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Mr. Craig Lapiejko
Waterways Management Branch
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Re: Advance Notice of Proposed Rulemaking
Anchorage Grounds, Hudson River; Yonkers, NY to Kingston, NY
Docket No. USCG-2016-0132

Dear Mr. Lapiejko:

This firm represents the Hudson River Waterfront Alliance ("Alliance") with regard to the U.S. Coast Guard's ("USCG") Advance Notice of Proposed Rulemaking that would establish 43 new anchorages in the Hudson River, including 22 such anchorages opposite communities in Westchester County. We have prepared for the City of Yonkers, and on behalf of the Alliance, a Memorandum of Law, which is submitted herewith, accompanied by a Report by Charles. R. Cushing, Ph.D., P.E. of C.R. Cushing & Co., Inc, as the Alliance's public comments to the Advance Notice of Proposed Rulemaking.

The USCG should decline to engage in the contemplated rulemaking for a variety of reasons detailed in the accompanying Memorandum of Law. In the event that the Agency decides to proceed, it should prepare an Environmental Impact Statement in accordance with the National Environmental Policy Act. At a minimum, the Coast Guard must prepare an Environmental Assessment, as a categorical exclusion is wholly inappropriate for the proposed anchorages given the plethora of reasonably anticipated significant impacts to the quality of the human environment.

The Alliance appreciates the USCG's consideration of this submission, and if the Agency determines, despite the thousands of comments against the rulemaking, to proceed with public hearings rather than simply reject the proposal, then the Alliance looks forward to testifying at those hearings.

Very truly yours,

Mark A. Chertok

cc: Hudson River Waterfront Alliance

UNITED STATES
DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD

In the Matter of the Advance Notice of Proposed Rulemaking for Anchorage Grounds in the Hudson River

Docket No. USCG-2016-0132

PUBLIC COMMENTS FROM THE HUDSON RIVER WATERFRONT ALLIANCE

PRELIMINARY STATEMENT

This Memorandum of Law, prepared for the City of Yonkers on behalf of the Hudson River Waterfront Alliance (the "Alliance"), constitutes the Alliance's comments on the Advance Notice of Proposed Rulemaking ("ANPRM") by the United State Coast Guard ("USCG") for anchorage grounds in the Hudson River. The Alliance consists of a group of elected leaders from Westchester County riverfront villages, towns, and cities who are galvanizing their efforts collectively and locally to prevent additional anchorages from lining the shores of the Hudson River.[1] For the reasons set forth below, the USCG should not proceed further with the proposed rulemaking; if it does, the agency should not establish 16 anchorages along the Hudson River across from Yonkers, Hastings-On-Hudson and Dobbs Ferry as part of the Yonkers Extension Anchorage Ground (the "Yonkers Extension") or six anchorages across from Cortlandt as part of the Tompkins Cove and Montrose Point Anchorage Grounds.

The Hudson River is a national jewel, and one of America's most important and scenic waterways. It is habitat for a great variety of fish, including the endangered giant sturgeon, as well

[1] The following Westchester County municipalities, in alphabetical order, comprise the Alliance: Bedford, Briarcliff Manor, Buchanan, Cortland, Dobbs Ferry, Hastings-On-Hudson, Irvington, Lewisboro, Mamaroneck, Ossining (Town and Village), Peekskill, Sleepy Hollow, Tarrytown, Tuckahoe, and Yonkers. Beacon, in Dutchess County, is also an Alliance member.

as other wildlife.[2] It is used by thousands of recreational boaters and is the focal point of communities along its length. The River has been abused in the past by industrial uses, but in recent decades its water quality has greatly improved as a result of federal and state legislation and activities. River communities have undertaken extensive actions to revitalize the industrial remnants of their shorelines and provide public access to the River. The proposed establishment of 43 anchorages would endanger these hard-gained improvements in water quality, marine life, shoreline revitalization and public access to the River in exchange for enhanced profits for barge and tanker owners. The USCG should not countenance this proposal; the agency should reject it outright and not proceed to rulemaking.

Initially, the USCG statutory standards for establishing new anchorages have not been satisfied; the Maritime Association of the Port of New York/New Jersey Tug and Barge Committee (the "Committee"), the entity that requested the establishment of the 43 additional anchorages, has fallen far short of demonstrating an actual need for these anchorages and the absence of any plausible locational alternatives. The Committee has not provided any factual basis that supports the need for this remarkably high number of anchorages or for the long-term use of 42 of the 43 proposed anchorages, or even what "long term" means. The Committee's anecdotal description of vessels anchoring outside designated anchorages due to weather-related conditions—for which long-term anchorages are patently unnecessary—does not substitute for cold, hard facts supporting the alleged need for this large number of additional anchorages.

Statistics from the USCG as well as the U.S. Army Corps of Engineers reflect that, contrary to the Committee's unsupported assertion, the overall number of commercial vessels using the

[2] Indeed, a humpback whale was recently spotted near Yonkers and appears to be healthy and feeding. *See* Katie Rogers, *A Whale Takes Up Residence in the Hudson River*, N.Y. Times, Nov. 22, 2016, http://www.nytimes.com/2016/11/22/nyregion/humpback-whale-hudson-river-manhattan.html?_r=0.

River has been declining since 2000.[3] The fact that tug and barge traffic has increased during this period does not demonstrate, in the face of declining overall vessel traffic, that additional anchorages are needed.

The Committee's assertion that safety dictates the need for additional anchorages is inconsistent with the request that 42 of the 43 proposed anchorages be long-term. Neither the Alliance nor other responsible parties would argue against anchorages needed for vessels to ride out storms, squalls, fog and other generally short-lived meteorological phenomena. However, the long-term anchorages are unrelated to any such need.

Nor does the Committee's speculation that there will be increased shipping on the Hudson due to prognosticated changes in federal trade policies suffice for a factual basis supporting the need for 43 additional anchorages. Indeed, the Committee's request for 42 additional long-term anchorages appears intended to convert the River into a parking lot for tugs, barges, and oil tankers, where the vessel owners can wait until market conditions are more favorable to the unloading of their cargo. This use of the River for "arbitrage" purposes would be an abuse of federal navigational authority, as it would allow the River, an invaluable public resource, to be converted into free warehousing for private commercial benefit.

In evaluating the Committee's proposal, the USCG is obligated to consider not just these increased profits for a segment of the maritime industry, but the costs—economic, environmental, and otherwise—to the public and the waterfront communities that would be affected by the proposed anchorages. The potential and actual impacts on the Hudson from the 22 new proposed anchorages in the River near Yonkers and Cortlandt would indisputably be significant.

[3] *See generally* the accompanying Report of C.R. Cushing & Co., Inc. (the "Cushing Report") at 17.

The River is a mecca for recreational boaters; indeed, in contrast to commercial traffic, recreational use of the River has increased in recent years. The placement of 22 anchorages in Westchester, each of which would create a large area in which recreational vessels could not venture, would be detrimental to this important River use. The myriad of recreational boats that utilize the River, from kayaks to motorboats, would be endangered.

There would be an increased likelihood of vessel collisions from so many anchorages in proximity;[4] this would, among other implications, increase the likelihood of an oil spill in the River, given that petroleum products (crude oil, fuel oil, gasoline) constituted approximately 66 percent of commodities shipped on the Hudson River in 2014.[5] To the extent that the Committee's ephemeral reference to trade policies is intended to reflect a greater volume of crude oil shipments, such an increase in vessels transporting this product would intensify the risk of a catastrophic spill. Canadian tar-sands crude is heavy and toxic and would sink to the River bottom, causing extensive riverine damage. Bakken crude, while lighter, is also toxic and both explosive and flammable.[6] Providing anchorages so that barges and tankers carrying oil can stay on the River longer than warranted by actual security considerations does not enhance maritime safety.

The anchorages would be inconsistent with numerous New York State Department of State ("NYSDOS") coastal zone policies, as well as those in affected municipalities' Local Waterfront Revitalization Plans ("LWRPs"). Those inconsistencies constitute a separate, independent reason to bar the proposed anchorages.

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[4] The USCG's New York and New Jersey Area Contingency Plan notes that the Hudson is a water body of "particular concern" due to risk factors related to its tides, sensitive environment, and narrow, rocky, and high traffic conditions as well as the sensitive economics of the waterfront communities and greater Hudson River Valley. *See* USCG Memorandum 16600, New York and New Jersey Area Contingency Plan at 242, May 2016, https://homeport.uscg.mil/mycg/portal/ep/portDirectory.do?tabId=1&cotpId=2 [hereinafter, "ACP"].

[5] Cushing Report at 15.

[6] *See* ACP at 36.

The anchorages would create the potential for other significant environmental harm. The deployment of anchors and anchor chains would disturb the River bottom and cause the suspension of River sediments containing hazardous substances, especially polychlorinated biphenyls ("PCBs") and heavy metals. This could recontaminate remediated hazardous waste sites and exacerbate conditions at existing hazardous waste sites in Westchester, as well as contaminate other locations in the River.

