his tenants or workers that it is safe to be on the site?*

RESPONSE 11: The remedy that the NYSDEC has selected will be protective of human health and the environment. Contaminated soil and sediment will be removed, and the contaminated buildings will be demolished. Future occupants will have to abide by the site management plan and environmental easements that will be in place.

Sidney G. Sloves of Bronxville NY submitted several letters, one dated December 26, 2004, one dated December 29, 2004, and two undated, which included the following comments:

COMMENT 12: *1n 1999 the NYSDEC listed the site as a class 2 site on the NYS Registry of*

Inactive Hazardous Waste sites. It should be noted that this problem [contamination] was known in 1999, some remediation was suggested, but never done.

RESPONSE 12: Starting in 1997 the site was being investigated because of concerns about petroleum contamination. During that investigation PCBs were found and BICC was put on the Registry. No remediation was proposed at that time. The NYSDEC must determine the nature and extent of contamination (which it did during the remedial investigation described above) before proposing final or comprehensive cleanup alternatives.

COMMENT 13: *Mr. Sloves requests a moratorium on all waterfront development pending a satisfactory resolution of the issues brought forward by the NYSDEC [BICC] report and until it is proven beyond a doubt that this land [Hudson waterfront] is as clean as it can possibly be made using accepted practices of soil remediation and asbestos removal.*

RESPONSE 13: It is not within the NYSDEC's jurisdiction to stop waterfront development. This would be a local issue.

COMMENT 14: *Construction of living facilities at BICC must come after a very comprehensive examination of the soil, bulkheads and indications of asbestos issues in existing waterfront buildings.*

RESPONSE 14: The remedy chosen for BICC will allow for any future use activity, with an environmental easement, because virtually all the contamination associated with the site activities will be removed. The soil contamination has been investigated and most of that contamination will be removed. The deteriorated bulkhead is being replaced. All asbestos will be removed from the buildings before they are demolished.

Mr. Richard Schiafo of Scenic Hudson, Poughkeepsie NY submitted a letter dated February 2, 2005 which included the following comments:

COMMENT 15: *The PRAP indicates remediation goals for the site include attaining to the extent practicable:*

- *Technical and Administrative Guidance [TAGM] 4046 Soil Cleanup Objectives;*
- *NYSDEC Technical Guidance for Screening of Contaminated Sediments;*
- *PCB cleanup criteria in 40 CFR Part 761; and*
- *Ambient groundwater quality standards.*

However specific cleanup goals do not appear to be enunciated. We would urge the Department to clearly define cleanup levels for contaminants of concern. The cleanup goal for PCBs in surface soils should be 1ppm and 10ppm for subsurface soil. In addition, being that the site is made up largely of fill, cleanup objectives for the semivolatile organic compounds (polycyclic aromatic hydrocarbons) and the metals should be more clearly spelled out as well. The cleanup goal for lead should be no greater than 400 ppm. Has the Department identified background levels for the site?

The final remedy should provide assurance that these specific cleanup levels could be met. We are *concerned that residual PCBs, lead, mercury and copper may exceed recommended cleanup goals and the impact of residuals is not addressed in any quantitative way in the PRAP.*

RESPONSE 15: Because of the number of compounds present at the site, NYSDEC chose to not list the cleanup criteria of each compound. It would be a very voluminous list. All the guidance and standards are readily available for the public to view at the NYSDEC's web site (www.dec.state.ny.us) or the NYSDEC would be happy to provide a member of the public with the material if they ask for it. The cleanup goal for PCBs in surface soils is 1ppm and 10ppm for subsurface soil. The goal for lead is 500 ppm. The goal in general for soils is TAGM 4046, but the NYSDEC also recognizes that historic fill material is sometimes contaminated with metals and PAHs at levels that may be higher than TAGM 4046.

The NYSDEC is aware that some material will be left behind that is above TAGM4046 although it was not quantified in the report. The property was filled between 1880 and the 1970s. It is not uncommon for fill in Yonkers to have levels of metals present above TAGM 4046 that are not attributable to site operations. Selecting a cleanup depth based on effective removal of PCBs and VOCs essentially removed most of the site related contamination, including metals.

COMMENT 16: *We strongly urge the Department to keep this process open and transparent during the remedial design phase so that all concerned party's can stay informed and continue to have input into this remedy. We request that the Department identify input opportunities in the remedial design process that clearly articulate the role the public can play in shaping these remedies*.

RESPONSE 16: The NYSDEC desires to keep our process open and transparent to the public. One Point Street, Inc., has applied to remediate the site under the Brownfield Cleanup Program. The application has been public noticed already.

Before the applicant starts construction a notice will be sent to the contact list announcing construction.

Before the NYSDEC approves the final engineering report a notice and fact sheet will be sent to the contact list describing the report.

A notice and fact sheet describing any engineering and/or institutional controls will be sent to the contact list within 10 days of issuance.

COMMENT 17: *It appears that both the land based and river actions will require some handling and processing of materials. The PRAP does not clearly spell out how material will be handled. Is the intention to have a dewatering facility for both remedial projects?*

RESPONSE 17: The design of the materials handling and dewatering facilities will be conducted during the remedial design phase of the project.

COMMENT 18: *The institutional controls identified appear comprehensive and adequate,* *however the monitoring, maintenance and enforcement of these controls will dictate their value. Therefore the annual certification of these controls is imperative and we urge the NYSDEC to work closely with the City to see that these controls are strictly enforced.*

An institutional control should be added to the existing proposals to assure the protection of the bulkhead against damage from berthing vessels. This should be handled in the design and a prohibition be made against berthing of vessels which could exert forces or stresses during storms that exceed the design parameters.

RESPONSE 18: The NYSDEC acknowledges that adequate follow up and enforcement of institutional controls is imperative. The remedy includes an annual certification that institutional controls and environmental easements are still in place and effective.

The maintenance of the bulkhead will be addressed in the Site management plan. As specified in the ROD (item #11 on page 34) the site management plan will "provide for the operation and maintenance of the components of the remedy." This includes maintenance of the bulkhead.

COMMENT 19: *Construction phase and post-construction phase monitoring are very important. The PRAP does not clearly indicate how long a monitoring and maintenance would be required. Due to the contamination that may remain at this site we would urge the Department to require a minimum of a 100-year monitoring and maintenance program.*

Important issues during the construction phase are:

- *Airborne exposure by contaminated dust, which should be mitigated by the cover. A comprehensive air monitoring program should be set up during design and implementation. Monitoring during design will establish a baseline for assessing impacts during remediation. In addition the Community Health and Safety Plan should set up a mechanism for keeping the community informed about health and safety issues such as air quality, during the construction and implementation of the remedy.*
- *Other community issues such as noise, odor, and traffic should also be part of the Community Health and Safety Plan. We urge the Department to involve the community in the development of the CHASP.*
- *Discharges to the river.*
- *Every effort should be made to minimize release to the river during both remedial actions. There should be baseline, short term and long term monitoring of both the fill and in the river of all contaminants of concern to assess containment.*

RESPONSE 19: The NYSDEC will require annual certification, unless another time frame is set forth in the site management plan, of the environmental easement; the annual certification does not have a time limit associated with it. The groundwater monitoring program will require submittal of that data to the NYSDEC. This data will be reviewed periodically and groundwater monitoring may be discontinued if levels continue to drop or remain low.

A community air monitoring plan is standard operating procedure for intrusive activities at a remedial site. The NYSDEC and NYSDOH will work together to ensure that air emissions are monitored and addressed during remediation activities. The NYSDEC will consider such items as traffic, noise, and odor when reviewing the site Health and Safety Plan. Any treated water will have meet strict discharge limits. Finally, the NYSDEC agrees that every effort will have to be made to minimize release to the river during any remedial action.

COMMENT 20: *With containment it would seem that either mechanical or hydraulic dredges are applicable at this site. However, it anticipated that there will be a lot of debris, and possible cable and wire, which may make hydraulic dredging difficult as cables and wires tend to wrap around hydraulic horizontal augers and cutter heads.*

RESPONSE 20: Dredging methods will be assessed during the design phase. Consideration will be given to the issues raised in comments 20, 21, and 22 during design.

COMMENT 21: *Minimizing and controlling resuspension should be built into the design. A precautionary approach to minimizing resuspension is suggested. Similar to the standard set for the upper Hudson, water quality standards should be adhered to during sediment removal.*

In addition to the conventional silt curtain or sheet piles we strongly urge the Department to carefully evaluate the potential to use of various alternative containment methods and energy reduction measures during the remedial design phase.

Dredging within caissons should be evaluated in comparison with deep sheet pile enclosures. Both would be effective but the costs may be significantly different based on depth, availability, and other factors.

RESPONSE 21: See Response 20.

COMMENT 22: *At other sites (i.e., Hastings) the Department will examine the potential use of "specialty dredges" such as the "Pneuma Dredge" which was recently demonstrated in a reservoir dredging project in CA, and tested for Great Lakes (Canada) contaminated sediment remediation.*

We urge the Department to carefully examine the use of various dredging technologies that will result in a safe and efficient removal effort.

The Pneuma Dredge has proven useful principally for hot spots, in confined slips with low volumes of soft unconsolidated sediments. Due to the depth and current of the Hudson River this dredge may have limited applicability where larger volumes require higher levels of production from deeper waters.

We would anticipate that there is the potential to use different types of dredging technologies at this site. During remedial design we urge the Department to conduct a thorough evaluation of dredging technologies allowing public input into this evaluation

RESPONSE 22: See Response 20.

COMMENT 23: *The PRAP fails to mention that a potential route of exposure is through the consumption of contaminated fish. The PRAP does not reference any fish contaminant data, however one would presume that fish along the Yonkers waterfront are contaminated. If such data is not available it should be collected and would be important for pre and post construction monitoring. In addition efforts should be made for local community health education regarding the dangers of consuming contaminated fish.*

As is well known, the risks to human health are not adequately addressed through the fish consumption advisories.

Two separate Hudson River angler surveys, (Health Consultation: 1996 Survey of Hudson River Anglers - New York State Department of Health 2000), and Hudson River Angler Survey, Hudson River Sloop Clearwater, 1993) have shown that the majority of people who catch fish are eating them, or sharing them with others, despite these advisories.

The risk to human health from the consumption of contaminated fish is not being addressed by fish consumption advisories. Even if it were there is still an overwhelming need to remove the source of contamination to the fish (contaminated sediment) to speed the recovery of this resource.

In addition the Food and Drug Administration tolerance level of 2.0 is based on a commercial market-basket approach to fish consumption in which fish are obtained by consumers from various places in the market. This approach presumes a dilution by the market.

The Department should recognize that human health risks are much greater as there is the potential for anglers to catch and consume and share more highly contaminated fish from this specific Superfund site. Considerably lower levels of PCBs in fish, perhaps 0.5 ppm (EPA Hudson River PCBs Superfund Site) should be considered in such a comparison and in setting cleanup goals for this site.

RESPONSE 23: For more than 25 years, the New York State Department of Environmental Conservation (DEC) has monitored PCB levels in Hudson River fish. PCB levels are elevated in fish taken from much of the Hudson River downstream of Hudson Falls, including the portion of the River in the vicinity of the BICC Cable Site.
DOH and DEC agree that the BICC Cable site is a potential source of PCB contamination to Hudson River fish, and that this source should be remediated. However, because there are multiple PCB sources to the Hudson River, pre- and post-remediation sampling at the site is unlikely to be useful in measuring the affect of remediation at this site.

In response to PCB contamination in Hudson River fish, the New York State Department of Health (DOH) has issued fish advisories for the Hudson River downstream of Bakers Falls. DOH advises women of childbearing age and children under the age of 15 to eat no fish at all from this portion of the Hudson River. Other people are advised to eat none or restrict their consumption of many fish species from these waters.

DOH disagrees that the advisories, if followed, would not address human health risk from fish consumption. The angler surveys did find that many people who fish in this part of the Hudson are not aware of the advisories. Therefore, the site management plan discussed in this ROD will include posting fish advisory signs at river access points on the property.

Please see section 5.3 for further information regarding potential exposure pathways at the BICC site.

COMMENT 24: *The remedial design phase evaluation should include but not be limited to:*

- *Design of backfill of excavated areas to prevent "holes" from becoming "sinks" for residual contaminants;*
- *Evaluation of the impact of residuals on uptake by local biota and consumption by humans and wildlife;*
- *Evaluation of dredging needed for the future use for commercial and recreational navigation; and*
- *Evaluation of the erosion potential of contaminated unconsolidated sediments perhaps involving field tracking of "tagged" material.*

RESPONSE 24: The NYSDEC will require the excavation to be backfilled and thoroughly compacted in order to prevent future settling. The NYSDEC will not be evaluating further uptake of residuals as most of the hazardous waste will be removed from the site. Any material that remains will be covered by a paving system 6 inches thick or a one or two foot soil cover, underlain by an indicator such as orange plastic snow fence to demarcate the cover soil from the subsurface soil. Evaluation of dredging needed for the future use of the river (navigation and recreational) is beyond the scope of this project. Our charge is to eliminate or mitigate all significant threats to human health and the environment presented by the hazardous waste disposed of at the site.

COMMENT 25: *The PRAP is not clear as to whether additional sampling will be conducted during sediment removal remedial design to verify the remedy and resolve uncertainties. Additional bathymetry and current data is necessary. Additional contaminant data is necessary to analyze the potential impacts of residual contamination and to better understand the data that is to be collected during the post construction phase monitoring program, including sediment, biota and surface water data*.

RESPONSE 25: Additional sampling will occur during the design phase of the sediment removal portion of the remedy to clarify the vertical and areal extent of sediment contamination where it is still undetermined. The NYSDEC is not requiring additional monitoring in the river after the remediation (sediment removal) has been completed.

COMMENT 26: *The details of the Departments's approach to periodically evaluating the short and long-term impacts of residual contamination and the assessment of the goals of the cleanup need to be more clearly and specifically identified. The goals of the cleanup, the design of the cleanup, and the elements of the long term monitoring program need further clarification. We urge the Department do this with considerable public input.*

If the Department moves forward with this cleanup as is proposed and contamination is left in place to be monitored, we urge that the Department... allow for the possibility that a future remedy may *prove to be more effective.*

RESPONSE 26: This remedy will remove almost all of the hazardous waste in the soils and will involve the demolition and removal of all the buildings on site. With surface cover, the NYSDEC does not expect that significant exposure will occur, although we will continue to require an environment easement and annual certification and will continue to monitor the groundwater. Residual sediment contamination will be left behind also and additional sampling will occur during the design phase of the sediment removal portion of the remedy to clarify the vertical and areal extent of sediment contamination where it is still undetermined. After the sediment is removed, additional long term monitoring of the river will not be done.

COMMENT 27: *We appreciate that both the land-based remedial activities and soils river contamination sediment [sic] are being addressed as one remedy, however clarification is needed as to whether these remedial activities may occur simultaneously or the sediment would be removed prior to soil and subsurface soil removal.*

Will the remedial action be staged, starting with the land-based portion, containing the movement of contamination, and proceed with the removal of contaminated sediment from the river?

We would generally support an approach that first controls the sources to the River from the land based portion of the site to avoid recontamination. Therefore remedial action on the land-based portion may require a containment barrier to stop shallow ground water and soil loss from the banks and cover to prevent surface runoff.

RESPONSE 27: The building demolition will occur first. For the rest of the project the schedule has neither been determined nor approved yet.

COMMENT 28: *We urge the Department to require the responsible party to design the remedy so that the implementation minimizes the impact on the natural environment and the local community. We urge the Department to incorporate the following principles into the design and implementation of this remedial action.*

- *Equipment used in all phases of remedial action should be energy efficient.*

RESPONSE 28: While the NYSDEC does not have the authority to require the use of energy efficient equipment during the remedial action, we will pass this idea along to the party implementing this remedy.

COMMENT 29: *As previously mentioned, there is the potential for airborne exposure by contaminated dust that should be mitigated by the cover.*

Appropriate controls should be put in place to control dust and the potential loss of contaminants to the air. Containment should occur during excavation of [soil] and dredging. Storage and transportation systems and equipment should be enclosed to minimize unnecessary release of contaminants into the environment during the remediation process. Containment and air protection can include simple cover such as tarping, evacuating trapped air, using negative pressure in storage *buildings and running air through filters before it is exhausted.*

RESPONSE 29: See Response 19.

COMMENT 30: *To minimize odors and other air emissions emitted to the local community we urge the department to require the use of low-sulphur fuel in remediation equipment.*

RESPONSE 30: While the NYSDEC does not have the authority to require the use of low sulfur fuel during the remedial action, we will pass this idea along to the party implementing this remedy.

COMMENT 31: *The use of trucks to haul the materials may be unacceptable to the community. Has the Department decided how material will be removed from the site?*

We urge the Department to use rail and/or barge to move materials. This would include the movement of contaminated sediment from the site as well as the transport of any fill materials to the site. Strict precautions must be instituted to ensure the safe and secure transportation of these materials.

Contaminated material that is transported from the site should be appropriately contained and covered.

RESPONSE 31: The NYSDEC has not decided how the material will be removed, the party that cleans up the site will make that decision, contingent on NYSDEC approval. The NYSDEC will consider this comment in making future decisions about truck traffic.

COMMENT 32: *We urge the Department to evaluate the use of alternative treatment technologies for the contaminated soils and sediment. At other sites (Hudson Falls-GE) we have commended the Department for its efforts to explore potential treatment options for dealing with contaminated soils. Finding useful practical alternatives to landfilling that are also protective of the environment and public health is necessary in efforts to remediate this and other hazardous waste sites.*

Treatment can increase the overall effectiveness of the cleanup and reduce the need for landfilling. Any short-term increased costs of applying treatment technologies over landfilling provide long term benefits and reduces costs of maintaining and monitoring hazardous waste landfills for years into the future.

We urge the Department to examine the potential use of treatment technologies at the BICC Cables site as well. Community participation in this evaluation is critical.

RESPONSE 32: At this point the Record of Decision calls for soil and sediment removal, on-site dewatering of materials, and off-site disposal. The ROD does not specify any additional treatment for the material that may be necessary, nor the method of disposal.

COMMENT 37: *We would urge the Department to consider initiating a Natural Resources Damages Assessment at this site and pursue an NRD claim.*

If the remedial action proceeds as is proposed, contamination will be left in place resulting in more significant natural resource damages into the future, which would have to be taken into consideration in this claim.

In addition, the continued existence of fish consumption advisories along this section of the Hudson River is evidence of an injured resource and the subsequent loss of the use of this resource is an injury that should be compensated.

RESPONSE 37: Acknowledged.

Mr. Philip A. Amicone, Mayor, City of Yonkers submitted a letter dated January 18, 2005 which included the following comment:

COMMENT 38: *We firmly believe that the Proposed Remedial Action Plan reflects a comprehensive investigation and stringent cleanup that will allow redevelopment consistent with the goal of the City and will fully meet our objectives of productive reuse.*

RESPONSE 38: Acknowledged.

APPENDIX B

Administrative Record

Administrative Record

BICC Cables
Yonkers, Westchester County, New York
Site No. 360051

1. Proposed Remedial Action Plan for the BICC Cable site, dated December 2004, prepared by the NYSDEC.

2. Order on Consent, Index No. D3-0001-00-03, between NYSDEC and BICC Cables Corporation, executed on March 10, 2000.

3. “Remedial Investigation/Feasibility Study Report,” Vol. 1, September 2003, ERM

4. “Remedial Investigation/Feasibility Study Report,” Vol. 2, December 2003, revised September 10, 2004, ERM.

5. “Remedial Investigation/ Feasibility Study Work Plan”, May 2000, ERM.

6. Letters submitted to the NYSDEC by Sidney G. Sloves of Bronxville NY, one dated December 26, 2004, one dated December 29, 2004, and two undated.

7. Letter submitted to the NYSDEC by Mr. Philip A. Amicon, Mayor, City of Yonkers dated January 18, 2005.

8. Letter submitted to the NYSDEC by Mr. Richard Schiafo of Scenic Hudson, Poughkeepsie NY dated February 2, 2005.

Table 1
Environmental Media and Interior Building Materials
Range of Sampling Results and Exceedances of Standards, Criteria and Guidelines (SCGs)
BICC Cables Corporation, Yonkers, New York

SURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds	None	ND		
(VOCs)				
Semivolatile Organic Compounds				
(SVOCs)				
NORTH YARD	Benzo(a)anthracene	0.0194 - 18.3	0.224	3/9
	Benzo(a)pyrene	0.0136 - 16.8	0.061	6/9
	Benzo(b)fluoranthene	0.0226 - 22.7	1.1	2/9
	Benzo(k)fluoranthene	0.0109 - 8.590	1.1	2/9
	Chrysene	0.0214 - 19.4	0.4	3/9
	Dibenzo(a,h)anthracene	0.0246 - 3.260	0.014	4/9
	Indeno(1,2,3-cd)pyrene	0.0697 - 13.4	3.2	1/9
SOUTH YARD	Benzo(a)anthracene	0.060 - 8.180	0.224	15/21
	Benzo(a)pyrene	0.077 - 5.950	0.061	17/21
	Benzo(b)fluoranthene	0.085 - 7.950	1.1	10/21
	Benzo(k)fluoranthene	0.073 - 5.0	1.1	6/21
	Chrysene	0.088 - 7.7	0.4	15/21
	Dibenzo(a,h)anthracene	0.0212 - 1.030	0.014	12/21
BELOW BUILDING	Benzo(a)anthracene	10.7	0.224	1/1
	Benzo(a)pyrene	8.8	0.061	1/1
	Benzo(b)fluoranthene	9.9	1.1	1/1
	Benzo(k)fluoranthene	3.9	1.1	1/1
	Chrysene	10	0.4	1/1
	Dibenzo(a,h)anthracene	1.4	0.014	1/1
	Indeno(1,2,3-cd)pyrene	5.1	3.2	1/1
Polychlorinated Biphenyls (PCBs)/Pesticides				
NORTH YARD	Total Aroclors	ND - 20.1	1	2/9
SOUTH YARD	Total Aroclors	ND - 7	1	9/23
BELOW BUILDING	Total Aroclors	15.5	1	1/1
Inorganic Compounds				
NORTH YARD	Arsenic	1.5 - 34.8	7.5	2/9
	Barium	70.7 - 556	300	1/9
	Chromium	5.4 - 52.1	50	1/9
	Copper	81.9 - 905	25	5/9
	Iron	15800 - 72400	2000	8/9
	Lead	6.3 - 7040	500	4/12
	Mercury	0.12 - 0.88	0.1	6/9
	Nickel	12.6 - 39.7	13	7/9
	Zinc	73.9 - 1040	20	7/9
SOUTH YARD	Arsenic	2.3 - 106	7.5	16/21
	Barium	38.4 - 1540	300	2/21
	Beryllium	0.08 - 0.77	0.16	8/21
	Chromium	7.5 - 77.4	50	3/21
	Copper	40.8 - 5630	25	21/21
	Iron	7440 - 110000	2000	21/21
	Lead	24.5 - 3630	500	5/22
	Mercury	0.04 - 12.8	0.1	16/21
	Nickel	12.5 - 74	13	16/21

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SURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
	Selenium	0.35 - .4	2	2/21
	Vanadium	15.5 - 431	150	1/21
	Zinc	73.3 - 3560	20	21/21
SURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
BELOW BUILDING	Arsenic	21.1	7.5	1/1
	Copper	259	25	1/1
	Iron	29500	2000	1/1
	Lead	3130	500	1/1
	Mercury	1.9	0.1	1/1
	Nickel	19	13	1/1
	Zinc	169	20	1/1
SUBSURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
Volatile Organic Compounds				
(VOCs)				
NORTH YARD	Acetone	0.0072 - 1480	0.2	2/79
	Benzene	0.0017 - 7.44	0.06	4/79
	Ethylbenzene	0.0016 - 402	5.5	4/79
	Hexachlorobenzene	ND - 0.42	0.41	1/163
	Methylene Chloride	0.001 - 0.404	0.1	2/79
	Toluene	0.0019 - 468	1.5	4/79
	Xylene (total)	0.0022 - 3190	1.2	4/79
	Total VOC	ND - 4061.703	10	4/83
SOUTH YARD	no SCG exceedances			
BELOW BUILDING	Xylene(total)	0.0092 - 20.7	1.2	1/17
Semivolatile Organic Compounds				
(SVOCs)				
NORTH YARD	2-Methylnapthalene	0.0192 - 78.2	36.4	2/163
	2-Methylphenol	0.0587 - 0.979	0.1	5/163
	Acenaphthylene	14.8 - 43.3	41	1/163
	Anthracene	0.0163 - 113	50	2/163
	Benzo(a)anthracene	0.0152 - 245	0.224	103/163
	Benzo(a)pyrene	0.0297 - 219	0.061	132/163
	Benzo(b)fluoranthene	0.0134 - 268	1.1	57/163
	Benzo(g,h,i)perylene	0.0214 - 158	50	2/163
	Benzo(k)fluoranthene	0.0183 - 91.4	1.1	35/163
	Bis(2-ethylhexyl)phthalate	0.0158 - 3700	50	21/163
	Chrysene	0.0112 - 233	0.4	89/163
	Dibenzo(a,h)anthracene	0.0161 - 58	0.014	77/163
	Dibenzofuran	0.0184 - 65.6	6.2	4/163
	Fluoranthene	0.0214 - 727	50	4/163
	Fluorene	0.0174 - 72.8	50	2/163
	Ideno(1,2,3-cd)pyrene	0.0186 - 176	3.2	23/163
	Napthalene	0.0144 - 88.6	13	9/163
	Phenol	0.081 - 243	0.03	22/163
	Pyrene	0.0174 - 527	50	6/163
	Total SVOC	ND - 3979.350	500	14/172

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SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]	Frequency Exceeding Screening Criteria
SOUTH YARD	Benzo(a)anthracene	0.019 - 20.5	0.224	29/47
	Benzo(a)pyrene	0.028 - 19.5	0.061	37/47
	Benzo(b)fluoranthene	0.0165 - 21	1.1	6/47
	Benzo(k)fluoranthene	0.0215 - 2.42	1.1	3/47
	Chrysene	0.414 - 18.9	0.4	21/47
	Dibenzo(a,h)anthracene	0.0108 - 2.1	0.014	29/47
	Ideno(1,2,3-cd)pyrene	0.0182 - 10.1	3.2	1/47
SUBSURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**Concentration Range Detected[1] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
BELOW BUILDING	Anthracene	0.0287 - 126	50	1/112
	2-Methylphenol	0.060 - 0.239	0.1	1/112
	Benzo(g,h,i)perylene	0.0697 - 55.1	50	1/112
	Benzo(a)anthracene	0.0221 - 139	0.224	83/112
	Benzo(b)fluoranthene	0.024 - 135	1.1	49/112
	Benzo(k)fluoranthene	0.010 - 60.8	1.1	47/112
	Benzo(a)pyrene	0.0264 - 28	0.061	61/112
	Chrysene	0.0212 - 126	0.4	73/112
	Dibenzofuran	0.0197 - 55.4	6.2	5/79
	Dibenzo(a,h)anthracene	0.0209 - 2.910	0.014	46/112
	Di-n-butyl phthalate	0.0497 - 14.9	8.1	1/112
	Fluoranthene	0.0172 - 421	50	4/112
	Ideno(1,2,3-cd) pyrene	0.0193 - 66	3.2	11/112
	Napthalene	0.0215 - 207	13	5/112
	Pentachlorophenol	ND - 1.69	1	1/112
	Phenol	0.0434 - 0.346	0.03	3/112
	Pyrene	0.0276 - 354	50	3/79
	Total SVOC	ND - 2434.952	500	1/112
PCBs/Pesticides				
NORTH YARD	Total Aroclors	ND - 97600	10	35/166
SOUTH YARD	Total Aroclors	ND - 23.3	10	1/47
BELOW BUILDING	Total Aroclors	ND - 5510	10	21/119
Inorganic Compounds				
NORTH YARD	Arsenic	1.1 - 60.6	7.5	93/165
	Barium	25 - 18200	300	66/165
	Beryllium	0.07 - 1.2	0.16	17/165
	Cadmium	0.03 - 20.8	10	1/165
	Chromium	6.2 - 727	50	35/165
	Cobalt	2.9 - 41.4	30	1/165
	Copper	10 - 34800	25	154/165
	Iron	3240 - 295000	2000	154/165
	Lead	5.7 - 41900	500	83/168
	TCLP Lead	0.63 - 8.8	5	2/14
	Mercury	0.039 - 13.1	0.1	141/164
	Nickel	6.4 - 143	13	145/165
	Selenium	0.23 - 29.7	2	31/165
	Vanadium	11.4 - 896	150	2/165
	Zinc	30.1 - 32500	20	155/165
SOUTH YARD	Arsenic	2.1 - 70	7.5	24/47
	Barium	34.4 - 4460	300	4/47

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SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]	Frequency Exceeding Screening Criteria
	Beryllium	0.71 - 1	0.16	7/47
	Chromium	4.3 - 697	50	2/47
	Copper	15.6 - 1940	25	41/47
	Iron	5240 - 78600	2000	47/47
	Lead	8.7 - 6230	500	8/47
	Mercury	0.049 - 3.5	0.1	32/47
	Nickel	8.5 - 79	13	40/47
	Selenium	1.2 - 5.1	2	3/47
	Zinc	22.1 - 5220	20	47/47
SUBSURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
BELOW BUILDING	Arsenic	1.3 - 98	7.5	44/114
	Barium	28.1 - 1540	300	12/114
	Beryllium	0.11 - 1	0.16	7/114
	Chromium	5.2 - 106	50	5/114
	Copper	11 - 11300	25	103/114
	Iron	5110 - 342000	2000	114/114
	Lead	8.9 - 15900	500	63/114
	TCLP Lead	1.2 - 27.1	5	2/4
	Mercury	0.03 - 5.8	0.1	98/114
	Nickel	6.8 - 133	13	73/114
	Selenium	0.37 - 23.7	2	11/114
	Zinc	8.8 - 5050	20	109/114
BICC PARKING LOT	Beryllium	ND - 0.8	0.16	1/6
	Iron	6920 - 18600	2000	6/6
	Mercury	0.039 - 0.72	0.1	1/6
	Nickel	9.3 - 15.9	13	3/6
	Zinc	19.5 - 111	20	5/6
GROUNDWATER[2]	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppb)[a]**	**SCG[b] (ppb)[a]**	**Frequency Exceeding Screening Criteria**
Volatile Organic Compounds				
(VOCs)				
NORTH YARD	Benzene	1.1 - 14.9	1	3/17
	Tetrachlorethene	16.5 - 58.9	5	4/17
	Xylene(total)	ND - 8.5	5	1/17
Semivolatile Organic Compounds				
(SVOCs)				
NORTH YARD	2-Methylphenol	ND - 2.6J	1	1/17
	Bis(2-ethylhexyl)phthalate	ND - 63.8	5	1/17
	Phenol	2.3J - 4.8J	1	2/17
PCBs/Pesticides	None	ND		
Inorganic Compounds				
NORTH YARD	Aluminum	206 - 4640J	100	8/19
	Barium	260 - 4120	1000	5/19
	Iron	259 - 25900	300	19/19
	Lead	4.7 - 64.4	25	6/19

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GROUNDWATER[2]	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCG[b] (ppb)[a]	Frequency Exceeding Screening Criteria
	Magnesium	9660 - 239000	35000	10/19
	Manganese	23 - 1030	300	8/19
	Sodium	41900 - 3460000	20000	19/19
SOUTH YARD	Aluminum	296 - 1830	100	2/6
	Iron	871 - 31400	300	5/6
	Lead	3 - 104	25	1/6
	Magnesium	31100 - 125000	35000	4/6
	Manganese	147 - 1490	300	5/6
	Sodium	105000 - 888000	20000	6/6
BELOW BUILDING	Aluminum	425 - 10900	100	2/5
	Iron	574 - 34900	300	5/5
	Lead	8.4 - 64.4	25	2/5
	Magnesium	55400 - 263000	35000	5/5
	Manganese	458 - 6510	300	5/5
	Sodium	35900 - 1840000	20000	5/5

SURFACE WATER	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds				
(VOCs)	Not Analyzed			
Semivolatile Organic Compounds				
(SVOCs)	Not Analyzed			
PCBs/Pesticides	Not Analyzed			
Inorganic Compounds	Iron	316 - 436	300	2/2
	Sodium	3530000 - 3630000	20000	2/2

SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCGb (ppb)[a]		Frequency Exceeding Screening Criteria
Volatile Organic Compounds					
(VOCs)	Not Analyzed				
Semivolatile Organic Compounds					
(SVOCs)					
BUILDING INTERTIDAL	Acenaphthene	22.3 - 65	LEL	16	6/18
	Acenaphthylene	45 - 133	LEL	44	13/18
	Anthracene	23.9 - 205	LEL	85.3	5/18
	Benzo(a)anthracene	44.2 - 588	LEL	261	7/18
	Benzo(a)pyrene	49.7 - 564	LEL	430	4/18
			HH	0.7*	16/18
	bis(2-Ethylhexyl)phthalate	163 - 1360	LEL*	199.5*	1/18
	Chrysene	47.4 - 901	LEL	384	5/18
	Dibenzo(a,h)anthracene	36.3 - 79.9	LEL	63.4	5/18
	Diethyl phthalate	216 - 216	LEL*	1*	1/18
	Fluoranthene	66.3 - 1320	LEL	600	5/18
	Fluorene	50.8 - 85.1	LEL	19	5/18
	Phenanthrene	90 - 496	LEL	240	5/18
	Pyrene	74.4 - 1340	LEL	665	5/18
	Total PAHs	440.4 - 7284.6	LEL	4022	5/18
BUILDING SUBTIDAL	Acenaphthene	52.5 - 430	LEL	16	3/5
	Acenaphthylene	75.5 - 116	LEL	44	4/5