The 16 anchorages proposed for the Yonkers Extension would significantly impair what are now virtually untrammeled views of the Palisades. While there are currently two anchorages in Yonkers, they are used for short-term stays, and vessels do not linger and meaningfully affect the viewsheds from the City to the Palisades. In contrast, placing 16 long-term anchorages would adversely affect views of the Palisades from Yonkers, Hastings-On-Hudson and Dobbs Ferry. Adding anchorages off the Cortlandt shoreline would also affect unimpeded views of the Hudson, which, like those from the above-noted communities, have been enjoyed for centuries.

Beyond these significant impacts, there would be socioeconomic effects and related economic ramifications. For example, Yonkers has devoted years trying to convince developers to convert its shoreline from vacant or underutilized former industrial space to residential, mixed use and open space uses, an objective that is consistent with its waterfront plans and the State's coastal zone policies to open the River to the public. Yonkers has finally succeeded in this endeavor, with a number of pending proposals to redevelop and reinvigorate its waterfront. The threat of multiple anchorages in the River could jeopardize Yonkers' long-term waterfront planning and redevelopment efforts. This would have serious fiscal as well as community character implications. The same holds true for other affected communities, such as Hastings-On-Hudson and Cortlandt, which have sought to move beyond this industrial legacy.

Finally, if the USCG decides to proceed with formal rulemaking, it must conduct an environmental review under the National Environmental Policy Act ("NEPA").[7] The impacts of the proposed anchorages are plainly of potential significance, warranting an environmental impact statement ("EIS") or, at a minimum, an environmental assessment ("EA"). The USCG should not, and cannot, short circuit NEPA and a meaningful environmental review of the proposed anchorages by asserting that the establishment of 43 new anchorages should be categorically excluded from environmental review.

In short, the Committee has not demonstrated an actual need for 43 additional anchorages, including 42 long-term anchorages, and certainly has not shown any need that offsets the significant safety, public health, socioeconomic, environmental, economic and scenic effects of the proposal. The USCG should not proceed with the rulemaking, thereby allowing Hudson River communities and their residents to divert public monies from opposing an unnecessary rulemaking to improving and enhancing the River and it shoreline.

STATEMENT OF FACTS

A. The Hudson River is a treasured and unparalleled historical, cultural, and ecological resource

The Hudson River is of exceptional—indeed, unique—historical, cultural, and ecological value, as evidenced by the River's numerous state and federal designations. The Hudson is listed, in whole or in part, as an American Heritage River, National Heritage Area, National Historic District, National Historic Landmark District, Essential Fish Habitat, Significant Coastal Fish & Wildlife Habitat, and Scenic Area of Statewide Significance, and is in the New York Estuary Program. The USCG must consider the purpose and value of these national and state designations,

[7] 42 U.S.C. §§ 3221 *et seq.*

the risks the anchorages may pose to them, the lack of consistency with NYSDOS and local coastal zone management policies, and input from River communities and New York State.

1. American Heritage River[8]

The U.S. Environmental Protection Agency ("EPA") has designated the Hudson River as an American Heritage River, which allows the distribution of funding for community restoration and preservation of rivers that have historic and scenic value. The title is intended to highlight the means by which rivers unite the regions through which they flow and is an effort to give federal recognition and support to local conservation measures. A central aim of the American Heritage Rivers program is to coordinate efforts to improve water quality and scenic beauty along rivers.

Agencies must ensure that their actions will have a positive effect on the natural, historic, economic, and cultural resources of American Heritage River communities. As part of that goal, agencies must "consult with American Heritage River communities early in the planning stages of federal actions, take into account communities' goals and objectives and ensure that actions are compatible with the overall character of these communities."[9]

2. National Heritage Area[10]

The Hudson River Valley is designated a National Heritage Area ("NHA") by Congress, meaning it is a place where natural, cultural, and historic resources combine to form a cohesive, nationally important landscape. Through public-private partnerships, NHA entities support historic preservation, natural resource conservation, recreation, heritage tourism, and educational projects. The law designating the Hudson River Valley as an NHA made the following findings:

[8] *See* Executive Order 13061, Federal Support of Community Efforts Along American Heritage Rivers, September 11, 1997, https://www.gpo.gov/fdsys/pkg/WCPD-1997-09-15/pdf/WCPD-1997-09-15-Pg1317.pdf.
[9] *Id.*
[10] *See* Pub. L. 104–333, 110 Stat. 4093 Title X (reauthorized in 2014).

> (1) The Hudson River Valley between Yonkers, New York, and Troy, New York, possesses important historical, cultural, and natural resources, representing themes of settlement and migration, transportation, and commerce.
> (2) The Hudson River Valley played an important role in the military history of the American Revolution.
> (3) The Hudson River Valley gave birth to important movements in American art and architecture . . . and played a central role in the recognition of the esthetic value of the landscape and the development of an American esthetic ideal.
> (4) The Hudson River Valley played an important role in the development of the iron, textile, and collar and cuff industries in the 19th century . . . and in the development of early men's and women's labor and cooperative organizations . . .
> (5) The Hudson River Valley, in its cities and towns and in its rural landscapes—
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> (A) displays exceptional surviving physical resources illustrating these themes and the social, industrial, and cultural history of the 19th and early 20th centuries; and
>
> (B) includes many National Historic Sites and Landmarks.
>
> (6) The Hudson River Valley is the home of traditions associated with Dutch and Huguenot settlements dating to the 17th and 18th centuries, was the locus of characteristic American stories such as "Rip Van Winkle" and the "Legend of Sleepy Hollow", and retains physical, social, and cultural evidence of these traditions and the traditions of other more recent ethnic and social groups.
> (7) New York State has established a structure for the Hudson River Valley communities to join together to preserve, conserve, and manage these resources, and to link them through trails and other means, in the Hudson River Greenway Communities Council and the Greenway Conservancy.

The 2012 U.S. Park Service evaluation of the operation and success of the Hudson River Valley NHA found that the Heritage Area met the goals of the original legislation by, among other things, preserving and restoring trail systems along the Hudson River; providing grants for economic development and holding events to increase tourism, finding that there are around four million annual visits to the Hudson River Valley NHA; expanding recreational usage of the Hudson River with events attended by over 170,000 people; and coordinating regional planning and community impact activities regarding economic development and resource preservation.[11]

[11] Kathryn A. Henderson et al., Hudson River Valley National Heritage Area Evaluation Findings, prepared by Westat for the U.S. Park Service, September 2012, http://www.nationalheritageareas.us/documents/Hudson-River-Valley-National-Heritage-Area-Evaluation-Findings-Final-Report.pdf, at S-3 to S-4.

Federal entities conducting activities directly affecting a NHA must, to the maximum extent practicable, consult with the Secretary of the Interior and New York management entities (Hudson River Valley Greenway Communities Council and the Greenway Conservancy) in regard to activities proposed in the designated area.

3. New York Estuary Program[12]

The Hudson River Estuary Program, created in 1987 through the Hudson River Estuary Management Act and administered by the New York State Department of Environmental Conservation ("NYSDEC"), promotes the enjoyment, protection, and revitalization of the Hudson River and its valley. The Program includes the Hudson from New York City to Troy. Achievements of the program include dramatically improved water quality in the Hudson River Estuary; the award of grants for open space, conservation, and river access programs; protection of scenic vistas and habitats; restored fish populations, which drive $7.5 million in recreation and tourism expenditures; and revitalized community waterfronts.

4. Essential Fish Habitat

The Hudson River, from New York Harbor to around Poughkeepsie, is designated as Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act,[13] for the Atlantic Butterfish, Summer Flounder and Bluefish. Under this legislation, the USCG must consult the National Marines Fisheries Service to determine the impacts on such habitat.[14]

[12] New York State Department of Environmental Conservation, Hudson River Estuary Program, http://www.dec.ny.gov/lands/4920.html.
[13] 16 U.S.C. §§ 1801 *et seq*.
[14] *See* 50 C.F.R. § 600.920.

5. Significant Coastal Fish & Wildlife Habitat

Many portions of the Hudson River have been designated Significant Coastal Fish & Wildlife Habitats ("SCFWHs") by NYSDOS for their ecological importance.[15] In the section of the Hudson off Westchester and Rockland Counties, there are two SCFWHs that coincide with proposed anchorage. The Hudson Highlands designated habitat overlaps with the proposed Tompkins Cove anchorages, and the Haverstraw Bay designated habitat overlaps with the proposed Montrose Point anchorages.[16] Of these habitats, NYSDOS has said, "Any activities that would degrade water quality [or] increase turbidity . . . in the Hudson Highlands [and Haverstraw Bay] would result in significant impairment of the habitat. . . . All species may be adversely affected by water pollution, . . . oil spills [and] excessive turbidity or sediment loading . . ."[17]

6. The National Priorities List

The Hudson River has been included by the EPA on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or federal "Superfund"),[18] due to historic PCB contamination in sediments along a nearly 200-mile stretch of the Hudson River from New York Harbor to Hudson Falls, New York.