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SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCGb (ppb)[a]		Frequency Exceeding Screening Criteria
	Anthracene	50.8 - 183	LEL	85.3	4/5
	Benzo(a)anthracene	200 - 824	LEL	261	4/5
	Benzo(a)pyrene	205 - 565	LEL	430	4/5
			HH	0.7*	5/5
	Chrysene	216 - 856	LEL	384	4/5
	Dibenzo(a,h)anthracene	46.6 - 72.5	LEL	63.4	1/5
	Fluoranthene	395 - 2870	LEL	600	4/5
	Fluorene	44.3 - 103	LEL	19	4/5
	Phenanthrene	115 - 744	LEL	240	4/5
	Pyrene	396 - 2240	LEL	665	4/5
	Total PAHs	2206.8 - 10329.2	LEL	4022	4/5
ADJACENT TO YARD	Acenaphthylene	34.5 - 77.5	LEL	44	4/7
	Anthracene	43.8 - 85.4	LEL	85.3	1/7
	Benzo(a)anthracene	95.1 - 347	LEL	261	3/7
			HH	0.7	7/7
	Chrysene	89.1 - 388	LEL	384	1/7
	Dibenzo(a,h)anthracene	31.9 - 66.4	LEL	63.4	1/7

SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCGb (ppb)[a]		Frequency Exceeding Screening Criteria
BUILDING INTERTIDAL	Aroclor 1248	59.6 - 2550	LEL	22.7	10/18
			SEL	180	6/18
			WB	1.4*	9/18
			HH	0.0008*	9/18
	Aroclor 1260	54.1 - 33300	LEL	22.7	17/18
			SEL	180	14/18
			WB	1.4*	15/18
			HH	0.0008*	15/18
	Total PCBs	54.1 - 33300	LEL	22.7	17/18
			SEL	180	15/18
			WB	1.4*	15/18
			HH	0.0008*	15/18
BUILDING SUBTIDAL	Aroclor 1248	162 - 481	LEL	22.7	9/16
			SEL	180*	8/16
			WB	1.4*	11/16
			HH	0.0008*	11/16
	Aroclor 1260	58.6 - 15800	LEL	22.7	10/16
			SEL	180*	9/16
			WB	1.4*	13/16
			HH	0.0008*	13/16
	Total PCBs	165 - 15800	LEL	22.7	15/15
ADJACENT TO YARD	Aroclor 1248	66.2 - 168	LEL	22.7	6/7
			WB	1.4	6/7
			HH	0.0008	6/7
	Aroclor 1260	47.9 - 280	LEL	22.7	6/7
			SEL	180	1/7
			WB	1.4	6/7
			HH	0.0008	6/7
	Total PCBs	0 - 448	LEL	22.7	6/7
			SEL	180	3/7
			WB	1.4	6/7
			HH	0.0008	6/7

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SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]		Frequency Exceeding Screening Criteria
Inorganic Compounds					
BUILDING INTERTIDAL	Arsenic	1.3 - 22.4	LEL	8.2	15/18
	Cadmium	1.1 - 3.8	LEL	1.2	5/18
	Chromium	6.5 - 117	LEL	81	4/18
	Copper	26.2 - 324	LEL	34	16/18
			SEL	270	2/18
	Lead	30 - 1040	LEL	46.7	16/18
			SEL	218	7/18
	Mercury	0.71 - 1.6	LEL	0.15	16/18
			SEL	0.71	15/18
	Nickel	5.5 - 62.4	LEL	20.9	16/18
			SEL	51.6	2/18
	Silver	2 - 4.6	LEL	1	12/18
			SEL	3.7	2/18
	Zinc	64.3 - 1000	LEL	150	16/18
			SEL	410	1/18
BUILDING SUBTIDAL	Arsenic	5.6 - 17.7	LEL	8.2	10/24
	Cadmium	0.0044 - 1.3	LEL	1.2	1/24
	Copper	56.4 - 88.3	LEL	34	24/24
	Lead	58.8 - 1190	LEL	46.7	24/24
			SEL	218	2/24
	Mercury	0.078 - 3.1	LEL	0.15	23/24
			SEL	0.71	12/24
	Nickel	19.8 - 30.8	LEL	20.9	21/24
	Silver	1.8 - 3.5	LEL	1	16/24
	Zinc	105 - 182	LEL	150	7/24
SURFACE SEDIMENT	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppb)[a]**	**SCGb (ppb)[a]**		**Frequency Exceeding Screening Criteria**
ADJACENT TO YARD	Arsenic	5.9 - 9.4	LEL	8.2	6/15
	Copper	54.7 - 134	LEL	34	15/15
	Lead	56.4 - 186	LEL	46.7	15/15
	Mercury	0.57 - 1	LEL	0.15	17/17
			SEL	0.71	5/17
	Nickel	22.1 - 34.3	LEL	20.9	15/15
	Silver	1.8 - 2.7	LEL	1	13/15
	Zinc	125 - 202	LEL	150	9/15
SUBSURFACE SEDIMENT	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppb)[a]**	**SCGb (ppb)[a]**		**Frequency Exceeding Screening Criteria**
Volatile Organic Compounds					
(VOCs)	Not Analyzed				
Semivolatile Organic Compounds					
(SVOCs)					
BUILDING INTERTIDAL	1,4-Dichlorobenzene	91.3 - 764	LEL*	12*	1/18
	2-Methylnaphthalene	49.8 - 265	LEL	70	2/18
	Acenaphthene	19.8 - 1030	LEL	16	5/18
			SEL	500	1/18
	Acenaphthylene	33.7 - 144	LEL	44	13/18
	Anthracene	30.4 - 1490	LEL	85.3	9/18
			SEL	1100	1/18
	Benzo(a)anthracene	50.8 - 3550	LEL	261	11/18
			SEL	1600	1/18

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SUBSURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCGb (ppb)[a]		Frequency Exceeding Screening Criteria
	Benzo(a)pyrene	35.1 - 2700	LEL	430	6/18
			SEL	1600	1/18
			HH	0.7	16/18
	bis(2-Ethylhexyl)phthalate	54.6 - 796000	LEL*	199.5*	2/18
	Chrysene	48.9 - 3120	LEL	384	9/18
			SEL	2800	1/18
	Dibenzo(a,h)anthracene	48.9 - 421	LEL	63.4	3/18
			SEL	260	1/18
	Fluoranthene	84.5 - 5000	LEL	600	5/18
	Fluorene	38.5 - 859	LEL	19	6/18
			SEL	540	1/18
	Naphthalene	39.2 - 654	LEL	160	1/18
	Phenanthrene	39.2 - 5500	LEL	240	6/18
			SEL	1500	1/18
	Pyrene	131 - 6060	LEL	665	8/18
			SEL	2600	1/18
	Total PAHs	698.1 - 38172	LEL	4022	6/18
BUILDING SUBTIDAL	2-Methylnaphthalene	67.8 - 93.6	LEL	70	1/5
	Acenaphthene	26.9 - 2560	LEL	16	4/5
			SEL	500	2/5
	Acenaphthylene	50.1 - 137	LEL	44	5/5
	Anthracene	90.9 - 511	LEL	85.3	5/5
	Benzo(a)anthracene	316 - 1680	LEL	261	5/5
			SEL	1600	1/5
	Benzo(a)pyrene	354 - 866	LEL	430	2/5
			HH	0.7	5/5
	Chrysene	342 - 1650	LEL	384	2/5
	Dibenzo(a,h)anthracene	40.1 - 68.8	LEL	63.4	2/5
	Fluoranthene	585 - 8640	LEL	600	4/5
			SEL	5100	1/5
	Fluorene	32.9 - 802	LEL	19	5/5
			SEL	540	2/5
	Naphthalene	31.5 - 426	LEL	160	2/5
SUBSURFACE SEDIMENT	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppb)[a]**	**SCGb (ppb)[a]**		**Frequency Exceeding Screening Criteria**
	Phenanthrene	185 - 2170	LEL	240	4/5
			SEL	1500	2/5
BUILDING SUBTIDAL	Pyrene	631 - 5570	LEL	665	4/5
			SEL	2600	2/5
	Total PAHs	3678.8 - 26743.7	LEL	4022	4/5
ADJACENT TO YARD	Acenaphthene	147 - 147	LEL	16	1/7
	Acenaphthylene	34.2 - 66.3	LEL	44	4/7
	Anthracene	38.4 - 327	LEL	85.3	1/7
	Benzo(a)anthracene	91 - 700	LEL	261	2/7
	Benzo(a)pyrene	99.3 - 669	LEL	430	1/7
			HH	0.7	7/7
	Chrysene	92.8 - 674	LEL	384	1/7
	Dibenzo(a,h)anthracene	30.2 - 97.9	LEL	63.4	1/7
	Fluoranthene	135 - 1400	LEL	600	1/7
	Fluorene	167 - 167	LEL	19	1/7
	Phenanthrene	60.6 - 1370	LEL	240	1/7
	Pyrene	173 - 1540	LEL	665	1/7
	Total PAHs	948.4 - 9001.6	LEL	4022	1/7

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SUBSURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	SCGb (ppb)[a]		Frequency Exceeding Screening Criteria
PCBs/Pesticides					
BUILDING INTERTIDAL	Aroclor 1248	95 - 3500	LEL	22.7	12/18
			SEL	180	9/18
			WB	1.4	11/18
			HH	0.0008	11/18
	Aroclor 1260	87.1 - 4330	LEL	22.7	17/18
			SEL	180	16/18
			WB	1.4	15/18
			HH	0.0008	15/18
	Total PCBs	87.5 - 7830	LEL	22.7	17/18
			SEL	180	16/18
			WB	1.4	15/18
			HH	0.0008	15/18
BUILDING SUBTIDAL	Aroclor 1248	156 - 322	LEL	22.7	11/16
			SEL	180	9/16
			WB	1.4	10/16
			HH	0.0008	10/16
	Aroclor 1254	252 - 252	LEL	22.7	1/16
			SEL	180	1/16
			WB	1.4	1/16
			HH	0.0008	1/16
	Aroclor 1260	114 - 2700	LEL	22.7	15/16
			SEL	180	10/16
			WB	1.4	14/16
			HH	0.0008	14/16
	Total PCBs	270 - 2700	LEL	22.7	15/15
			SEL	180	15/15
			WB	1.4	14/15
			HH	0.0008	14/15
ADJACENT TO YARD	Aroclor 1248	114 - 224	LEL	22.7	7/7
			SEL	180	1/7
			WB	1.4	7/7
			HH	0.0008	7/7
	Aroclor 1260	69 - 274	LEL	22.7	7/7
			SEL	180	2/7
			WB	1.4	7/7
			HH	0.0008	7/7
	Total PCBs	201 - 425	LEL	22.7	7/7
			SEL	180	7/7
			WB	1.4	7/7
			HH	0.0008	7/7

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SUBSURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	SCG[b] (ppm)[a]		Frequency Exceeding Screening Criteria
Inorganic Compounds					
BUILDING INTERTIDAL	Arsenic	1.4 - 26.5	LEL	8.2	16/18
	Cadmium	1 - 6.2	LEL	1.2	12/18
	Chromium	6.9 - 234	LEL	81	13/18
	Copper	50.1 - 967	LEL	34	18/18
			SEL	270	7/18
	Lead	29.2 - 6440	LEL	46.7	16/18
			SEL	218	12/18
	Mercury	0.038 - 5.6	LEL	0.15	16/18
			SEL	0.71	14/18
	Nickel	7.4 - 148	LEL	20.9	16/18
			SEL	51.6	4/18
	Silver	2.9 - 6.2	LEL	1	12/18
			SEL	3.7	8/18
	Zinc	66 - 1210	LEL	150	16/18
			SEL	410	7/18
BUILDING SUBTIDAL	Arsenic	6 - 11	LEL	8.2	11/24
	Cadmium	0.95 - 1.6	LEL	1.2	4/24
	Chromium	24.9 - 84.3	LEL	81	1/24
	Copper	16.9 - 170	LEL	34	23/24
	Lead	12 - 539	LEL	46.7	23/24
			SEL	218	3/24
	Mercury	0.082 - 1.3	LEL	0.15	23/24
			SEL	0.71	12/24
	Nickel	20.1 - 30.5	LEL	20.9	21/24
	Silver	1.8 - 3.8	LEL	1	22/24
			SEL	3.7	2/24
	Zinc	65.7 - 261	LEL	150	10/24
ADJACENT TO YARD	Arsenic	6.4 - 9.4	LEL	8.2	7/15
	Cadmium	0.96 - 1.4	LEL	1.2	2/15
	Chromium	47.3 - 85.5	LEL	81	1/15
	Copper	59.4 - 131	LEL	34	15/15
	Lead	57.5 - 190	LEL	46.7	15/15
	Mercury	0.51 - 1.2	LEL	0.15	15/15
			SEL	0.71	5/15
	Nickel	22.4 - 29.9	LEL	20.9	15/15
	Silver	1.9 - 3.8	LEL	1	13/15
			SEL	3.7	1/15
	Zinc	129 - 189	LEL	150	8/15

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Range of Sampling Results and Exceedances of Standards, Criteria and Guidelines (SCGs)
BICC Cables Corporation, Yonkers, New York

INTERIOR BUILDING MATERIAL SURFACE ACCUMULATION/IMPACTS (POST-CLEAN)	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (µg/100cm²)[a]**	**SCG (µg/100cm²)[a]**	**Frequency Exceeding Screening Criteria**
PCBs/Pesticides	Total Aroclors	ND - 860	1	220/421
Inorganic Compounds	Lead	ND - 1,320	4.3	213/345
INTERIOR BULK CONCRETE BUILDING MATERIAL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
PCBs/Pesticides	Total Aroclors	ND - 3,905	1	various[(d)]
Inorganic Compounds	Lead	ND-303	500	0/43
INTERIOR BULK WOOD BUILDING MATERIAL	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppm)[a]**	**SCG[b] (ppm)[a]**	**Frequency Exceeding Screening Criteria**
PCBs/Pesticides	Total Aroclors	ND - 36.4	1	19/44
Inorganic Compounds	Lead	3.7 - 2680	500	3/14

Notes:

[1] Concentration ranges exhibit minimum to maximum detected values. Some ranges do not include non-detect values.

[2] 7/19/01 results for MW-07 excluded due to the presence of sheen, and 1/22/02 results for MWI-01 are excluded due to high turbidity.

[a] ppb=parts per billion, which is equivalent to micrograms per liter, ug/L, in water and ug/kg in sediment;
ppm=parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil and sediment, and mg/L for metals concentrations determined using the Toxicity Characteristic Leachate Procedure (TCLP).

[b] Screening criteria include the following:
Soil: NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives
Groundwater: Class GA Groundwater Standards
Sediment: NYSDEC Sediment Screening Criteria - see note c
Surface Building Material: Site-specific Long-Term Occupancy Criteria (LTOC) based on Binghamton Office Fire Re-entry Criteria and 40 CFR Part 745
Bulk Building Material: Site-specific LTOC and NYSDEC TAGM 4046

[c] LEL=Lowest Effects Level and SEL=Severe Effects Level. Exceedances of either of these screening criteria is reflected in this table. If both criteria are exceeded, then the sediment is classified as severely impacted. If only the LEL is exceeded, then the impact is classified as moderately impacted.

[d] Number of criteria exceedances difficult to quantify given the evaluation criteria for PCB in bulk concrete (I.e., upper 0.5-inch and then subsequent 1-inch intervals. See table 4 for extent of PCB impacted concrete at depth

LEL = ERL (Effects Range-Low) and SEL = ERM (Effects Range-Median) unless otherwise noted
* = Benthic Aquatic Life Chronic Toxicity (ug/gOC). Organic carbon normalized data was compared to the sediment screening criteria.
WB = Wildlife Bioaccumulation (ug/gOC). Organic carbon normalized data was compared to the sediment screening criteria.
HH = Human Health Bioaccumulation (ug/gOC). Organic carbon normalized data was compared to sediment screening criteria.

Table 2
Range of Upriver Sediment Sampling Results, BICC Cables Corporation, Yonkers, New York

SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]
Volatile Organic Compounds		
(VOCs)	None	
Semivolatile Organic Compounds		
(SVOCs)		
	Acenaphthene	141 - 141
	Acenaphthylene	55.7 - 74.5
	Anthracene	48.8 - 219
	Benzo(a)anthracene	191 - 688
	Benzo(a)pyrene	142 - 433
	Chrysene	201 - 834
	Dibenzo(a,h)anthracene	32.8 - 69.7
	Fluoranthene	406 - 2820
	Fluorene	32.6 - 199
	Phenanthrene	205 - 3260
	Pyrene	402 - 2260
	Total PAHs	2266.1 - 12232.3
PCBs/Pesticides		
	Aroclor 1248	55.9 - 460
	Aroclor 1254	130 - 380
	Aroclor 1260	39.7 - 219
	Total PCBs	111.2 - 840

SURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]
Inorganic Compounds		
	Arsenic	4.1 - 12.3
	Cadmium	0.81 - 1.3
	Copper	42.3 - 98.8
	Lead	20.6 - 90
	Mercury	0.18 - 0.7
	Nickel	16.5 - 33.3
	Silver	1.2 - 2.7
	Zinc	79.3 - 178

Table 2
Range of Upriver Sediment Sampling Results, BICC Cables Corporation, Yonkers, New York

SUBSURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]
Volatile Organic Compounds		
(VOCs)	None	ND
Semivolatile Organic Compounds		
(SVOCs)		
	2-Methylnaphthalene	230 - 230
	Acenaphthene	31.7 - 731
	Acenaphthylene	34.2 - 56.7
	Anthracene	49.1 - 932
	Benzo(a)anthracene	164 - 2690
	Benzo(a)pyrene	178 - 1370
	Chrysene	147 - 2990
	Dibenzo(a,h)anthracene	30.9 - 245
	Fluoranthene	226 - 10400
	Fluorene	35.7 - 1030
	Phenanthrene	131 - 12600
	Pyrene	305 - 8480
	Total PAHs	1764.9 - 45830.6
PCBs/Pesticides		
	Aroclor 1248	42.5 - 440
	Aroclor 1254	450 - 450
	Aroclor 1260	54.8 - 292
	Total PCBs	97.3 - 890

Table 2
Range of Upriver Sediment Sampling Results, BICC Cables Corporation, Yonkers, New York

SUBSURFACE SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]
Inorganic Compounds		
	Arsenic	2.5 - 11.4
	Cadmium	1.1 - 1.6
	Copper	23.3 - 149
	Lead	19 - 87.5
	Mercury	0.18 - 0.82
	Nickel	8.6 - 25.5
	Silver	2 - 4.2
	Zinc	49.6 - 167

Notes:

[1] Concentration ranges exhibit minimum to maximum detected values. Some ranges do not inclu

[a] ppb=parts per billion, which is equivalent to ug/kg in sediment;

[b] Screening criteria include the following:
Sediment: NYSDEC Sediment Screening Criteria - see note c

[c] LEL=Lowest Effects Level and SEL=Severe Effects Level. Exceedances of either of these screeni
If both criteria are exceeded, then the sediment is classified as severely impacted. If only the LE
is classified as moderately impacted.
LEL = ERL (Effects Range-Low) and SEL = ERM (Effects Range-Median) unless otherwise noted
* = Benthic Aquatic Life Chronic Toxicity (ug/gOC). Organic carbon normalized data was compa
WB = Wildlife Bioaccumulation (ug/gOC). Organic carbon normalized data was compared to th
HH = Human Health Bioaccumulation (ug/gOC). Organic carbon normalized data was compare

Table 3
Extent of Soil/Fill Exceeding the SCGs
BICC Cables Corporation, Yonkers, New York

Area	Maximum PCB Concentration in Surface Soil (ppm)	Maximum PCB Concentration in Subsurface Soil (ppm)	Maximum Total VOC Concentration in Soil (ppm)	VOC(s) Present at Concentrations Above SCG(s)?	Estimated Depth of PCB impacts (ft)	Estimated Volume of PCB Impacted Surface Soil (cys)	Estimated Volume of PCB and VOC Impacted Subsurface Soil (cys)
BICC Parking Lot	Note (1)	ND	Note (1)	no	0	0	0
South Yard	7	23.3	0.2	no	19-20	2,323	1,182
North Yard	20.1	97,600	4,062	yes	20	39	17,118
Below Building	15.5	5,510	0.95	yes	15	24	1,502

Notes
(1) Due to the lack of exposed soil in the BICC Parking Lot, no surface soil samples were collected from this area.
(2) Based on the PID measurements collected during soil sampling activities, no VOC analysis was deemed necessary for the BICC Parking Lot soil samples.
ND: not detected

Table 4
Extent of Interior Building Materials Exceeding the Standards, Criteria and Guidelines (SCGs)
BICC Cables Corporation, Yonkers, New York

Impacted Building Construction Materials Limited To Surface Accumulation/ Surficial Impacts (PCBs and Lead) *(1)*

Floor	Estimated Surficial Concrete Floor Surface Area (SF)	Estimated Surficial Wood Floor Surface Area (SF)	Estimated Surficial Wall and Ceiling Surface Area (SF)(2)
First Floor	49,925	NA	273,470
Second Floor	50,385	13,650	231,910
Third Floor	3,095	7,600	98,685
Fourth Floor	NA	11,350	12,000
Stairwells	8,400	NA	25,315

Notes:
NA-This type of building material is not present on this floor
(1) Excludes the East and West Warehouse, Paint Shop and Guard House.
(2) These values conservatively represent the total wall and ceiling surface areas since floor and ceiling cleaning would be conducted with any floor remediation.

Impacted Concrete Building Material Floors at Depth (PCBs Only)

Floor	Maximum Depth of PCBs Exceeding LTOC	Estimated Concrete Surface Area (SF)	Total Estimated Percent of Concrete With PCB Impact At Depth (Per Floor)	Estimated Concrete Volume (CY)	Total Estimated Volume By Floor (CY)
First Floor	≤ 1/16-Inch	5,635	67%	1.08	1,525
	≤ 1/8-Inch	6,870		2.65	
	≤ 1/2-Inch	41,055		64	
	≤ 1-Inch	1,470		4.5	
	> 1-Inch	59,575		1,450	
Second Floor	≤ 1/16-Inch	9,745	34.50%	1.8	360
	≤ 1/2-Inch	1,345		2.06	
	≤ 1-Inch	1,370		4.2	
	> 1-Inch	14,100		346	
Third Floor	≤ 1/16-Inch	NA	83%	NA	300
	≤ 1/2-Inch	3,400		5.2	
	≤ 1-Inch	NA		NA	
	> 1-Inch	11,930		293	

Notes:
Does not include surficial quantities provided above.
With the exception of the stairwells, no concrete building material is located on the fourth floor.
The depth intervals provided correlate to the intervals for which the Section 8 technologies will be evaluated.
NA- Maximum depth of contamination exceeds this interval

Impacted Wood Building Material Floors at Depth (PCBs Only) *(1)*

Floor	Estimated Wood Surface Area (SF)	Estimated Wood Volume (CY)
First Floor	NA	NA
Second Floor	11,340	105
Third Floor	2,105	20
Fourth Floor	4,170	40

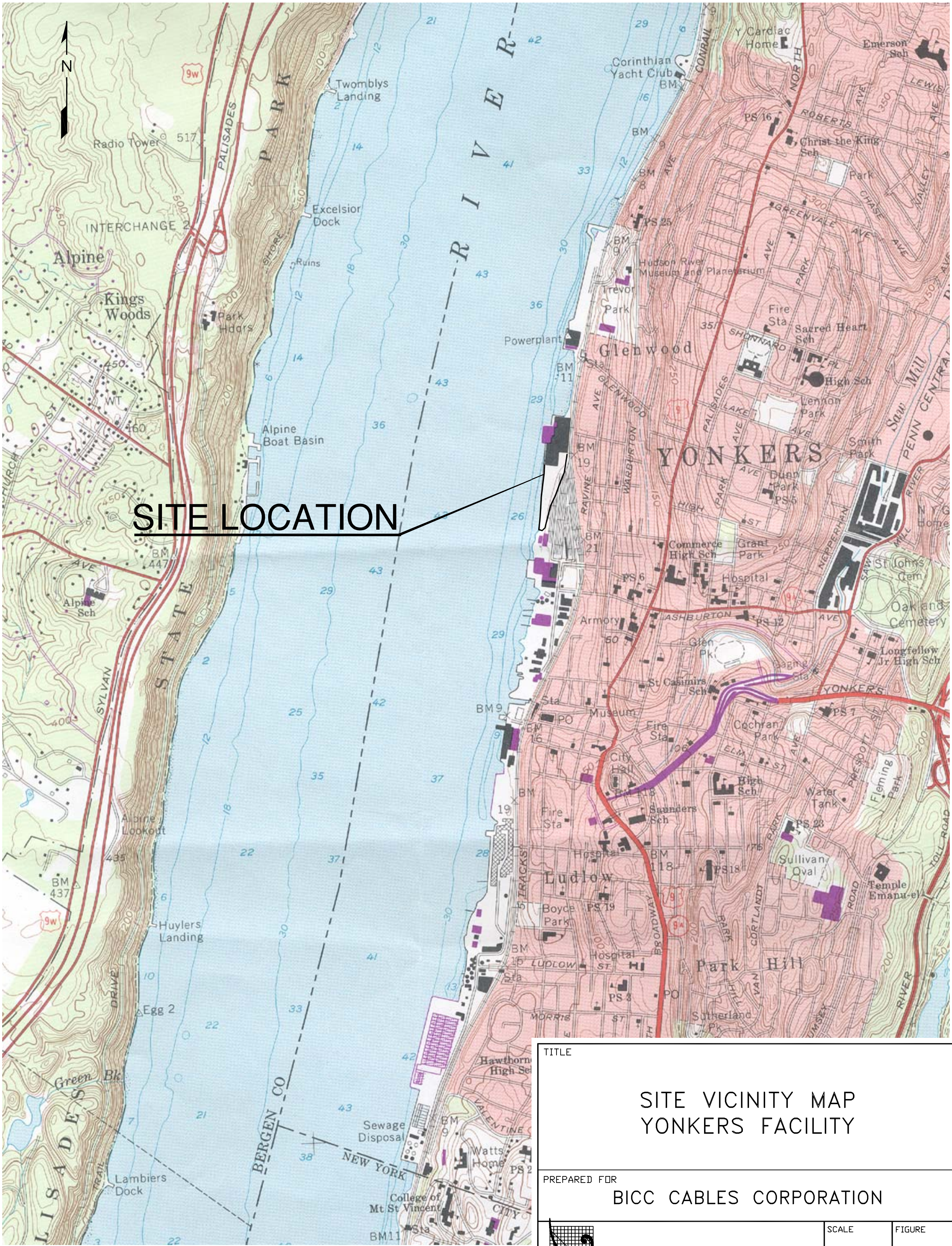
Note:
(1) Does not include surficial quantities provided above
NA-Wood building material is not present on this floor

Table 5
Remedial Alternative Costs
BICC Cables Corporation, Yonkers, New York

Remedial Alternative	Capital Cost	Present Value OM&M	Total Present Worth
E1 - No Further Action	$0	$0	$0
E2 - Surface Cover including Common Actions C1 (Groundwater Monitoring), C2 (Site management plan), and C4 (Bulkhead Restoration)	$3,331,448	$981,933	$4,343,482
E3 - Excavation and Off-Site Disposal (0' - 4') with surface cover including Common Actions C1, C2, and C4	$7,686,365	$803,515	$8,489,879
E3 - Excavation and Off-Site Disposal (0' - 8') with surface cover including Common Actions C1, C2, and C4	$12,091,716	$803,515	$12,895,231
E3 - Excavation and Off-Site Disposal (0' - 12 ') with surface cover including Common Actions C1, C2, and C4	**$14,861,791**	**$803,515**	**$15,658,149**
E3 - Excavation and Off-Site Disposal (0' - 16 ') with surface cover including Common Actions C1, C2, and C4	$17,941,556	$803,515	$18,737,914
E3 - Excavation and Off-Site Disposal (0' - 20') with surface cover including Common Actions C1, C2, and C4	$19,439,307	$803,515	$20,235,665
E4 - Excavation and Off-Site Disposal to Pre-Disposal Conditions including Common Actions C1, C2, and C4	$42,988,725	$803,515	$43,646,124
S1 - No Action (Areas I-IV)	$0	$0	$0
S2A - Monitored Natural Recover (Areas I-IV) including Common Actions C8 (Debris and Hotspot Removal)	$346,500	$785,200	$1,131,666
S3A - Sediment Removal (Areas I-IV) including Common Actions C8	**$2,964,617**	**$0**	**$2,964,617**
S4A - Sediment Capping (Areas I-IV) including Common Actions C8	$2,859,431	$961,791	$3,821,223

Table 5
Remedial Alternative Costs
BICC Cables Corporation, Yonkers, New York

Remedial Alternative	Capital Cost	Present Value OM&M	Total Present Worth
S1B - No Action (Areas V)	**$0**	**$0**	**$0**
S2B - Monitored Natural Recover (Area V) including Common Actions C8	$138,600	$557,121	$695,721
S3B - Sediment Removal (Area V) including Common Actions C8	$857,615	$0	$857,615
S4B - Sediment Capping (Area V) including Common Actions C8	$1,438,010	$907,443	$2,345,452
I1 - No Action	$14,775	$37,900	$60,255
I2 - Building Material Encapsulation and Removal including Common Actions C3 (Removal of Debris within building subsurface structures), C5 (Removal of interior storm water/trench system), C6 (Removal of Process tanks), and C7 (cleaning of lead extrusion pits)	$12,598,595	$2,363,508	$18,172,564
I3 - Building Interior Remediation including Common Actions C3, C5, C6, and C7	$15,175,048	$0	$15,175,048
I4 - Building Demolition including Common Actions C3, C5, and C6	**$10,610,383**	**$139,142**	**$10,749,525**
SUM TOTAL of ALTERNATIVES E3, S3a, S1B,and I4	**$28,436,791**	**$942,657**	**$29,372,291**



SOURCE: U.S.G.S. QUADRANGLE MAP, YONKERS, NY

TITLE

SITE VICINITY MAP
YONKERS FACILITY

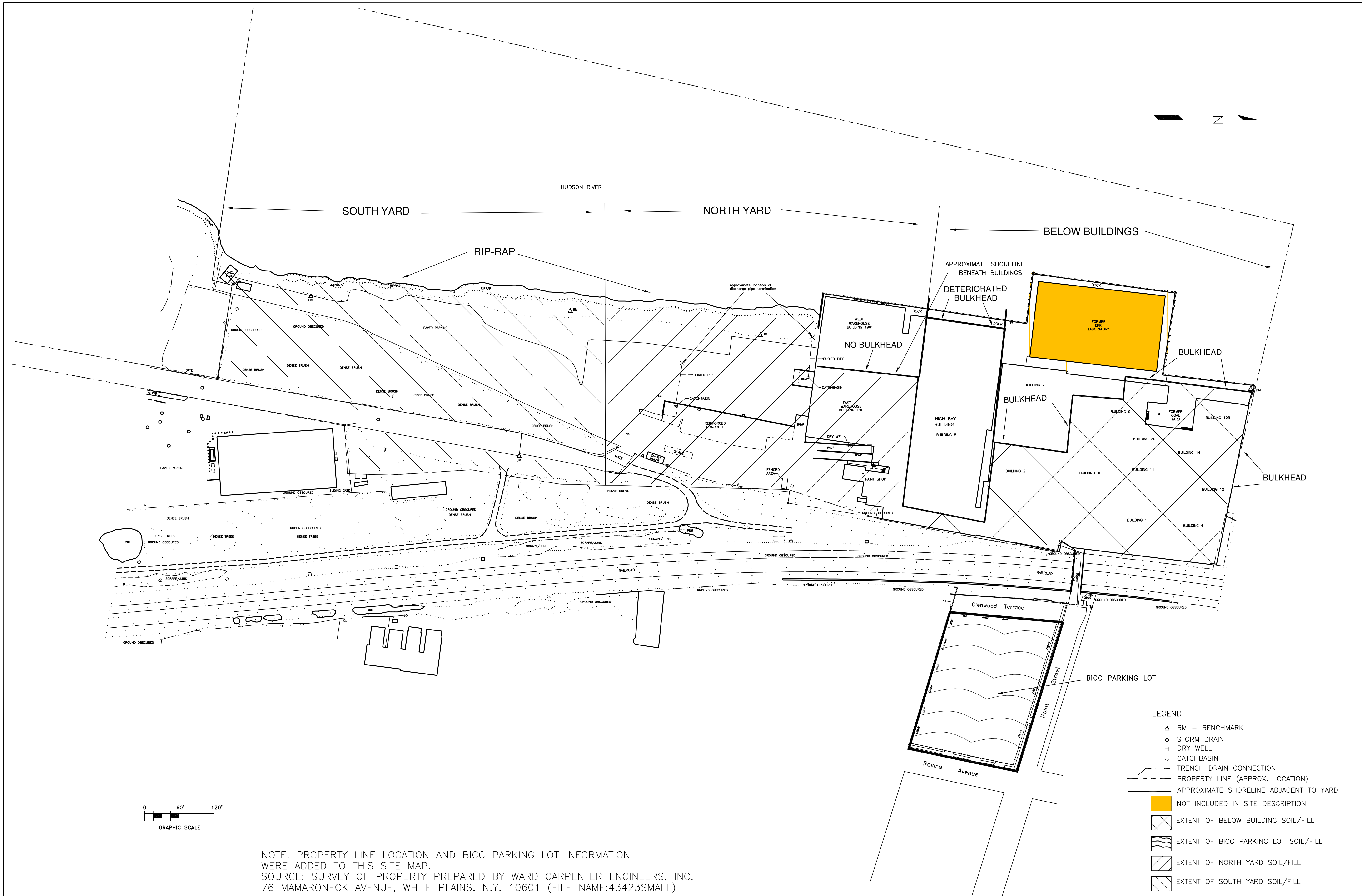
PREPARED FOR

BICC CABLES CORPORATION

ERM Environmental Resources Management

SCALE	FIGURE
1"–2000'	1
DATE	
2/18/02	

DRAWN:	JOB NO.:	FILE NAME:
YS/EMF	X7511.04	x751103003



0 60' 120'
GRAPHIC SCALE

NOTE: PROPERTY LINE LOCATION AND BICC PARKING LOT INFORMATION WERE ADDED TO THIS SITE MAP.
SOURCE: SURVEY OF PROPERTY PREPARED BY WARD CARPENTER ENGINEERS, INC. 76 MAMARONECK AVENUE, WHITE PLAINS, N.Y. 10601 (FILE NAME:43423SMALL)