7. The Upper Hudson Designations

The east side of the Hudson River from Germantown to Staatsburg is listed on the National Register of Historic Places.[19] The east side of the Hudson River from Germantown to Hyde Park,

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[15] *See* New York State Department of State, Significant Coastal Fish & Wildlife Habitats, http://www.dos.ny.gov/opd/programs/consistency/scfwhabitats.html.
[16] *See* New York State Department of State, Significant Coastal Fish & Wildlife Habitats, Hudson Highlands at 3, http://www.dos.ny.gov/opd/programs/consistency/Habitats/HudsonRiver/Hudson_Highlands_FINAL.pdf; New York State Department of State, Significant Coastal Fish & Wildlife Habitats, Haverstraw Bay at 3, http://www.dos.ny.gov/opd/programs/consistency/Habitats/HudsonRiver/Haverstraw_Bay_FINAL.pdf.
[17] *Id*.
[18] 42 U.S.C. §§ 9601 *et seq*.
[19] U.S. Department of the Interior, National Park Service, National Register of Historic Places, Registration Form, Hudson River Historic District.

is designated a National Historic Landmark District by the U.S. Secretary of the Interior.[20] This status acknowledges that "the historic resources in the heart of the Hudson Valley are of the highest national significance . . ." Finally, six stretches of the Hudson River and its shorelands, starting around Peekskill, have been designated as Scenic Areas of Statewide Significance as part of New York's coastal zone management program ("NY CZM Program").[21]

8. Consultation Requirements

Several of these programs, as noted, direct the USCG to consult with affected communities, as well as the New York management entities, early in the planning process, to solicit information on the effect of potential activities on these communities and attendant resources. Other than the ANPRM, which is not consultation, the USCG does not appear to have made any such effort at such early consultation—and certainly not with the Alliance municipalities. If the USCG is considering whether to proceed to rulemaking, it should first consult with these state and local entities. Furthermore, the USCG is obligated to follow the consultation process of the National Historic Preservation Act with regard to at least that potion of the River that is listed on the National Register of Historic Places.[22] And, of course, consultation is required under the Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act.

B. The Committee Has Requested One Short-Term and 42 Long-Term New Anchorages in the Hudson River, and the USCG has issued an ANPRM to This Effect

The Hudson River currently hosts seven anchorage grounds: three just south of the George Washington Bridge, three just north of the George Washington Bridge (including two across the

[20] *See* Hudson River Heritage, The Hudson River National Historic Landmark District, https://www.hudsonriverheritage.org/the-hudson-river-national-historic-landmark-district/.
[21] *See* New York State Department of State, Scenic Areas of Statewide Significance at 3 and 6, July 1993 (reprinted in 2004), http://www.dos.ny.gov/opd/programs/HudsonSASS/Hudson%20River%20Valley%20SASS.pdf.
[22] 16 U.S.C. § 470(f).

River from Yonkers), and one off Hyde Park.[23] Generally vessels are allowed to anchor at these grounds for a maximum of 30 days, unless they obtain a permit from the Captain of the Port for a longer stay.[24] However, vessels at Anchorage 19 cannot anchor for more than 96 days without prior approval from the Captain of the Port,[25] and vessels are prohibited from anchoring in Anchorage 19-A from December 16 to the last day of February, without permission from the Captain of the Port.[26]

On January 21, 2016, the Committee issued a letter to the USCG requesting the addition of 43 new anchorages in the Hudson River, 22 of which would be positioned off Westchester and Rockland Counties.[27] All but one of the 43 requested anchorages would be for long-term use (with no definition or explanation of that term). The Committee described how the USCG recently issued a Marine Safety Information Bulletin warning commercial vessels not to anchor outside federally designated anchorages, except in cases of great emergency.[28] The Committee Letter asserts that, "as custom and practice, the Tug and Barge Industry has been anchoring outside of federally designated anchorage grounds in the Hudson River for decades" and therefore needs the USCG to designate additional anchorages.[29]

Without providing data or factual support, the Committee Letter asserts past and future vessel traffic trends and weather-related safety considerations as the reasons for the seven-fold (seven to 50) expansion of existing anchorage grounds at the Kingston, Newburgh, and Yonkers

[23] 33 C.F.R. § 110.155(c); Coast Guard Sector New York, Marine Safety Information Bulletin 2015-014, http://www.americanwaterways.com/sites/default/files/Hudson%20River%20Anchorage%20Grounds%20-%20MSIB.pdf.
[24] 33 C.F.R. § 110.155(l)(3).
[25] 33 C.F.R. § 110.155(c)(5)(iii)(E).
[26] 33 C.F.R. § 110.155(c)(6)(i).
[27] The Maritime Association of the Port of New York/New Jersey, Tug & Barge Committee, Letter to RDML Linda Fagan, District Commander, First Coast Guard District, January 21, 2016, at unnumbered page 6.
[28] *Id.* at unnumbered page 2.
[29] *Id.*

Hubs (i.e., the Yonkers Extension).[30] For example, regarding expansion of the Yonkers Hub, the Committee explained that vessels anchor off Yonkers during hurricanes and severe storms and that "[a]dditional federally designated anchorages will improve safety if/when another storm/heavy weather impacts the [New York] harbor."[31] The Committee Letter does not provide any specific rationale for the 11 anchorages requested outside of the Kingston, Newburgh, and Yonkers Hubs.

On June 9, 2016, the USCG issued the ANPRM, seeking public comments on the 43 anchorages requested by the Committee. The USCG stated that it was considering the rulemaking "after receiving requests suggesting that anchorage grounds may improve navigation safety along an extended portion of the Hudson River, which currently has no anchorage grounds, allowing for a safer and more efficient flow of vessel traffic." Public comments were originally due on September 7, 2016, but the USCG extended the comment period until December 6, 2016.

As explained below, the standard for establishing new anchorage grounds has not been met, and additional internal and external review of the proposed rule would be required because of its likely significant environmental, socioeconomic, public health and safety impacts.

ARGUMENT

POINT I

THE STANDARD FOR ESTABLISHING NEW ANCHORAGE GROUNDS HAS NOT BEEN MET

The Secretary of Homeland Security is authorized to establish anchorages "whenever it is manifest to the said Secretary that the maritime or commercial interests of the United States require such anchorage grounds for safe navigation and the establishment of such anchorage grounds shall

[30] *Id.* at unnumbered pages 3-4.
[31] *Id.* at unnumbered page 4.

have been recommended by the Chief of Engineers . . ."[32] This responsibility has been delegated to the USCG.[33]

The word "manifest" is defined in Black's Law Dictionary as "clear; obvious; unquestionable."[34] This definition comports with the Merriam-Webster standard definition: "easily understood or recognized by the mind; obvious"—as well as the Merriam-Webster legal definition: "capable of being easily understood or recognized; clearly evident; obvious; indisputable."[35]

The Committee Letter does not make it "manifest" that such anchorages are needed for safe navigation.[36] Rather, it simply asserts, with little factual support, that the additional anchorages are needed for two reasons: (1) the Tug and Barge Industry has been illegally anchoring outside of federally designated anchorage grounds in the Hudson River "for decades" due to inclement weather conditions; and (2) the capacity and availability of the seven currently designated anchorage grounds in the Hudson River is "woefully inadequate to support marine trade."[37] These putative rationales fall far short of demonstrating the required "manifest" need for 43 additional anchorages. Indeed, as discussed below, it appears that the purpose of the Committee's request is to utilize the River free vessel "parking" in order to allow barge and tanker owners to match delivery times with maximum demand at refineries, and thus maximize profit.

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[32] 33 U.S.C § 471 (emphasis added). The USCG Advance Notice of Proposed Rulemaking did not indicate whether the Army Corp of Engineers Chief of Engineers has recommended the establishment of the additional anchorages.
[33] 33 C.F.R. § 109.05(a).
[34] MANIFEST, Black's Law Dictionary (10th ed. 2014).
[35] "Manifest," *Merriam-Webster.com*, Merriam-Webster.
[36] Manifest is not defined in the U.S. Code or federal Regulations. In this situation, the dictionary definition can be used to determine a word's ordinary meaning. *See Taniguchi v. Kan Pac. Saipan, Ltd.*, __ U.S. __, 132 S. Ct. 1997, 2002 (2012).
[37] Committee Letter at unnumbered page 2.