LEGEND

- BM – BENCHMARK
- STORM DRAIN
- DRY WELL
- CATCHBASIN
- TRENCH DRAIN CONNECTION
- PROPERTY LINE (APPROX. LOCATION)
- APPROXIMATE SHORELINE ADJACENT TO YARD
- NOT INCLUDED IN SITE DESCRIPTION
- EXTENT OF BELOW BUILDING SOIL/FILL
- EXTENT OF BICC PARKING LOT SOIL/FILL
- EXTENT OF NORTH YARD SOIL/FILL
- EXTENT OF SOUTH YARD SOIL/FILL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

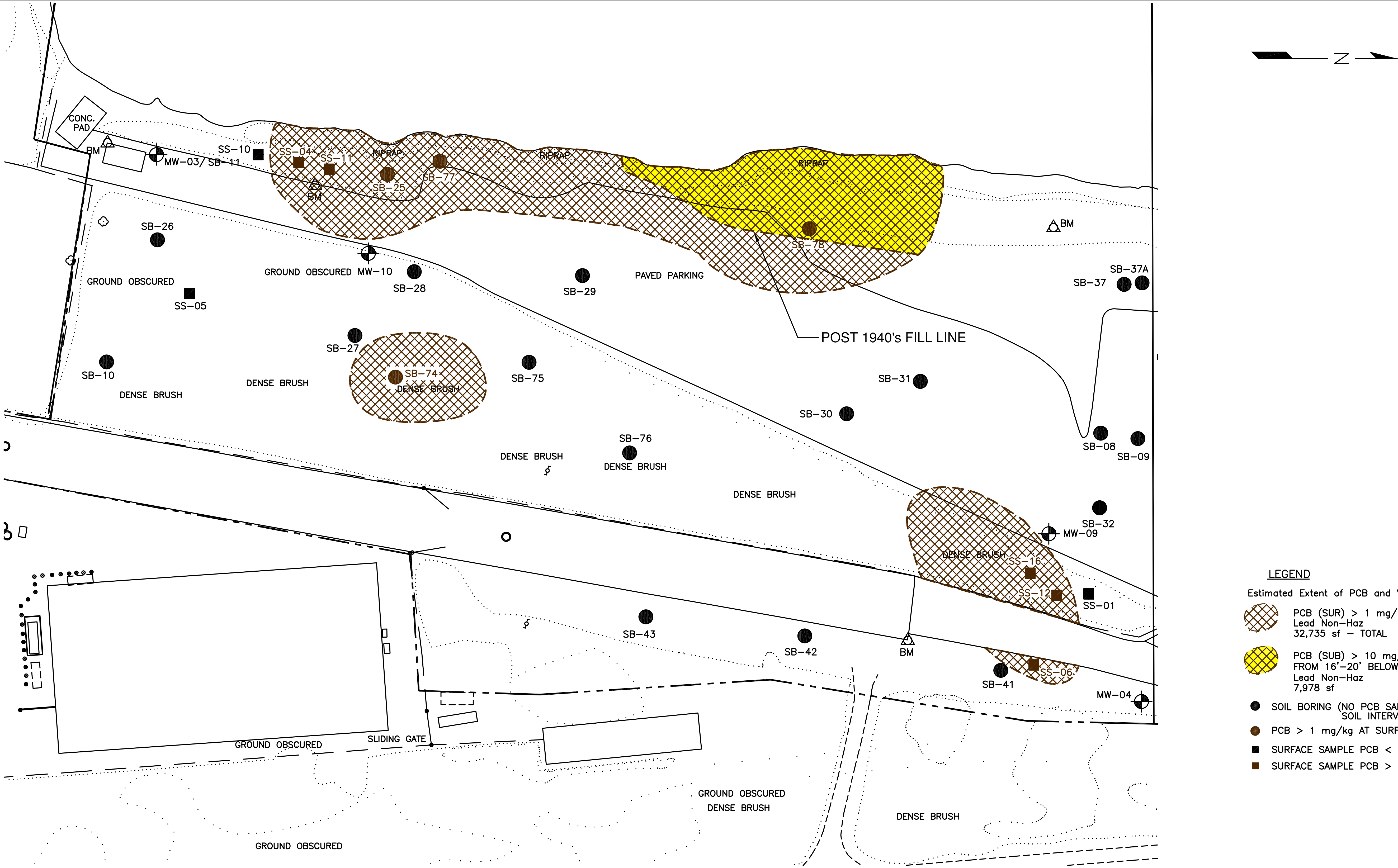
BICC CABLES CORPORATION

ERM Environmental Resources Management

CHECKED	
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	TOM DWYER
APPROVED	
APPROVED	

SITE PLAN
BICC CABLES CORPORATION YONKERS FACILITY

DRAWN	E.M.F./Y.S./M.K.R.
DATE	11/29/04
REVISED DATE	
SCALE	GRAPHIC
JOB NO.	X7511.03
FILE NAME	0013804.01.002
FIGURE NO.	2
REV. NO.	
SHEET	OF



0 30' 60'

GRAPHIC SCALE

NOTES:

SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE
SB-78 SAMPLE FROM 16' TO 20' BELOW GRADE EXHIBITED A PCB CONCENTRATION OF 23.3 mg/kg.

Assumed Lead Non-Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non-Haz)
Assumed Lead Hazardous = Total Lead>15,000 mg/kg or TCLP Lead >5mg/L (Lead Haz)

THE MAXIMUM DEPTH OF PCB IMPACTED SOIL/FILL IN THIS FIGURE IS 2 FEET.

LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

- PCB (SUR) > 1 mg/kg, Lead Non-Haz, 32,735 sf – TOTAL
- PCB (SUB) > 10 mg/kg FROM 16'-20' BELOW GRADE, Lead Non-Haz, 7,978 sf
- SOIL BORING (NO PCB SAMPLE AT SURFACE SOIL INTERVAL)
- PCB > 1 mg/kg AT SURFACE SOIL INTERVAL
- SURFACE SAMPLE PCB < 1 mg/kg
- SURFACE SAMPLE PCB > 1 mg/kg

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

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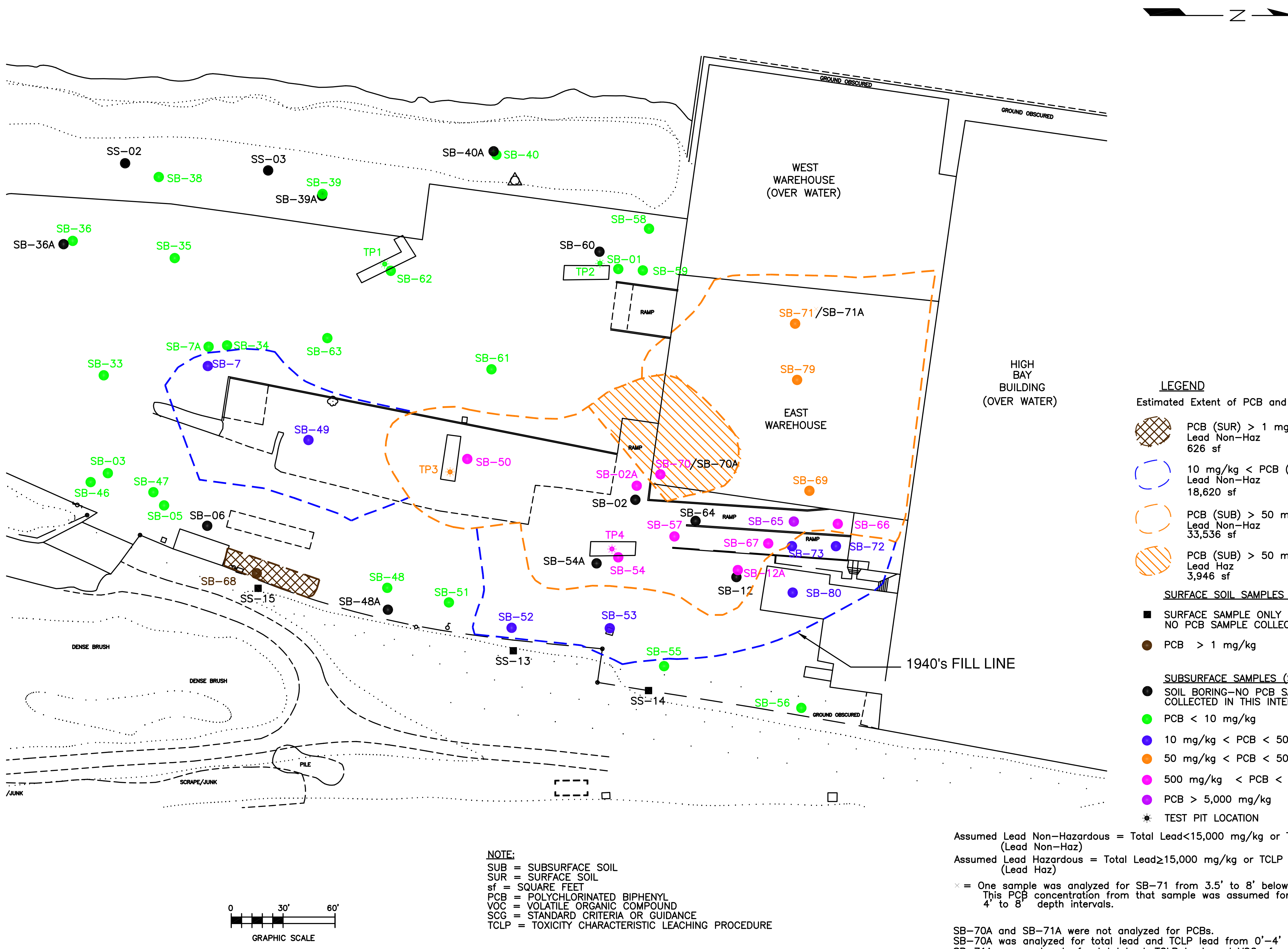
South Yard Soil/Fill Exeeding The PCB and VOC SCGs

DRAWN	DATE	REVISION DATE:	DRAWING NO.
YS	11/29/04		3
SCALE: GRAPHIC	JOB NO. 0001367-07	FILE NAME: 0013804.01.004	SHEET OF

REV. NO.



LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

- PCB (SUR) > 1 mg/kg, Lead Non-Haz, 626 sf
- 10 mg/kg < PCB (SUB) < 50 mg/kg, Lead Non-Haz, 18,620 sf
- PCB (SUB) > 50 mg/kg, Lead Non-Haz, 33,536 sf
- PCB (SUB) > 50 mg/kg, Lead Haz, 3,946 sf

SURFACE SOIL SAMPLES (SUR)

- SURFACE SAMPLE ONLY – NO PCB SAMPLE COLLECTED
- PCB > 1 mg/kg

SUBSURFACE SAMPLES (SUB)

- SOIL BORING–NO PCB SAMPLE COLLECTED IN THIS INTERVAL
- PCB < 10 mg/kg
- 10 mg/kg < PCB < 50 mg/kg
- 50 mg/kg < PCB < 500 mg/kg
- 500 mg/kg < PCB < 5,000 mg/kg
- PCB > 5,000 mg/kg
- TEST PIT LOCATION

Assumed Lead Non-Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non-Haz)

Assumed Lead Hazardous = Total Lead≥15,000 mg/kg or TCLP Lead ≥ 5mg/L (Lead Haz)

× = One sample was analyzed for SB-71 from 3.5' to 8' below grade. This PCB concentration from that sample was assumed for both the 0' to 4' and 4' to 8' depth intervals.

SB-70A and SB-71A were not analyzed for PCBs.
SB-70A was analyzed for total lead and TCLP lead from 0'-4' below grade.
SB-71A was analyzed for total lead, TCLP lead, and VOCs from 3.5' to 8' below grade.

NOTE:
SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NO VOC COPC RSCO (I.E., SCG) EXCEEDENCES WERE OBSERVED IN THE 0–4' INTERVAL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

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PROJECT MANAGER	
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APPROVED	

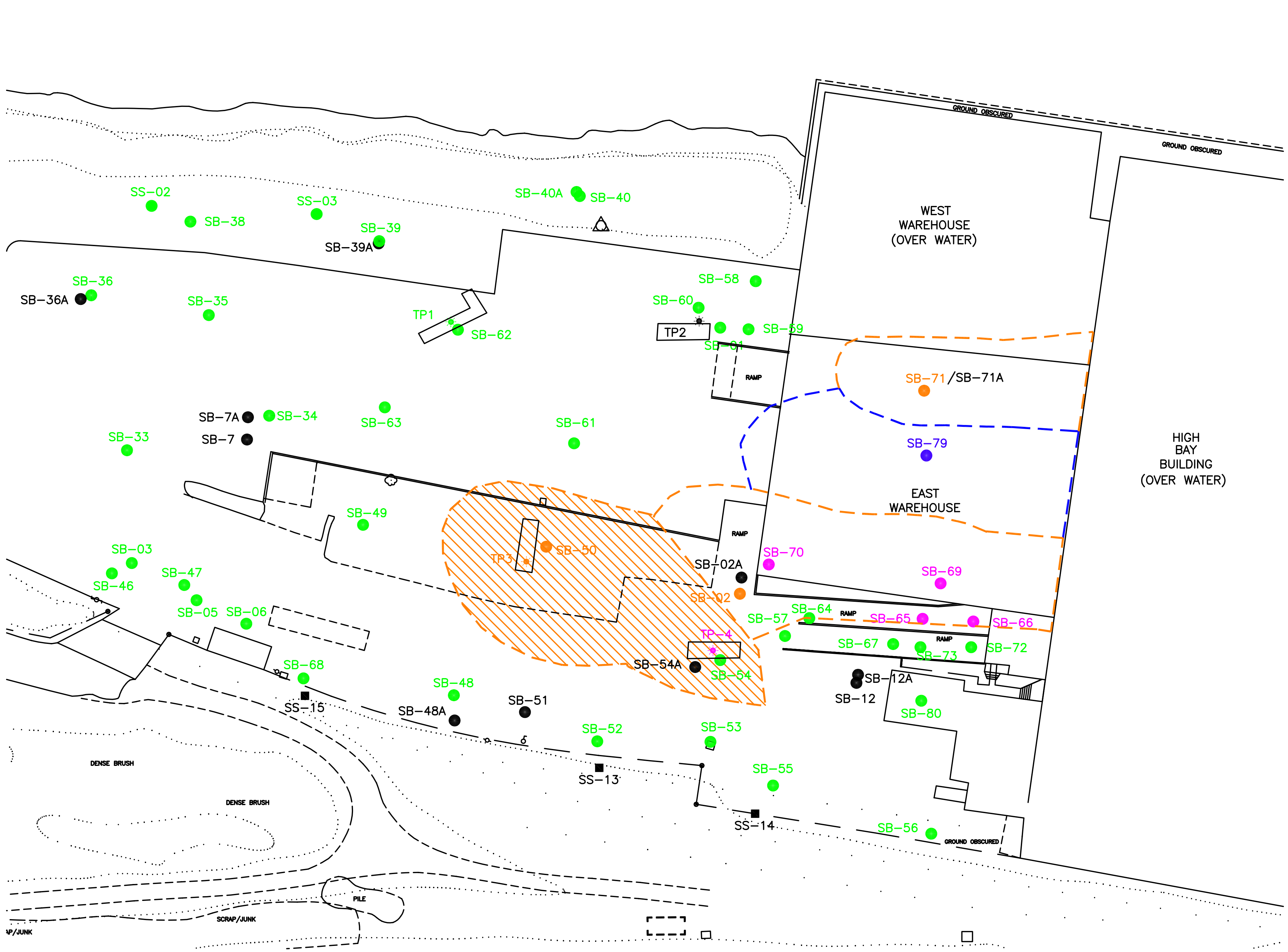
North Yard Soil/Fill Exceeding The PCB and VOC SCGs Depth 0–4' Below Grade

DRAWN	DATE	REVISION DATE:
EMF/YS	11/25/03	
SCALE	JOB NO.	FILE NAME:
GRAPHIC	0001367-07	0001367-07-002YSem

DRAWING NO. 4

REV. NO.

SHEET OF



LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

- 10 mg/kg < PCB (SUB) < 50 mg/kg, Lead Non–Haz, 8,203 sf
- 50 mg/kg < PCB (SUB) < 500 mg/kg, Lead Non–Haz, 15,816 sf
- 50 mg/kg < PCB (SUB) < 500 mg/kg, Lead Haz, 11,072 sf
- SURFACE SAMPLE ONLY (SUR)

SUBSURFACE SAMPLES (SUB)

- SOIL BORING–NO PCB SAMPLE COLLECTED IN THIS INTERVAL
- PCB < 10 mg/kg
- 10 mg/kg < PCB < 50 mg/kg
- 50 mg/kg < PCB < 500 mg/kg
- PCB > 500 mg/kg
- TEST PIT LOCATION

NOTE:

SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NO VOC COPC RSCO (I.E., SCG) EXCEEDENCES WERE OBSERVED IN THE 4'–8' INTERVAL

Assumed Lead Non–Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non–Haz)
Assumed Lead Hazardous = Total Lead≥15,000 mg/kg or TCLP Lead ≥ 5mg/L (Lead Haz)

SB–71A was not analyzed for PCBs.
SB–71A was analyzed for total lead, TCLP lead, and VOCs from 3.5' to 8' below grade.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

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North Yard Soil/Fill Exceeding The PCB and VOC SCGs Depth 4–8' Below Grade

DRAWN	DATE	REVISION DATE:	DRAWING NO.
EMF/Y.S.	11/25/03		5
SCALE	JOB NO.	FILE NAME:	SHEET OF
GRAPHIC	0001367–07	0001367–07–003ysem	

REV. NO.

LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

- VOC COPC ABOVE TAGM RSCO (I.E., SCG)
  Lead Non-Haz
  PCB (SUB) < 10 mg/kg
  6,195 sf
- PCB (SUB) > 10 mg/kg
  Lead Non-Haz
  14,511 sf
- SURFACE SAMPLES

SUBSURFACE SAMPLES (SUB)

- SOIL BORING–NO PCB SAMPLE COLLECTED IN THIS INTERVAL
- PCB < 10 mg/kg
- 50 mg/kg < PCB < 500 mg/kg
- PCB > 500 mg/kg
- TEST PIT LOCATION

NOTE:

SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Assumed Lead Non-Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non-Haz)

Assumed Lead Hazardous = Total Lead≥15,000 mg/kg or TCLP Lead ≥ 5mg/L (Lead Haz)

SB-66A was not analyzed for PCBs.
SB-66A was analyzed for total lead and TCLP lead from 8' to 12' below grade.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

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North Yard Soil/Fill Exeeding PCB and VOC SCGs Depth 8–12' Below Grade

DRAWN	DATE	REVISION DATE:
EMF/YS	12/22/03	
SCALE	JOB NO.	FILE NAME:
GRAPHIC	0001367–07	0001367–07–006ys

DRAWING NO. 6
REV. NO.
SHEET OF

LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

PCB (SUB) >10 mg/kg
Lead Non-Haz
14,233 sf

■ SURFACE SAMPLES

SUBSURFACE SAMPLES (SUB)

● SOIL BORING-NO PCB SAMPLE COLLECTED IN THIS INTERVAL

● PCB < 10 mg/kg

● PCB > 50 mg/kg

TEST PIT LOCATION

Assumed Lead Non-Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non-Haz)

Assumed Lead Hazardous = Total Lead≥15,000 mg/kg or TCLP Lead ≥ 5mg/L (Lead Haz)

× = Average PCB and Lead concentrations for the 8'-12' and 16'-20' intervals were used to estimate SB-69 and SB-70 PCB and Lead concentrations since no sample was analyzed from the 12' to 16' depth.

0 30' 60'
GRAPHIC SCALE

NOTE:
SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NO VOC COPC RSCO (I.E., SCG) EXCEEDENCES WERE OBSERVED IN THE 12'-16' INTERVAL

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

ERM Environmental Resources Management

CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

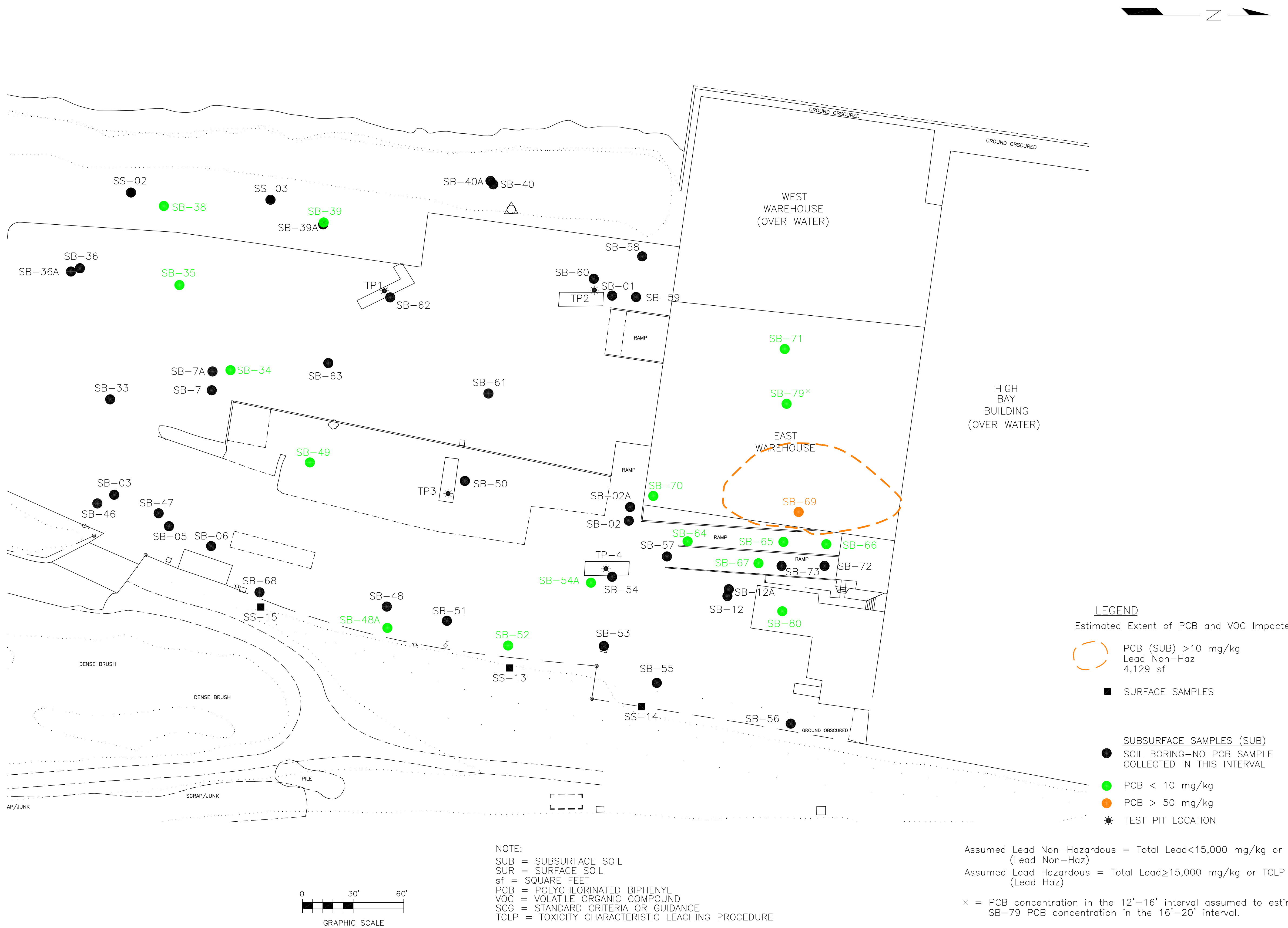
North Yard Soil/Fill Exeeding The PCB and VOC SCGs Depth 12-16' Below Grade

DRAWN	DATE	REVISION DATE:
EMF/YS	12/22/03	
SCALE	JOB NO.	FILE NAME:
GRAPHIC	0001367-07	0001367-07-004ys

DRAWING NO. 7

REV. NO.

SHEET OF



NOTE:
SUB = SUBSURFACE SOIL
SUR = SURFACE SOIL
sf = SQUARE FEET
PCB = POLYCHLORINATED BIPHENYL
VOC = VOLATILE ORGANIC COMPOUND
SCG = STANDARD CRITERIA OR GUIDANCE
TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NO VOC COPC RSCO (I.E., SCG) EXCEEDENCES WERE OBSERVED IN THE 16'-20' INTERVAL

LEGEND

Estimated Extent of PCB and VOC Impacted Soil/Fill

PCB (SUB) >10 mg/kg
Lead Non-Haz
4,129 sf

■ SURFACE SAMPLES

SUBSURFACE SAMPLES (SUB)

● SOIL BORING-NO PCB SAMPLE COLLECTED IN THIS INTERVAL

● PCB < 10 mg/kg

● PCB > 50 mg/kg

☀ TEST PIT LOCATION

Assumed Lead Non-Hazardous = Total Lead<15,000 mg/kg or TCLP Lead < 5mg/L (Lead Non-Haz)

Assumed Lead Hazardous = Total Lead≥15,000 mg/kg or TCLP Lead ≥ 5mg/L (Lead Haz)

× = PCB concentration in the 12'-16' interval assumed to estimate SB-79 PCB concentration in the 16'-20' interval.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

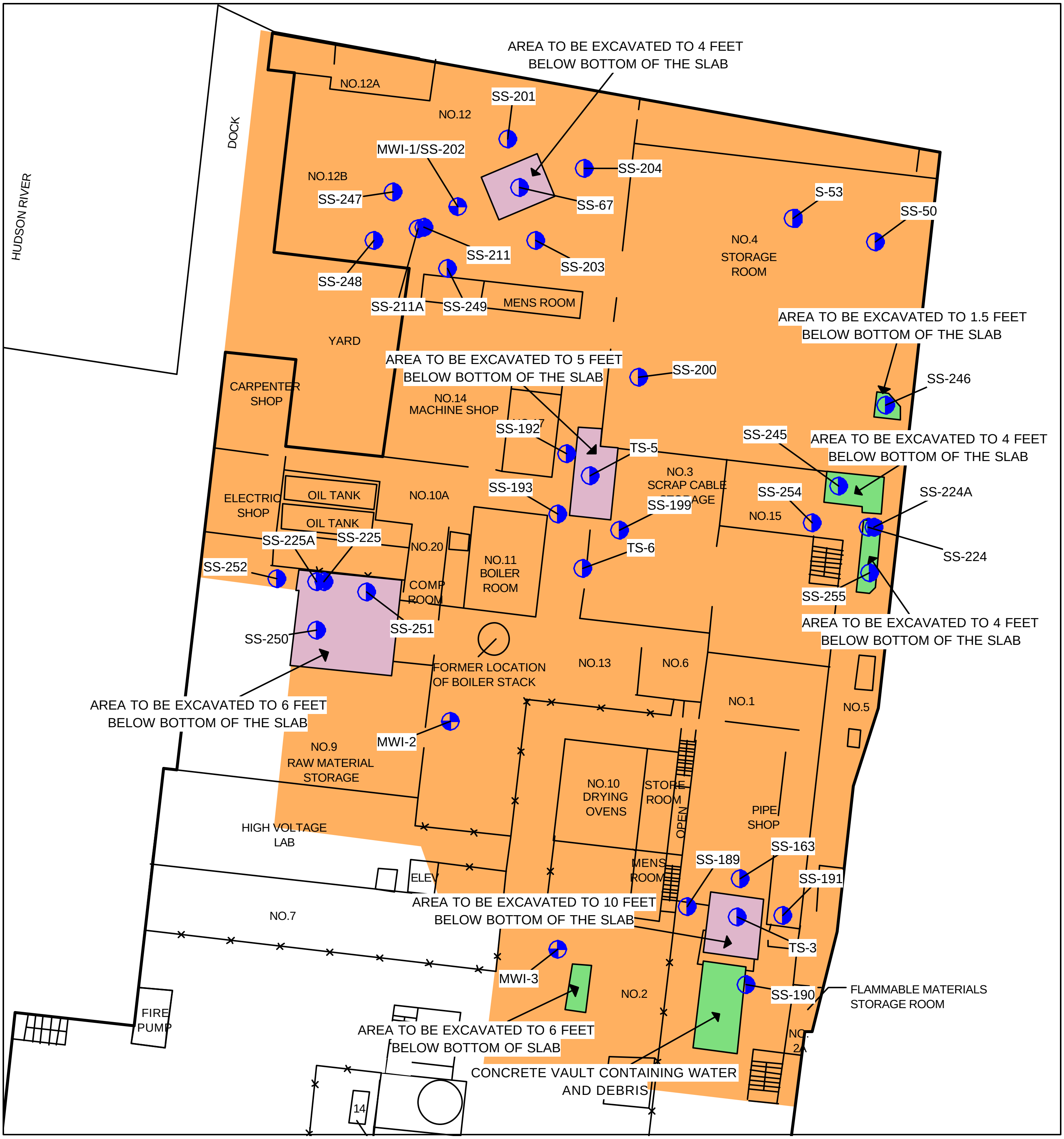
ERM Environmental Resources Management

CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

North Yard Soil/Fill Exceeding The PCB and VOC SCGs Depth 16-20' Below Grade

DRAWN: EMF/YS	DATE: 12/22/03	REVISION DATE:	DRAWING NO.: 8
SCALE: GRAPHIC	JOB NO.: 0001367-07	FILE NAME: 0001367-07-005ys	SHEET OF

REV. NO.



EXPLANATION

- LOCATION OF SOIL/FILL BORING COMPLETED AS PART OF THE REMEDIAL INVESTIGATION OR INTERIM DELIVERABLE SCOPE OF WORK
- LOCATION OF MONITORING WELL INSTALLED AS PART OF THE REMEDIAL INVESTIGATION SCOPE OF WORK
- APPROXIMATE EXTENT OF BUILDING UNDERLAIN BY SOIL OR FILL MATERIAL
- APPROXIMATE EXTENT OF FILL EXCEEDING THE SCGs FOR PCBs AND/OR LEAD AND VOCs
- APPROXIMATE EXTENT OF IMPACTED FILL OR DEBRIS LOCATED WITHIN A SUBSURFACE STRUCTURE

THE INDICATED DEPTH OF EXCAVATION IS BASED ON THE MAXIMUM DEPTH OF PCB EXCEEDANCE, OR THE EXPECTED BOTTOM OF CONCRETE STRUCTURE

SOIL EXHIBITING CONCENTRATIONS OF LEAD AND VOCs IN EXCESS OF THEIR RESPECTIVE SCGs ARE LOCATED IN AREAS ALREADY PROPOSED FOR EXCAVATION BASED ON ELEVATED PCB CONCENTRATIONS.

N

Title:

BELOW BUILDING SOIL/FILL EXCEEDING THE PCB AND VOC SCGs

PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 10/8/2004	FIGURE	
Prepared by: RSK	Scale: 1 INCH = 60 FEET		9
Project Mgr: JEP	Office: NY		
File No: 1B0130809.WOR	Project: 62401Y		

EXPLANATION

◐ LOCATION OF SOIL/FILL BORING COMPLETED AS PART OF THE REMEDIAL INVESTIGATION OR INTERIM DELIVERABLE SCOPE OF WORK

APPROXIMATE EXTENT OF FILL EXCEEDING THE SCGs FOR PCBs AND/OR VOCs

NOTES:

THE INDICATED DEPTH OF EXCAVATION IS BASED ON THE MAXIMUM DEPTH OF PCB EXCEEDANCE

SOIL EXHIBITING CONCENTRATIONS OF VOCs IN EXCESS OF THEIR SCGs ARE LOCATED IN AREAS ALREADY PROPOSED FOR EXCAVATION BASED ON ELEVATED PCB CONCENTRATIONS

BORING "RSB-10" WAS COMPLETED OUTSIDE OF THE BUILDINGS FOOTPRINT

THE LAND SURFACE ELEVATION AT BORING "RSB-10" IS LOWER RELATIVE TO THE OTHER BORINGS COMPLETED WITHIN THE RAILROAD SIDING AREA

N

Title:

BELOW BUILDING SOIL/FILL IN THE RAILROAD SIDING AREA EXCEEDING THE PCB AND VOC SCGs

PROPOSED REMEDIAL ACTION PLAN

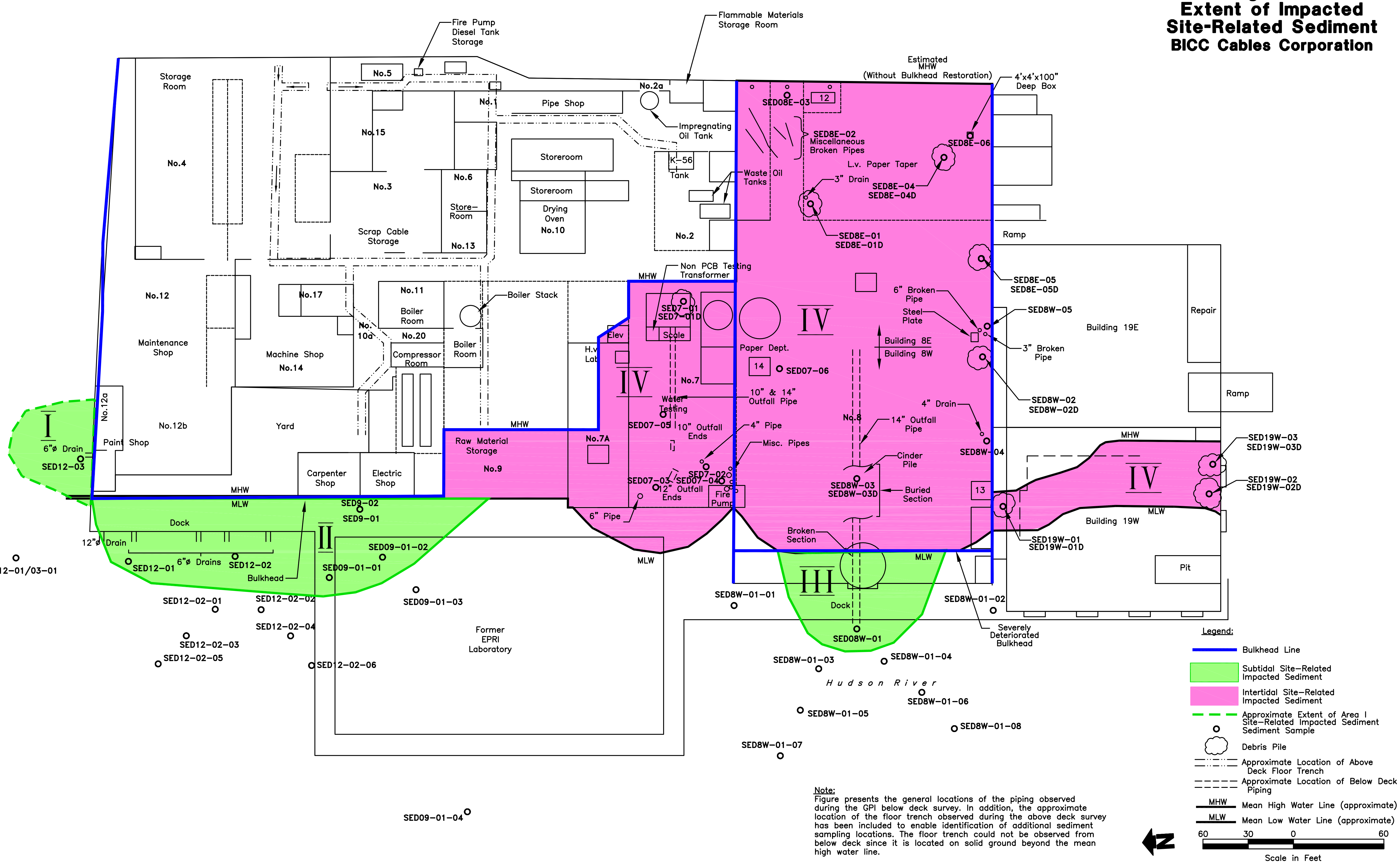
Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

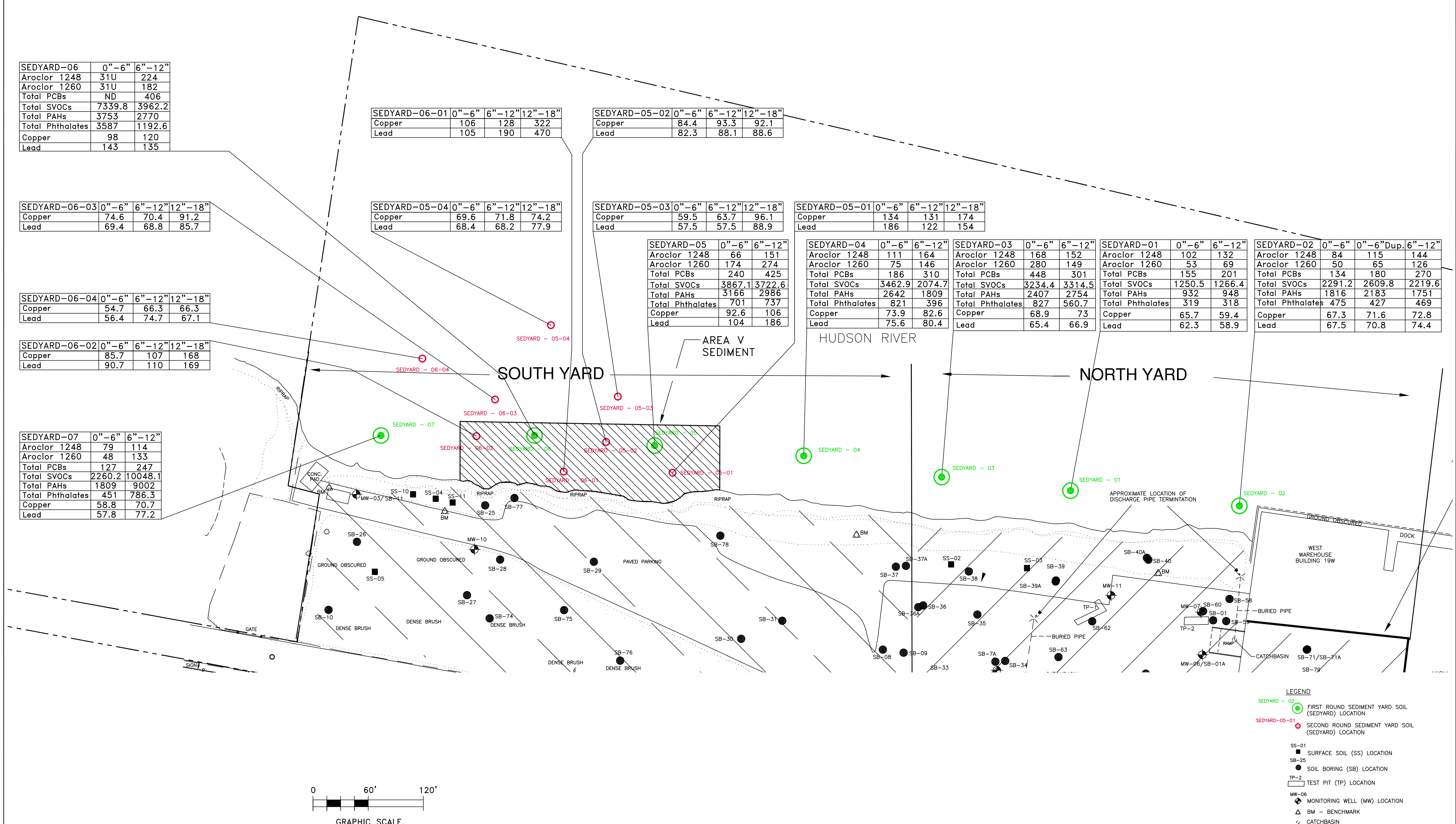
Compiled by: RSK	Date: 10/8/2004	FIGURE
Prepared by: RSK	Scale: SHOWN	10
Project Mgr: JEP	Office: NY	
File No: 1B0130810.WOR	Project: 62401Y	

Figure 11
Extent of Impacted Site-Related Sediment
BICC Cables Corporation



ERM, INC.

0001367-07-025YS1



SEDYARD-06	0"-6"	6"-12"
Aroclor 1248	31U	224
Aroclor 1260	31U	182
Total PCBs	ND	406
Total SVOCs	7339.8	3962.2
Total PAHs	3753	2770
Total Phthalates	3587	1192.6
Copper	98	120
Lead	143	135

SEDYARD-06-01	0"-6"	6"-12"	12"-18"
Copper	106	128	322
Lead	105	190	470

SEDYARD-05-02	0"-6"	6"-12"	12"-18"
Copper	84.4	93.3	92.1
Lead	82.3	88.1	88.6

SEDYARD-06-03	0"-6"	6"-12"	12"-18"
Copper	74.6	70.4	91.2
Lead	69.4	68.8	85.7

SEDYARD-05-04	0"-6"	6"-12"	12"-18"
Copper	69.6	71.8	74.2
Lead	68.4	68.2	77.9

SEDYARD-05-03	0"-6"	6"-12"	12"-18"
Copper	59.5	63.7	96.1
Lead	57.5	57.5	88.9

SEDYARD-05-01	0"-6"	6"-12"	12"-18"
Copper	134	131	174
Lead	186	122	154

SEDYARD-05	0"-6"	6"-12"
Aroclor 1248	66	151
Aroclor 1260	174	274
Total PCBs	240	425
Total SVOCs	3867.1	3722.6
Total PAHs	3166	2986
Total Phthalates	701	737
Copper	92.6	106
Lead	104	186

SEDYARD-04	0"-6"	6"-12"
Aroclor 1248	111	164
Aroclor 1260	75	146
Total PCBs	186	310
Total SVOCs	3462.9	2074.7
Total PAHs	2642	1809
Total Phthalates	821	396
Copper	73.9	82.6
Lead	75.6	80.4

SEDYARD-03	0"-6"	6"-12"
Aroclor 1248	168	152
Aroclor 1260	280	149
Total PCBs	448	301
Total SVOCs	3234.4	3314.5
Total PAHs	2407	2754
Total Phthalates	827	560.7
Copper	68.9	73
Lead	65.4	66.9

SEDYARD-01	0"-6"	6"-12"
Aroclor 1248	102	132
Aroclor 1260	53	69
Total PCBs	155	201
Total SVOCs	1250.5	1266.4
Total PAHs	932	948
Total Phthalates	319	318
Copper	65.7	59.4
Lead	62.3	58.9

SEDYARD-02	0"-6"	0"-6"Dup.	6"-12"
Aroclor 1248	84	115	144
Aroclor 1260	50	65	126
Total PCBs	134	180	270
Total SVOCs	2291.2	2609.8	2219.6
Total PAHs	1816	2183	1751
Total Phthalates	475	427	469
Copper	67.3	71.6	72.8
Lead	67.5	70.8	74.4

SEDYARD-06-04	0"-6"	6"-12"	12"-18"
Copper	54.7	66.3	66.3
Lead	56.4	74.7	67.1

SEDYARD-06-02	0"-6"	6"-12"	12"-18"
Copper	85.7	107	168
Lead	90.7	110	169

SEDYARD-07	0"-6"	6"-12"
Aroclor 1248	79	114
Aroclor 1260	48	133
Total PCBs	127	247
Total SVOCs	2260.2	10048.1
Total PAHs	1809	9002
Total Phthalates	451	786.3
Copper	58.8	70.7
Lead	57.8	77.2

LEGEND

- FIRST ROUND SEDIMENT YARD SOIL (SEDYARD) LOCATION
- SECOND ROUND SEDIMENT YARD SOIL (SEDYARD) LOCATION
- SURFACE SOIL (SS) LOCATION
- SOIL BORING (SB) LOCATION
- TEST PIT (TP) LOCATION
- MONITORING WELL (MW) LOCATION
- BM – BENCHMARK
- CATCHBASIN
- TRENCH DRAIN CONNECTION
- PROPERTY LINE (APPROX. LOCATION)
- APPROXIMATE SHORELINE BENEATH BUILDINGS
- NOT INCLUDED IN SITE DESCRIPTION
- EXTENT OF NORTH YARD SOIL/FILL
- EXTENT OF SOUTH YARD SOIL/FILL

NOTES:

1. ALL CONCENTRATIONS IN ug/kg. EXCEPT METALS ARE mg/kg.
2. ND = NOT DETECTED
3. U = THE ANALYTE WAS ANALYZED FOR, BUT NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT.
4. NA = NOT ANALYZED
5. SECOND ROUND SEDIMENT SAMPLES WERE ONLY ANALYZED FOR LEAD AND COPPER.

NOTE: PROPERTY LINE LOCATION AND BICC PARKING LOT INFORMATION WERE ADDED TO THIS SITE MAP.
SOURCE: SURVEY OF PROPERTY PREPARED BY WARD CARPENTER ENGINEERS, INC. 76 MAMARONECK AVENUE, WHITE PLAINS, N.Y. 10601 (FILE NAME:43423SMALL)

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

ERM Environmental Resources Management

CHECKED / DESIGN ENGINEER / PROJECT ENGINEER / PROJECT MANAGER / APPROVED / APPROVED / DATE

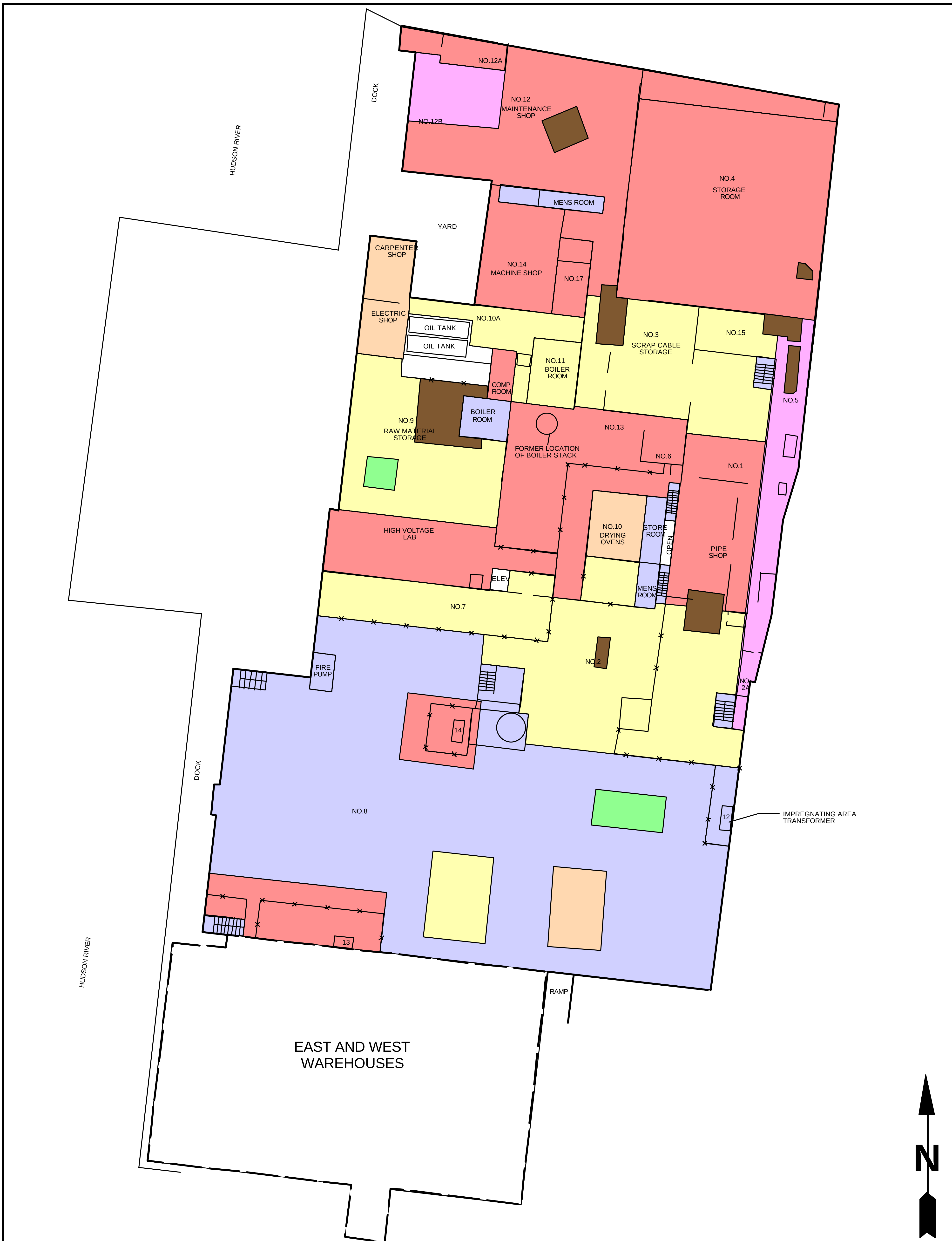
EXTENT OF AREA V SEDIMENT

FIGURE NO. 12

REV. NO.