As to the first rationale, if the allegedly illegal anchoring was due to exigent circumstances related to storms, fog, or other natural events, the anchoring was not illegal; federal regulations allow anchorages outside of established anchorage grounds in such situations.[38] Further, if additional anchorages are needed for safety purposes, the Committee Letter provides no data to support the number, location, and use of the proposed anchorages. For example, in the portion of the Committee letter seeking to justify the addition of 16 anchorages to the present Yonkers anchorages, the Committee states that, regarding use of these anchorages during Hurricanes Irene and Sandy, "federally designated anchorages will improve safety if/when another storm/heavy weather impacts the harbor."[39] No data are included to show why the Yonkers Extension is an appropriate location for additional anchorages or why 16 anchorages would be needed.

Indeed, the Cushing Report suggests the opposite; the Yonkers Extension area may be a particularly dangerous location for additional anchorages because the River at that point is very narrow, only 0.72 nautical miles wide.[40] Obviously, the narrower the River at an anchorage location, the greater the risk of collision between passing vessels and those vessels seeking to anchor, and with recreational vessels. The proposed Tompkins Cove anchorages are at a bend in the River, near the Indian Point nuclear power plant and its security zone. Moreover, as discussed below, there are dozens of marinas along the Westchester and Rockland County shorelines, and the anchorages would heighten the risks of dangerous encounters between commercial and recreational vessels.

The Committee's asserted rationale is belied by its request that all of the 16 anchorages proposed for the Yonkers Extension be "long-term usage"; even assuming that some anchorages

[38] *See* 33 C.F.R. § 110.155(l)(2).
[39] Committee Letter at 4.
[40] Cushing Report at 27.

should be designated for emergency purposes, there is simply no need for long-term anchorages to provide sanctuary during a storm.[41] The Committee Letter provides no explanation as to why the Tompkins Cove and Montrose Point proposed anchorages off Cortlandt are needed.

As to the second rationale, the Committee fails to provide factual support for its prediction that increased vessel traffic warrants the additional anchorages. There has been a consistent drop in the volume of commercial maritime traffic since 2000, from 22,996 vessels in the year 2000 to 15,799 in 2014.[42] Indeed, there was a nearly 18 percent drop from 2010 to 2014. Any need for more anchorages appears, therefore, to have decreased in the last years, not increased. The increase in tug and barge traffic over the past few years does not suffice, as there has been a decrease in overall vessel traffic, and thus in the overall need for anchorages. Thus, the Committee's assertion that there is a need for additional anchorages due to increases in vessel traffic appears to come 15 years too late. In any event, unsupported assertions fall far short of demonstrating a "manifest" need for more anchorages, and particularly 22 new long-term anchorages along the River in Westchester and Rockland Counties.

The speculation that vessel traffic will be increasing in the Hudson due to changes in federal trade policies is not a substitute for fact, and cannot be deemed a "manifest" demonstration of need. Moreover, even if this crystal-ball exercise turned out to be accurate, there is no demonstration that (a) 42 new long-term anchorages are needed; (b) 16 of these long-term anchorages should be in the Yonkers Extension and six in the Tomkins Cove and Montrose Point Anchorages; and (c) there are no alternative locations that would meet the purported need.

Accordingly, there appears to be another, unrevealed purpose behind the request; the new

[41] The Committee Letter includes a more detailed explanation justifying the Kingston Hub anchorages but still does not show how vessels "sometimes" anchoring in midstream during an emergency and vessels "occasionally" anchoring overnight near Kingston translates into a need for eight new anchorages. Committee Letter at 3.
[42] Cushing Report at 19.

long-term anchorages would be used as storage areas, where vessels carrying cargo subject to the vicissitudes of the market (such as crude oil) can be "parked" until delivery conditions become more favorable.[43] Barges and tankers could stay indefinitely in the newly created anchorages until the demand for crude oil for the refineries increased, thereby increasing the value of their cargo. While that may be good for the barge and tanker owners, it is not good for the River or for the consuming public, which will be paying for the increased cost of crude at the gas pumps. Thus, the River—a public resource—would be used for the profitability of private vessel owners. This behind-the-scenes "riverine arbitrage" does not comport with the statutory standard for new anchorages.

POINT II

ADDITIONAL INTERNAL AND EXTERNAL REVIEW OF THE PROPOSED RULE WOULD BE REQUIRED BECAUSE OF ITS LIKELY SIGNIFICANT ENVIRONMENTAL AND PUBLIC HEALTH AND SAFETY IMPACTS

As the USCG evaluates whether to issue a proposed rule establishing additional anchorages, the following internal and external reviews would be required concomitant to any such rulemaking due to the significant environmental, socioeconomic, public health and safety impacts of the proposed anchorages. These reviews reveal the serious adverse effects of the proposed anchorages, and warrant rejection of the proposed rulemaking.

[43] The Committee may be basing its prognostication of increased oil-related vessel traffic on the application of Global Companies LLC ("Global") to NYSDEC for an air pollution permit to add heaters to its Port of Albany terminal in order to transship crude Canadian tar sands oil; heaters are needed to allow transfer of the crude, which is very viscous, from train to vessel. If that is the case, then the USCG should await the results of that permit application before acting on the Committee request. *See* NYSDEC, Global Companies LLC – Albany Terminal, http://www.dec.ny.gov/permits/95623.html. Furthermore, if this is a rationale for additional anchorages, the NYSDEC should consider the anchorages as a cumulative impact of the proposed Global permit application.
[43] Cushing Report at 56, 60.

A. The proposed rule would be a "significant regulatory action" per Executive Order 12866, requiring review by the U.S. Office of Management and Budget

Executive Order 12866 defines a "significant regulatory action" as a rule that would "adversely affect in a material way . . . the environment, public health or safety, or State, local or tribal governments or communities."[44] A federal agency proposing a "significant regulatory action" must: (1) provide to the U.S. Office of Information and Regulatory Affairs ("OIRA") a text of the draft regulatory action, a reasonably detailed description of the need for the action, and an explanation of how the regulatory action will meet that need; and (2) analyze and provide an assessment to OIRA of the benefits and costs of the proposed action[45] as well as the benefits and costs of potentially effective and reasonably feasible alternatives, including an explanation as to why the proposed action is preferable to identified alternatives.[46] If the USCG believes that the proposed action is not significant, it must submit a no significance determination request to the U.S. Office of Management and Budget ("OMB") explaining why OMB should find the proposed action to be nonsignificant.[47]

As demonstrated below, a proposed rule establishing the Hudson anchorages would constitute a "significant regulatory action" because of its material adverse impacts on the environment, public health and safety, unique historic and cultural resources, and local waterfront development and economic revitalization efforts. Accordingly, the USCG must analyze these impacts in addition to "adverse effects on the efficient functioning of the economy,"[48] which here

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[44] Regulatory Planning and Review, 58 Fed. Reg. 51735, Section 3(f)(1) (Sept. 30, 1993).
[45] As articulated in Executive Order 12866, costs can include, but are not limited to, the cost of administering and complying with the regulation as well as adverse effects on the efficient functioning of the economy, private markets, health, safety, and the natural environment. Benefits can include, but are not limited to, protection of the environment, enhancement of health and safety, elimination or reduction of discrimination or bias, and promotion of efficient functioning of the economy and private markets. *Id.* at Section 6(a)(3)(C).
[46] *Id.* at Section 6(a)(3).
[47] U.S. Coast Guard Preparation of Regulations, COMDTINST M16703.1 at 6-1 (October 2009).
[48] Executive Order 12866, Section 6(a)(3)(C)(ii).

include potential economic impacts on municipal plans to utilize the waterfront, the loss of planned economic investments, and the impacts on investments already made.[49] The USCG must evaluate these costs against any potential benefits of the proposed anchorages. Further, assuming the USCG proceeds with rulemaking, it must assess alternatives, such as different locations for the anchorages, different numbers of anchorages overall and in each proposed location, and different uses for the anchorages (i.e., only for use in emergencies or only for short-term stays). The following preliminary assessment of these costs and benefits demonstrates that the agency should not proceed with a formal proposed rulemaking.

Furthermore, the use of anchorages to allow barges and tankers to utilize the River for free "parking"—and thus for "riverine arbitrage"—in order to maximize private profits would not advance the "efficient functioning of the economy." Rather, it would tilt the neutrality of the marketplace by allowing barge and tanker owners to utilize a public resource to maximize their payments for crude oil by refineries, which in turn will increase the cost to the consuming public. The proposed anchorages would be the antithesis of the efficient functioning of the marketplace.

B. The proposed rule would be inconsistent with New York's Coastal Zone policies

Federal law requires federal agency activities to be undertaken in a manner "consistent to the maximum extent practicable" with the enforceable policies of state coastal management programs.[50] Any development project within the coastal zone is considered an activity affecting a coastal use or resource, which triggers the consistency process.[51] New York State has a coastal

[49] Some of these effects of the anchorages would need to be assessed separately in the context of NEPA, including a determination of the need for an EIS. *See* Point IV.D., *infra*.
[50] 15 C.F.R. § 930.30.
[51] 15 C.F.R. § 930.33(b).

zone management program ("NY CZM Program"),[52] and the Hudson River is part of New York's coastal zone.[53]

The USCG develops the consistency determination and submits it to the NYSDOS, which is the state agency with responsibility for making consistency determinations under the NY CZM Program.[54] The NYSDOS must inform the USCG of its concurrence with or objection to the consistency determination at the earliest practical time.[55]

The term "consistent to the maximum extent practicable" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the federal agency.[56] The NY CZM Program includes 44 coastal policies that fall within three general categories: promotion of beneficial use of coastal resources, prevention of their impairment, and management of major activities substantially affecting numerous resources.[57] The NY CZM Program also provides for the preparation and adoption of LWRPs by municipalities as a way of allowing for more detailed implementation of the Program.[58]

The Hudson River as described in the NY CZM Program has a rich history reflective of "a strong relationship between the natural environment and the economy," with access to the River, water transportation, fisheries, agriculture, and the region's scenic quality being major factors in the development of the Hudson River Valley. These factors, plus the proximity of large population

[52] New York State Coastal Management Program (August 1982), http://www.dos.ny.gov/opd/programs/pdfs/NY_CMP.pdf.
[53] *See* New York State Department of State, Office of Planning & Development, Coastal Boundary Map, http://www.dos.ny.gov/opd/atlas/index.html.
[54] 15 C.F.R. § 930.36.
[55] 15 C.F.R. § 930.41; the USCG may presume concurrence if it does not hear from the NYSDOS in 60 days from submission of the consistency determination submission.
[56] 15 C.F.R. § 930.32(a)(1).
[57] NY CZM Program Part I at 1.
[58] NY CZM Program Part II-1 at 2.

centers, "make the Hudson a unique economic and environmental resource for the State."[59] The NY CZM Program calls the Hudson River Valley "one of the most outstanding scenic attractions of the United States."[60] The NYSDOS' consistency determination must consider these features of the Hudson River and the potential impacts related to the proposed anchorages.

The proposed anchorages are inconsistent with the NY CZM Program's characterization of the Hudson River and with many of the Program's policies, including the following:

1. Policies 1 and 31: revitalize underutilized waterfronts

The proposed anchorages would directly conflict with this policy. For example, Yonkers is New York's fourth largest city, with nearly 200,000 residents. It is no secret that Yonkers has struggled economically over the past decades, including being placed in State receivership. Its struggles mirror those of other communities that relied on industrial uses, now long gone but which left behind a legacy of industrial contamination, to revitalize these areas and generate revenues. Over the past decade, Yonkers has made great strides in redeveloping the City and linking redevelopment with the remediation of its industrial legacy. As a critical part of that effort, Yonkers has rezoned much of its waterfront to encourage residential uses, open space, and commercial redevelopment, as well as the provision of esplanades and other means of opening the River to its residents—a waterfront that has been effectively foreclosed from Yonkers residents for decades. An important stretch of the waterfront is the location of the former BICC Cable Corporation site and adjacent areas: the Alexander Street Master Plan Area, bound by Wells Avenue to the south and Trevor Park/JFK Marina Park to the north.[61] Three nationally recognized developers have proposals to develop this area: Extell, AvalonBay, and RXR.

[59] NY CZM Program Part II-2 at 6.
[60] NY CZM Program Part II-2 at 7.
[61] Yonkers Alexander Street Master Plan, at 2-1, May 2009, http://www.yonkersny.gov/home/showdocument?id=4660.

Extell is seeking renewal of a 2011 development permit that expired due to the length of time needed by the current owner to remediate the former BICC Cables property, which is listed as a New York State Registry of Inactive Hazardous Waste Disposal ("New York State Superfund") site[62] (see Point II.B.4.a. below); the review process is nearly complete. The Extell development would have 1,395 residential units in one 22-story tower and five, low rise seven-story buildings; 52,000 square feet of commercial space; approximately 1,600 parking spaces; and significant open space, including an esplanade and large platform area on the River (from an existing building to be demolished).

AvalonBay Communities, Inc. is before the Planning Board for a proposed new waterfront residential development. The proposed development includes 609 residential units with 702 parking spaces across three buildings within the 12.86-acre property comprised of three sites, two of which are adjacent to the River. The first site, known as the Sun East site, on the eastern side of Alexander Street, will have a five story, 128-unit residential building with 352 parking spaces. The second site, or Sun West site, will be a four-story 239-unit residential building over one story of parking containing 275 parking spaces. The final site, known as the ATI site, will have 242 residential units within a five-story building over a parking garage with 279 parking spaces. The development would include a continuation of the esplanade along the River.

RXR has completed demolition of old buildings in preparation for construction of its 442-unit project, which includes four buildings providing approximately 116,283 gross square feet of non-residential floor area in total and 233 residential dwelling units, as follows: (i) a 24-story (high-rise) building comprised of 233 dwelling units, a parking garage with approximately 300 parking spaces, and a garden terrace and green roof on the garage roof; (2) a seven-story (low-rise)

[62] N.Y. Env. Cons. Law Article 27, Title 13.

building comprised of commercial/retail/office spaces including retail storefronts at street level, a parking garage with approximately 168 parking spaces; (3) a seven-story building comprised of commercial/retail/office spaces including retail storefronts at street level and utilizing parking in the low-rise and high-rise parking garages; and (4) a seven-story building comprised of commercial/retail/office spaces including retail storefronts at street level and utilizing parking in the high-rise parking garage. Nearby, a 100 micro-unit building is nearing completion, a 231-unit tower is under construction, and a 197-unit building has been proposed.

Two of the four objectives for the Alexander Street Master Plan relate to visual and recreational access to the Hudson River,[63] consistent with CZM policies. One is to enhance and create new public access to the Hudson River along the entire 1.3-mile waterfront and shoreline. The other is to maintain public views of the Hudson River and the Palisades as well as provide boating resources. As explained in the Master Plan:

> Yonkers has a world-class waterfront—and like most other world cities, its waterfront has been industrialized. In more recent years that waterfront industry has experienced decline. But like similar waterfronts in London, Paris, Boston, San Francisco, and New York, Yonkers waterfront will make a comeback.
>
> The purpose of the City of Yonkers' Alexander Street Master Plan is to create a vision for that comeback, and to guide private and public redevelopment to create a vibrant and active waterfront for everyone.[64]

One of the principal goals of the City's waterfront planning is not simply revitalization of the waterfront but redevelopment that opens up the River to its residents; as is typical of Hudson River waterfront communities, residents have historically been cut off from the River by industrial uses and/or the railroad. The redevelopment sites described above are unusual in that they are riverward of the railroad and thus offer unusual opportunities for public access to the River. These

[63] Yonkers Alexander Street Master Plan at 3-2–3-5.
[64] *Id.* at 4-1.

developments would be on a portion of the waterfront that would be opposite the proposed anchorages in Yonkers.

The anchorages would irrevocably change one of the principal attractions of the Yonkers waterfront: the unimpeded views of the unspoiled Palisades. A photograph of a barge at one of the two present Yonkers anchorages, included below, shows how damaging 16 anchorages would be to the viewshed of the Palisades.[65] The impact of the proposed anchorages in the Yonkers Extension is clear and dramatic.

Photo: Hudson Riverkeeper

Furthermore, because the River and channel are very narrow across from Yonkers, the location of anchorages would force vessels using the River to pass on the eastern edge of the channel, closer to the shoreline.

[65] *See also* Cushing Report at 23-24, which includes photos of different types of vessels on the River.

The proposed anchorages could, in turn, affect the desirability of the sites along the River for redevelopment. A decision by developers to decline to proceed, or to materially reduce their investments in these sites, would thwart Yonkers' long-term planning efforts to revitalize and open up the waterfront to the public. In short, Yonkers would suffer serious economic impacts if the proposed anchored served to chill redevelopment on the waterfront, and thus undermine the City's long-term investments in such redevelopment—investments that are an integral part of a broader effort to revitalize and modernize this area. Consequently, the proposed anchorages could affect Yonkers' economic future and community character as the City tries to move from a contaminated, industrial past to a healthy, sustainable future.[66]

Other municipalities along the Hudson have similar objectives. For example, in the Village of Hastings-On-Hudson, just north of Yonkers, the long-awaited remediation of the 28-acre Anaconda Wire & Cable site, with unimpeded views of the undeveloped Palisades, is finally within sight. The former Anaconda manufacturing site is a New York State Superfund Site. The U.S. Navy used the site for manufacturing operations during World War II. Because of these operations, there are very high levels of PCBs, as well as metals, on both the land and the sediment

[66] In addition, the anchorages may have environmental justice implications. Executive Order 12898 requires federal agencies to make achieving environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their activities on minority and/or low-income populations. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Feb. 11, 1994, *available at* https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf. In addition to considering environmental justice as part of an agency's mission, agencies must evaluate environmental justice impacts and related mitigation measures under NEPA Federal agencies must provide opportunities for effective community participation in the NEPA process. William J. Clinton, Memorandum for the Heads of All Departments and Agencies, Executive Order on Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, Feb. 11, 1994, http://www.presidency.ucsb.edu/ws/index.php?pid=49639&st=Environmental+Justice&st1. As discussed, a NEPA analysis, and not a categorical exclusion, is necessary.