DRAWN	DATE	REVISED DATE
Y.S./EMF	11/29/04	
SCALE	JOB NO.	FILE NAME
GRAPHIC	0013804.01	0013804.01.005

SHEET OF



EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON CONCRETE BUILDING MATERIAL LESS THAN THE SURFACE SCGs IN POST CLEAN SAMPLES [49,925 SF (EXCLUDES STAIRWELLS)]

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH SURFICIAL IMPACTS FOR LEAD AND/OR PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/16-INCH (5,635 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/8-INCH (6,870 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/2-INCH (41,055 SF)

60' 0 60'

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1-INCH (1,470 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs DEEPER THAN 1-INCH (59,575)

EXTENT OF CONCRETE SLAB REMOVAL TO FACILITATE SOIL EXCAVATION

PCBs - POLYCHLORINATED BIPHENYL

CONCRETE SLABS IN THE WAREHOUSES WILL BE ADDRESSED WITH THE SOIL/FILL REMEDIAL ALTERNATIVES

Title:

EXTENT OF IMPACTED BUILDING MATERIAL ON THE FIRST FLOOR

PROPOSED REMEDIAL ACTION PLAN

Prepared For: BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 10/8/2004	FIGURE	
Prepared by: RSK	Scale: SHOWN	13	
Project Mgr: JEP	Office: NY		
File No: 1B0130813.WOR	Project: 62401Y		

EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON CONCRETE BUILDING MATERIAL LESS THAN THE SURFACE SCGs IN POST CLEAN SAMPLES [50,385 SF (EXCLUDES STAIRWELLS)]

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH SURFICIAL IMPACTS FOR LEAD AND/OR PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/16-INCH (9,745 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/2-INCH (1,345 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1-INCH (1,370 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs DEEPER THAN 1-INCH (14,100 SF)

EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON WOOD BUILDING MATERIAL (13,650 SF)

EXTENT OF IMPACTED BULK WOOD BUILDING MATERIAL (11,340 SF)

EXTENT OF CONCRETE SLAB REMOVAL TO FACILITATE SOIL EXCAVATION

NOTES:

PCB - POLYCHLORINATED BIPHENYL

CONCRETE SLABS IN THE PAINT SHOP WILL BE ADDRESSED WITH THE SOIL/FILL REMEDIAL ALTERNATIVES

Title:

EXTENT OF IMPACTED BUILDING MATERIAL ON THE SECOND FLOOR

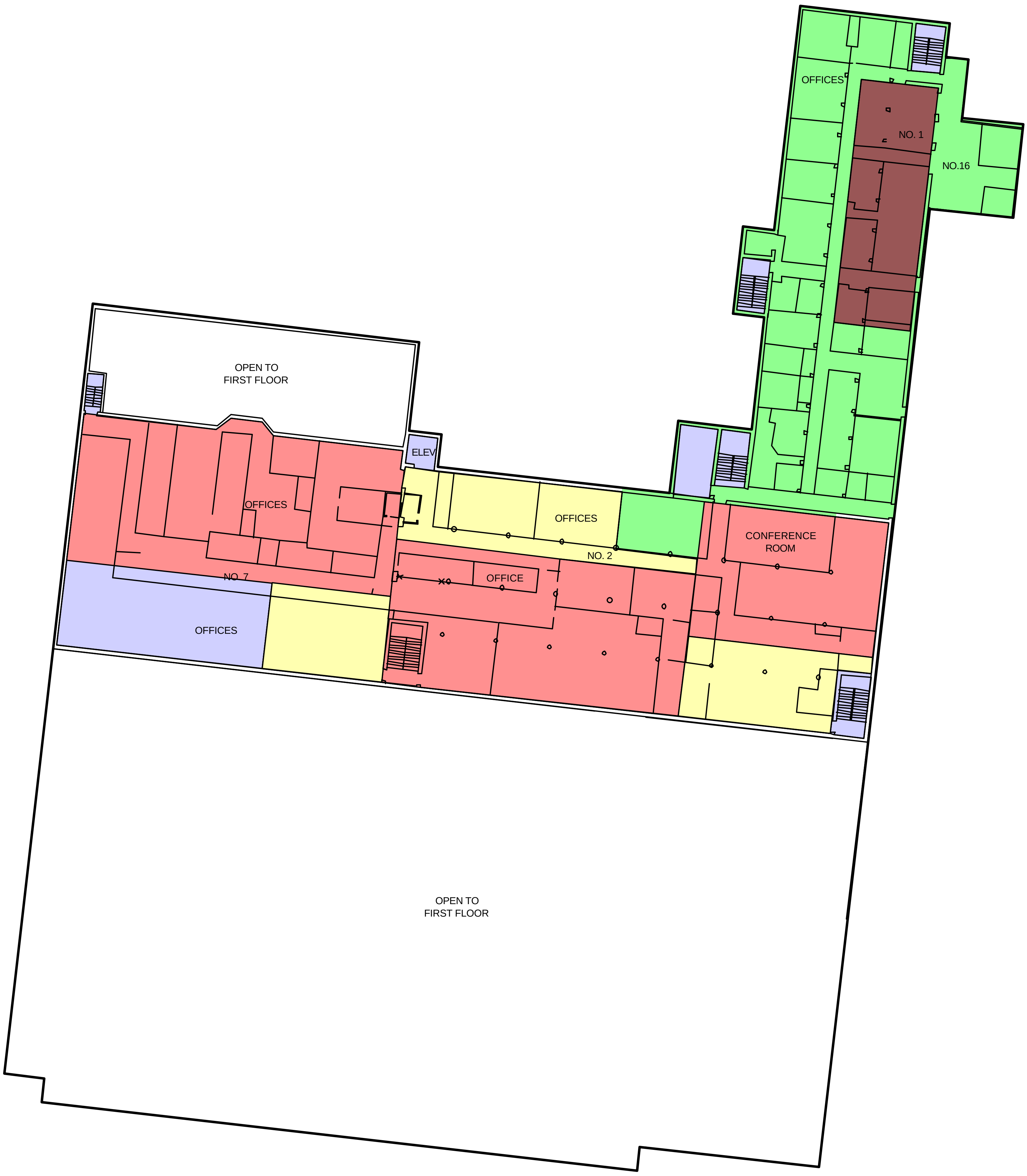
PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX
ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 10/8/2004	FIGURE
Prepared by: RSK	Scale: SHOWN	14
Project Mgr: JEP	Office: NY	
File No: 1B0130814.WOR	Project: 62401Y	



EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON CONCRETE BUILDING MATERIAL (3,095 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs TO A MAXIMUM OF 1/2-INCH (3,400 SF)

EXTENT OF IMPACTED BULK CONCRETE BUILDING MATERIAL WITH PCBs GREATER THAN THE SCGs DEEPER THAN 1-INCH (11,930 SF)

EXTENT OF IMPACTED BULK WOOD BUILDING MATERIAL (2,105 SF)

EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON WOOD BUILDING MATERIAL IN RENOVATED AREA (7,600 SF)

NOTES:

PCB - POLYCHLORINATED BIPHENYL

Title:

EXTENT OF IMPACTED BUILDING MATERIAL ON THE THIRD FLOOR

PROPOSED REMEDIAL ACTION PLAN

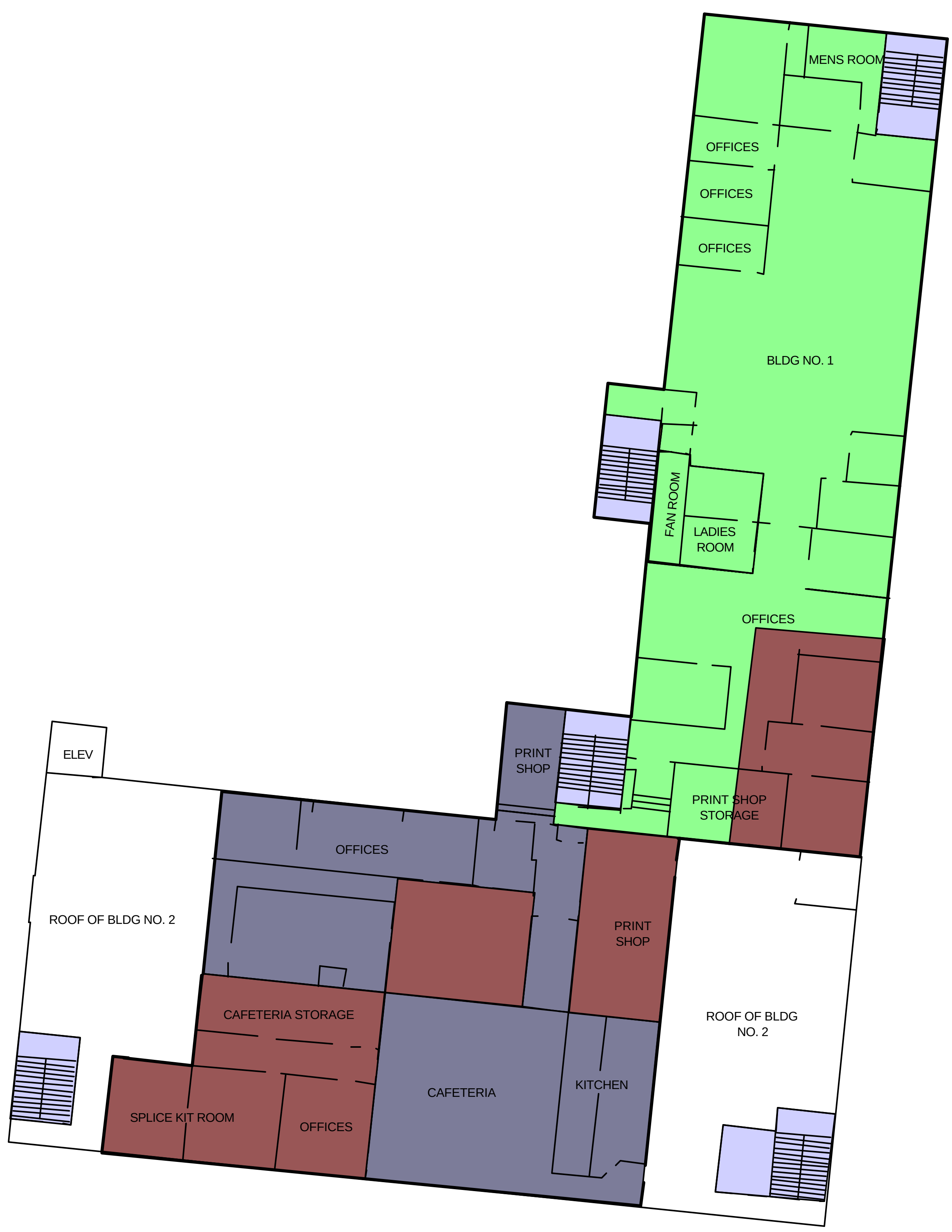
Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 10/8/2004	FIGURE
Prepared by: RSK	Scale: SHOWN	15
Project Mgr: JEP	Office: NY	
File No: 1B0130815.WOR	Project: 62401Y	



EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON WOOD BUILDING MATERIAL (4,450 SF)

EXTENT OF IMPACTED BULK WOOD BUILDING MATERIAL (4,170 SF)

EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON WOOD BUILDING MATERIAL IN RENOVATED AREA (6,900 SF)

EXTENT OF SURFICIAL ACCUMULATION/SURFICIAL IMPACTS ON CONCRETE BUILDING MATERIAL

NOTES:

PCB - POLYCHLORINATED BIPHENYL

N

30' 0 30'

Title:

EXTENT OF IMPACTED BUILDING MATERIAL ON THE FOURTH FLOOR

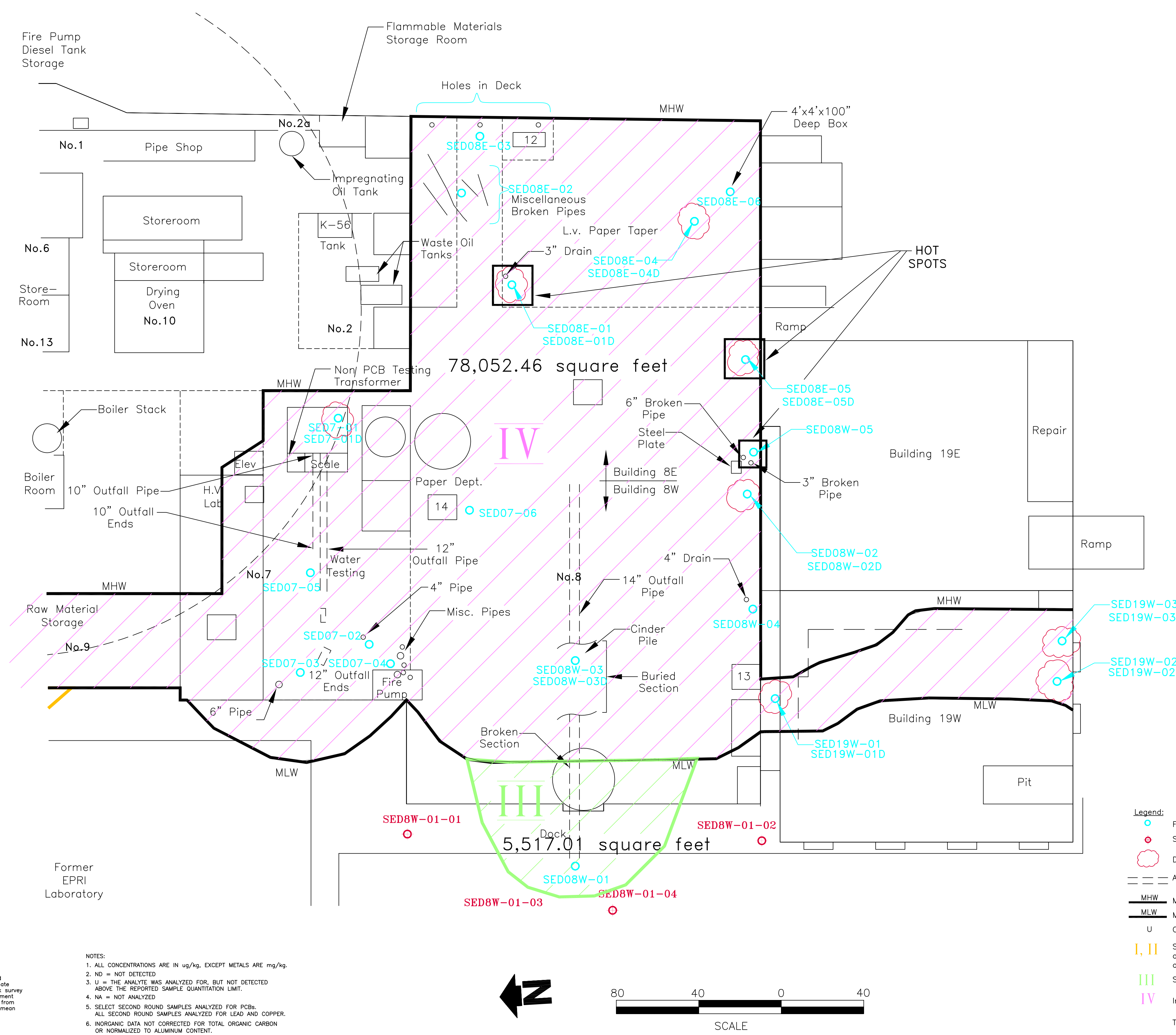
PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX
ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 10/8/2004	FIGURE
Prepared by: RSK	Scale: SHOWN	16
Project Mgr: JEP	Office: NY	
File No: 1B0130816.WOR	Project: 62401Y	



Legend:

- First Round Sediment Samples
- Second Round Sediment Samples
- Debris Pile
- Approximate Location of Below Deck Piping
- MHW Mean High Water Line (approximate)
- MLW Mean Low Water Line (approximate)
- U Compound was analyzed for but not detected.
- I, II Subtidal areas with PCB concentration above 1 mg/kg and Pb above upriver Pb concentration normalized to aluminum
- III Subtidal area with PCB concentration above 1 mg/kg
- IV Intertidal Sediment

Total PCB results > 1 mg/kg

Note:
Figure presents the general locations of the piping observed during the GPI below deck survey. In addition, the approximate location of the floor trench observed during the above deck survey has been included to enable identification of additional sediment sampling locations. The floor trench could not be observed from below deck since it is located on solid ground beyond the mean high water line.

NOTES:
1. ALL CONCENTRATIONS ARE IN ug/kg, EXCEPT METALS ARE mg/kg.
2. ND = NOT DETECTED
3. U = THE ANALYTE WAS ANALYZED FOR, BUT NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT.
4. NA = NOT ANALYZED
5. SELECT SECOND ROUND SAMPLES ANALYZED FOR PCBs. ALL SECOND ROUND SAMPLES ANALYZED FOR LEAD AND COPPER.
6. INORGANIC DATA NOT CORRECTED FOR TOTAL ORGANIC CARBON OR NORMALIZED TO ALUMINUM CONTENT.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

ERM Environmental Resources Management

CHECKED / DATE
DESIGN ENGINEER
PROJECT ENGINEER
PROJECT MANAGER
APPROVED
APPROVED

LOCATION OF HOT SPOTS AND DEBRIS PILES BENEATH THE SITE BUILDING

DRAWN	DATE	REVISED DATE
Y.S./CMP/E.M.F.	11/24/04	
SCALE	**JOB NO.**	**FILE NAME**
GRAPHIC	0013804.01	0013804.01.001JC

FIGURE NO. 17

REV. NO.

SHEET OF

EXTENT OF BUILDING STRUCTURE AND CONCRETE SLAB DEMOLITION - SLAB TO BE REPLACED WITH ASPHALT CAP

EXTENT OF BUILDING STRUCTURE DEMOLITION - CONCRETE SLAB TO BE REMEDIATED AND REMAIN

60' 0 60'

PCBs - POLYCHLORINATED BIPHENYL

CONCRETE SLABS IN THE WAREHOUSES WILL BE ADDRESSED WITH THE SOIL/FILL REMEDIAL ALTERNATIVES

Title:

REMEDIAL ALTERNATIVE I4 - DEMOLITION AND REMEDIATION OF THE FIRST FLOOR CONCRETE SLAB

PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: RSK	Date: 11/24/2004	FIGURE
Prepared by: RSK	Scale: SHOWN	18
Project Mgr: JEP	Office: NY	
File No: 1B0130818.WOR	Project: 62401Y	