U.S. Census information from 2010 shows that over 12% of the Yonkers population (about 24,000 residents) is below the poverty level, which is higher than the Westchester County level of almost 9%. The census tracts with the highest poverty rates are located on the Hudson River side of Yonkers. Almost 19% of the Yonkers population is Black and almost 35% is Hispanic. The census tracts with the highest populations of Blacks and Hispanics are generally located on the Hudson River side of Yonkers. Negative environmental impacts of light, noise, and air pollution would fall disproportionately on these environmental justice neighborhoods.

in the River. A federal court Consent Decree among Hastings-On-Hudson, the Hudson Riverkeeper and the current owner provides, among other benefits, for the owner to set aside land on the site for a walkway and other public access to the River. These and other benefits of the redevelopment of the Anaconda site could be jeopardized by the anchorages, as their presence could deter prospective developers of the property.

Similarly, Hastings-On Hudson is anticipating redevelopment of the former 15-acre Tappan Terminal site, which includes the former Mobil Oil terminal and the Uhlich Color Company site, a Superfund site just south of the Anaconda site. The cleanup of these sites is completed, but redevelopment there, as on the Anaconda site, could be jeopardized by the anchorages. As in Yonkers, the River and channel are very narrow across from Hastings-On-Hudson; thus, the location of anchorages would force vessels using the River to pass on the eastern edge of the channel, closest to the Village shoreline.

Like Yonkers, Hastings-On-Hudson has a waterfront redevelopment plan predicated on coastal zone principles.[67] The goals are similar to those described in Yonkers' Alexander Street Master Plan: revitalize a historically industrial waterfront and provide opportunities for important public views of the Hudson River and Palisades and provide public access/recreational opportunities along the waterfront.[68] The placement of anchorages across from the Anaconda site could, as in Yonkers, affect the desirability of these sites for redevelopment. A decision by developers to decline to proceed, or to materially reduce their investments in these sites, would thwart the Village's long-term planning efforts to redevelop the waterfront and open up the

[67] Village of Hastings-On-Hudson Waterfront Implementation Strategy at 4, Project Considerations and Implementation Recommendations, Mar. 1, 2004, http://hastingsnyarchive.vt-s.net/Pages/HastingsNY_Documentlibrary/wissa.pdf.
[68] *Id.* at 4-5.

shoreline to the public. The anchorages would also present dangers to recreational boaters who use the Village's Kinnally Cove beach area for launching kayaks and similar watercraft.

Cortlandt's economic development plans, and its very identity, also heavily depend on continuing to attract economic development on waterfront properties, most of which remain vacant or underutilized for commercial or industrial purposes. In its new Sustainable Comprehensive Plan adopted in March 2016, the Town created a Waterfront Sustainability District to promote waterfront dependent uses and compact mixed-use development along waterfronts in the town.[69] The goal of the plan is ensuring flood resiliency and protection of the shoreline while creating new walkable riverfront housing communities, and promoting new uses that focus on creating economic opportunities for waterfront tourism, waterfront light industrial uses, and public access to the River.[70] This plan has been in development since Cortlandt's last Master Plan was issued in 2004.[71] Cortlandt has made improvements in several structures in and around waterfront areas, such as rehabilitating the Bear Mountain Bridge Tollhouse, a historic tollhouse on a road that leads to one shoreline area, along with major investment in the Cortlandt Waterfront Park in Verplanck.[72] The Town continues to work to attract newer developments to the shoreline areas, including a study of the land uses in one shoreline area, and receiving a Federal Transportation Enhancement Grant to construct a trail and other landscape improvements.[73] More recently the area encompassing the Cortlandt Waterfront Park and the Kings Ferry Crossing (between Stony

[69] Town of Cortlandt, 2016 Sustainable Comprehensive Plan, adopted March 15, 2016, http://www.townofcortlandt.com/documents/2016_mp/cortlandt%20master%20plan_40423_final_web%20march%2015%202016%20adopted.pdf.
[70] *Id.* at 14.
[71] *Id.* at 26.
[72] *Id.* at 28.
[73] *Id.*

Point and Verplanck's Point) has been designated as part of the Washington-Rochambeau Revolutionary Route National Historic Trail by the National Parks Service.[74]

Cortlandt Waterfront Park is also home to the Cortlandt Community Rowing Association ("CCRA"). The CCRA offers recreational rowing and crew training programs in the Hudson River for people of all ages. Boats are launched into the Hudson from the new small craft dock located in Cortlandt Waterfront Park. The Park also hosts an emergency boat launch exclusively for use by emergency services on the River. In addition, Cortlandt has four designated Hudson River Greenway Water Trail stops, located at George's Island, Oscawna Island, Cortlandt Waterfront Park, and the Annsville Paddle Sports Center.

However, these efforts depend on maintaining the access into and views of the River in order to continue attracting development. The various planning documents of Yonkers, Hastings-On-Hudson and Cortlandt, and LWRPs of municipalities such as Croton-on-Hudson, Dobbs Ferry, and Piermont,[75] indicate that scenic views are essential for maintaining the quality of life and character on their waterfronts. In addition to the plans discussed above, Dobbs Ferry has an adopted LWRP, which stresses the importance of measures "to preserve and enhance the extraordinary scenic resources that characterize so much of the Village [i.e., the Palisades]."[76] The Village invested about $7 million in upgrading its waterfront and developing the Waterfront Park, which has a boat dock, fishing pier, playground, and walkways connected to the county trail system.[77] The Dobbs Ferry mayor has called the waterfront his "pride and joy" and by

[74] National Park Service, Washington-Rochambeau, https://www.nps.gov/waro/index.htm.
[75] New York State, Department of State, Local Waterfront Revitalization Programs, http://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP_status.html.
[76] Village of Dobbs Ferry Local Waterfront Revitalization Program, adopted Aug. 9, 2005, http://docs.dos.ny.gov/opd-lwrp/LWRP/Dobbs%20Ferry_V/Original/DF%20LWRPPost.pdf, Executive Summary at 6.
[77] Elsa Brenner, *Dobbs Ferry, N.Y.: A Village with a Changed Image*, N.Y. Times, July 2, 2014, http://www.nytimes.com/2014/07/06/realestate/dobbs-ferry-ny-a-village-with-a-changed-image.html?_r=0.

redeveloping the waterfront area, hoped to "bring the river more into the life of the village."[78] Like other municipalities in the region, Dobbs Ferry has seen profitable waterfront real estate development that has helped uplifted and diversify the community.[79] The proposed anchorages off the Village's shoreline, and increased vessel traffic closer to the Village as a result of the anchorages, would detrimentally affect this invaluable public asset.

Cortlandt has had a waterfront Master Plan dedicated solely to Verplanck, a hamlet in Cortlandt, since 1993. This was the result of grass-roots campaigning by the Verplanck Waterfront Preservation Committee, a local citizen group formed in 1990 to preserve public access to the Steamboat Dock and beach, a recreational access point into the River. Cortlandt has since invested millions of dollars in developing the waterfront in Verplanck, including a shoreline stabilization project, rehabilitating the Steamboat Dock, building a pavilion, a pedestrian river-viewing area, cleaning up contaminated soil in a nearby Brownfields site, construction of a veterans' memorial honoring the Kings Ferry Crossing (a strategic Revolutionary War crossing point between Verplanck and Stony Point), and numerous other small projects to improve the area.

All of these activities have involved significant public participation and volunteer efforts over the past 25 years, and Cortlandt citizens are highly invested in maintaining and developing this area. In fact, an updated master plan for Verplanck was finalized in 2015 to continue revitalizing the area; the master plan functions as an LWRP and makes Verplanck eligible for LWRP funding.[80] Yet the Tompkins Cove proposed anchorages are located directly across from Verplanck. Placing three anchorages there would undo decades of Cortlandt citizens' painstaking

[78] *Id.*
[79] *Id.*
[80] Verplanck Waterfront Master Plan, April 2015, prepared for the Town of Cortlandt, http://www.townofcortlandt.com/Documents/Planning/Verplanck%20Waterfront%20Master%20Plan/2015-04-13_Verplanck%20Waterfront%20Master%20Plan.pdf.

efforts to improve their waterfront by marring the River views that are the reason to develop the area in the first place.

Accordingly, the proposed anchorages would be inconsistent with Policies 1 and 31, which encourage the revitalization of underutilized waterfronts.

2. Policies 9, 19-21: expand public access to water resources and water-related recreation

As reflected above, planned redevelopment of the waterfront along the Hudson shore in Westchester and Rockland Counties include provisions to make the River accessible to the public, including public esplanades, other open space, and similar endeavors, consistent with these communities' waterfront planning. To the extent the anchorages jeopardize redevelopment, they also jeopardize this enhanced public access to the River and related recreational opportunities. In addition, the noise and night lighting associated with anchored vessels (*see* Point II.E.1. below) affect the ability of the public to enjoy quiet areas included in waterfront public space. Accordingly, the proposed anchorages would be inconsistent with this coastal zone policy.

Moreover, these efforts would provide enhanced opportunities not simply for access to the River, but for recreational activities on the River. Many of the planned waterfront redevelopments include provisions for small boat launches, kayak launches, and other boating opportunities. This would add additional recreational boat traffic to the River, augmenting the recreational traffic on the Hudson River that has increased in recent years.[81] The proposed anchorages would pose safety risks; many recreational boaters are novices who may struggle to navigate the anchorage areas and/or increased tanker traffic, and if the anchorages are poorly lit, recreational boaters may be at risk at night or in restricted visibility.[82]

[81] Cushing Report at 16.
[82] Cushing Report at 16-18.

The danger to boaters during inclement weather is particularly of concern when anchored vessels are less than 20 meters in length, as such vessels need not have any lighting whatsoever.[83] Many of the vessels that would utilize the anchorages have large turning radii, ranging from 1,200 to 1,400 feet in the anchorages proposed in Westchester County,[84] which would further jeopardize recreational boaters. This is especially of concern in narrow, highly trafficked parts of the River, such as the Kings Ferry crossing between Stony Point and Verplanck's Point. There is a high concentration of marinas on both sides of the River in this area, with frequent recreational traffic crossing back and forth; yet, three anchorages have been proposed in this immediate area at Montrose Point, which could endanger the significant recreational traffic at this part of the River.

To place this risk in perspective, based on a Google Maps search, there are approximately 31 marinas along the Westchester and Rockland shoreline (an estimated 19 in Westchester and 12 in Rockland). Thus, from these marinas alone, there are undoubtedly hundreds if not thousands of recreational vessels on the River that would be endangered by the proposed anchorages.[85]

3. Policy 36: ship and store petroleum and other hazardous materials in a manner to prevent or minimize spills

From 2010 to 2014, the amount of petroleum products (crude oil, gasoline, and fuel oil) being transported on the Hudson River increased dramatically, jumping from about 7.9 million tons in 2012 to 12 million tons in 2013 alone.[86] Part of this increase was due to the uptick in crude oil production in the Midwest Bakken formation.[87] Given the general risk of grounding, collision,

[83] Cushing Report at 66.
[84] Cushing Report at 25.
[85] In 2001, there were over 14,000 boats registered to Westchester County residents. Although some number of these registrations are on the Long Island Sound side of Westchester County, the total number is significant. Carin Rubenstein, *A Tale of Two Shorelines*, N.Y.Times, Aug. 21, 2003, http://www.nytimes.com/2003/08/31/nyregion/a-tale-of-two-shorelines.html. There are also marinas along the Hudson in northern New Jersey that would add to this number of licensed recreational boaters.
[86] Cushing Report at 14.
[87] Cushing Report at 56-58.

or allusion on the Hudson River[88] and the fact that most of the proposed anchorages in Westchester would be in narrower reaches of the River,[89] the potential for an accident and resultant spill of petroleum product is serious and could have catastrophic environmental and economic consequences. The risk of severe environmental harm would be exacerbated if crude oil from Canadian tar sands, as predicted by the Committee,[90] is exported from the Port of Albany. While Bakken crude is lighter than water and floats, but is flammable and toxic, Canadian tar sands crude is heavier than water and toxic and would sink to the bottom of the River, doing inestimable damage to River biota for decades.[91] The transfer of fuel or oil at the proposed anchorages could also lead to a spill.[92]

This increased risk to the River ecology and the potential for the expenditure of millions of dollars and untold resources for a cleanup (which would never be fully successful) are hardly counterbalanced by increased profits from "riverine arbitrage" by Committee members and their clients.

[88] Cushing Report at 60-62. A tanker carrying crude oil went aground in 2012; fortunately, only the outer hull was punctured, avoiding a devastating spill.
[89] Cushing Report at 27.
[90] Committee Letter at unnumbered page 3.
[91] *See* ACP at 36, May 2016.
[92] Cushing Report at 56. In addition, a spill would likely affect the use of the River by mid-Hudson communities for drinking water. See Cushing Report at 3.
The severe environmental impacts of an oil spill in the Hudson—especially the lower Hudson—was recently confirmed by the Executive Director of the Maritime Association of the Port of New York and New Jersey. He explained that, in the event of a Valdez-like grounding in the waters around New York, there would be a "catastrophic impact on the U.S. economy" and it would take decades to rehabilitate marine life. Emily S. Rueb, *The Channel Masters of New York Harbor* at 7, N.Y. Times, Nov. 20, 2016, http://www.nytimes.com/2016/11/20/nyregion/at-sea-with-new-york-harbors-channel-masters.html.

4. Policies identifying the following resources in need of protection

    a. Policies 7, 8: significant fish and wildlife habitats resources in the coastal area from the introduction of hazardous wastes and other pollutants which bioaccumulate in the food chain or which cause significant sublethal or lethal effect on those resources.[93]

The Atlantic Sturgeon is a federally endangered fish species with historical significance to New York State and the Hudson River. The fish can live up to 60 years and weigh 800 pounds, which made them valuable for meat (hence the nickname "Albany beef") and caviar before drastic declines due to pollution from the Industrial Revolution. The fish may be found as far north as Albany, but spawning occurs around Hyde Park and juveniles are generally found between the Tappan Zee Bridge and Kingston, although farther south in the fall and winter.[94] The proposed anchorages are located within the general range of Atlantic Sturgeon juveniles. Sturgeon eggs attach to stones and vegetation, and young sturgeon feed on benthic organisms.

The Hudson River not only serves as important habitat for the Atlantic Sturgeon but also is designated as Essential Fish Habitat and Significant Coastal Fish & Wildlife Habitat, as described in Points I.B.4. and I.B.5. There are 21 public fishing access areas in the Hudson off Westchester and Rockland Counties.[95] These resources would be threatened by the proposed anchorages due to the anchors and anchor chains typically used by anchored vessels. As explained in the Cushing Report, anchor chains are dragged across the River bottom when vessels turn, which happens with the change of tides, heavy winds and other conditions: "When the vessel 'swings'

[93] *See* New York State Department of Environmental Conservation, The Atlantic Sturgeon: The Symbol of The Hudson River Estuary, http://www.dec.ny.gov/lands/5084.html; New York State Department of Environmental Conservation, Sturgeons, http://www.dec.ny.gov/animals/7025.html.
[94] National Marine Fisheries Service, Endangered Species Act Section 7 Consultation Biological Opinion at 50, Tappan Zee Bridge Replacement, NER-2015-12923, June 20, 2016, https://www.greateratlantic.fisheries.noaa.gov/protected/section7/bo/actbiops/tz_biop_signed_06202016.pdf.
[95] *See* NYSDEC, Hudson River Estuary Public Fishing and Boating Access Maps, http://www.dec.ny.gov/lands/41728.html.

on the anchor due to tide and/or wind shifts, the anchor will grind into the bottom. Also, the chain or cable will sweep the bottom in a semicircle. Both will cause a disturbance of the bottom soils."[96] This dragging would cause severe disruption of the River bottom, which would likely damage breeding and feeding habitat for the Atlantic Sturgeon as well as other fish that depend on the River habitat. This impact to an endangered species and Essential Fish Habitat requires consultation by the USCG with the National Marine Fisheries Service of the Department of the Interior.

Not only would the roiling of sediments endanger the River ecology, but the placement of the anchorages in the Hudson is likely to result in the release of a potpourri of toxic contaminants, including PCBs and heavy metals, which were released into the River for decades by manufacturing facilities operating along its shores and that have settled into the sediments at the bottom of the River.[97] As noted, vessels at anchorage drag their anchors and anchor chains. This disturbs the sediment at the bottom of the River, causing the release of sediments containing contaminants into the water column. Thus, the placement of anchorages in the River in areas where the riverbed is contaminated would likely result in the release of those contaminants into the River.

Samples of River sediment up to 10 km (6.2 miles) upstream and downstream of Yonkers were measured to contain between 0.76 and 1.26 ppm of PCB at a depth to 3 cm.[98] For context,

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[96] Cushing Report at 68.

[97] Federal Highway Administration, Final Environmental Impact Statement and Section 4(f) Evaluation for Tappan Zee Hudson River Crossing Project, Volume I at 15-10 ("Due to releases from industrial activity, sediments deposited on the river bottom during the twentieth century are more likely to exhibit signs of contamination. Examples of industrial contamination include heavy metals, volatile or semivolatile organic compounds (VOCs or SVOCs), pesticides, and PCBs."). *See also* NYSDEC, Division of Environmental Remediation, Record of Decision, Harbor at Hastings Site Operable Unit No. 2, Site No. 360022, Mar. 2012, at Exhibit A, pg. 3-7, http://www.dec.ny.gov/docs/remediation_hudson_pdf/360022ou2rod.pdf.

[98] Huan Feng et al., *Distribution of Heavy Metal and PCB Contaminants in the Sediments of an Urban Estuary: The Hudson River*. 45 Marine Environmental Research 1 (1998).

the NYSDEC's sediment-based PCB screening criterion for chronic benthic effects is 0.58 ppm; sediments with concentrations above these levels are considered to be contaminated and potentially causing harmful impacts to marine and aquatic ecosystems.[99] This is consistent with the remedial design samples for the federal General Electric Superfund site on the upper Hudson River, where 97% of samples exceeded the criterion.[100]

The anchorages in the Yonkers Extension may also interfere with ongoing and completed remediation of contaminated sites in the area, resulting in the recontamination of river sediments recently remediated at extremely high costs and increased contamination at another site where remediation has been formulated. As noted earlier, there are two Superfund sites in the vicinity of the proposed anchorages: the former Anaconda site in Hastings-On-Hudson and the former BICC Cables site in Yonkers.

The NYSDEC issued a Record of Decision for the Anaconda site in 2012, requiring extensive remediation of River sediments for PCBs and metals. This cleanup has not commenced, as it is in the remedial design stage. A copy of relevant pages from the Record of Decision is attached hereto as Exhibit A.[101] The BICC Cables site in Yonkers, which was listed as a State Superfund site in 1999, is also in the State Brownfield Cleanup Program. The site was listed due to PCBs on the land and in the River. A Record of Decision for the site was issued in March 2005, relevant pages of which are attached hereto as Exhibit B.[102] The remediation of the River was

[99] Hudson River Natural Resource Trustees, *PCB Contamination of the Hudson River Ecosystem Compilation of Contamination Data through 2008* (January 2013) at 7.
[100] *Id.*
[101] NYSDEC, Division of Environmental Remediation, Record of Decision, Harbor at Hastings Site Operable Unit No. 2, Site No. 360022, Mar. 2012, at Exhibit A, pg. 3-7, http://www.dec.ny.gov/docs/remediation_hudson_pdf/360022ou2rod.pdf.
[102] NYSDEC, Division of Environmental Remediation, Record of Decision, BICC Cables Site, Site Number 360051, March 2005, http://www.dec.ny.gov/docs/remediation_hudson_pdf/360051.pdf.

recently completed, and the site expects to receive a Certificate of Completion from NYSDEC in the near future.

The dragging of anchors and anchor chains by vessels at the anchorages in the Yonkers Extension could cause the suspension of PCBs and the recontamination of the already remediated BICC riverine site, and the worsening of contamination at the Anaconda riverine site. Given tidal currents in the River, resuspension could also cause contamination both upstream and downstream of the disturbed area. This presents a risk to the River's ecology and public health that is inconsistent with Policy 8.[103]

b. Policies 18, 23-25: vital economic, social, and environmental interests of the State and its citizens; historic and cultural resources; and exceptional scenic areas

This Memorandum identifies numerous state and regional economic, social, and environmental interests related to the Hudson River. As noted, the Hudson River has numerous designations in recognition of its exceptional historical, cultural, and ecological values. The anchorages would have significant impacts on these interests, particularly the remarkable vistas of the Palisades from the Yonkers, Hastings-On-Hudson and Dobbs Ferry waterfronts—iconic views that would be radically transformed by the proposed anchorages. Points II.B.1. and II.B.2 describe the socioeconomic benefit of a clean, safe, and accessible Hudson River to waterfront communities like Yonkers, Hastings-On-Hudson, Dobbs Ferry, and Cortlandt, as well as the potential adverse impacts on these municipalities if planned redevelopments are affected by the proposed

[103] Other shorefront sites could be affected. For example, the Edge-On-Hudson site in Sleepy Hollow, the location of the former General Motors assembly Plant site, included a River cleanup of metals. *See* NYSDEC, Environmental Site Remediation Database, Site Record for the Former General Motors North Tarrytown West Parcel, Site Code: C360070, http://www.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm. The remediated area could be recontaminated by disturbed sediments.

There is also a safety issue that that should be considered, as a cable traverses the River at the northern edge of the proposed Yonkers Extension, and an anchor that catches the cable could cause serious impacts. *See* Cushing Report at 27, 51.

anchorages. Points I and II.B.4. explain the impacts of the proposed anchorages on the Hudson's ecology and ecological values.

On all of these fronts, New York and the Hudson River Valley communities are working hard to remediate the contamination and environmental and ecological degradation of the region's industrial past and to restore the River for a healthy future. The proposed anchorages would disrupt this forward momentum and the tremendous successes already achieved by potentially chilling waterfront development; preventing public access to the waterfront; jeopardizing safe recreational use of the River; stirring up PCB contamination; damaging Atlantic Sturgeon and essential fish habitat; and risking a catastrophic oil spill.

C. The USCG should complete a focused Waterways Analysis and Management System ("WAMS") study

The USCG conducts a WAMS study of critical waterways every five years to "ensure waterway attributes and services meet the needs of mariners."[104] For anchorage proposals, USCG guidance provides for a "focused" WAMS study targeting only the part of the waterway that involves the proposed anchorage area.[105] The five-year WAMS study can be used in place of a "focused" WAMS if it was completed within the last two years.[106]

The USCG prepared a Hudson River Waterway Review (the "Waterway Review"), noted as being reviewed on October 27, 2015 and conducted as part of the ongoing WAMS waterway review process. Because the Waterway Review was not a complete WAMS study and because, based on publically available information, no complete WAMS study was published within the last two years, and for reasons articulated below, the USCG should complete a focused WAMS

[104] U.S. Coast Guard Tactics, Techniques, and Procedures 3-71.2, Waterways Management (WWM): Anchorage Management at 3-10, CGTT 3-71.2, July 31, 2015.
[105] *Id*.
[106] *Id*.

study for the areas of the Hudson River in which anchorages are proposed before determining whether to proceed with rulemaking.

First, the Waterway Review notes that commercial traffic volume has remained consistent since 2009 and that recreational traffic has increased slightly based on user surveys.[107] This suggests, as noted above, that no additional anchorages are needed. Further, the Cushing Report includes statistics from the U.S. Army Corps of Engineers showing that the number of tows/tugs and non-self-propelled tankers increased slightly between 2010 and 2014.[108] It is unclear whether the USCG analyzed this information when drafting the Waterway Review.

Second, the Waterways Review states that "navigation of the river is easy as far north as Kingston, but above Kingston it is more difficult . . ."[109] Kingston is the northernmost range of the proposed anchorages. If the area south of Kingston is "easy" to navigate, it is unclear why anchorages are being proposed in this region under the guise of navigational safety. Further, the "servicing unit input summary" in the Waterways Review generally concludes that the "Hudson River is well marked and easy to navigate,"[110] raising a similar question as to the necessity of additional anchorages—particularly the asserted need for 42 long-term anchorages.

Third, the Waterways Review provides only one paragraph characterizing the users of the Hudson River, finding that the primary users are tugs and barges, with tankers also in use to transport petroleum products.[111] Vastly more information about the type of vessel traffic and cargo on the Hudson will be needed in order for the USCG to evaluate the necessity and impacts of additional anchorages.

[107] Hudson River Waterway Review at Section I.B.1., Oct. 27, 2015.
[108] Cushing Report at 17.
[109] Waterway Review at Section II.A.6.
[110] Waterway Review at Section II.G.3.
[111] Waterway Review at Section II.B.1.

For these reasons and the fact that the Waterway Review is not a complete five-year WAMS, the USCG should undertake a focused WAMS study related to the proposed anchorages before determining whether to proceed.

D. The proposed anchorages should not be considered a "categorical exclusion" under NEPA and instead should be reviewed through an EIS or, at a minimum, an EA

The U.S. Council on Environmental Quality ("CEQ") regulations[112] govern federal agency implementation of NEPA.[113] These regulations allow federal agencies to develop categorical exclusions—"a category of actions which do not individually or cumulatively have a significant effect on the human environment . . . and for which, therefore, neither an environmental assessment nor an environmental impact statement is required."[114] If an agency decides to apply a categorical exclusion, it must adequately explain its decision.[115] The USCG has listed as a categorical exclusion "regulations establishing . . . anchorage grounds."[116]

The application of a categorical exclusion is limited by "extraordinary circumstances"—"factors or circumstances in which a normally excluded action may have a significant environmental effect that then requires further analysis in an EIS or, if the agency is uncertain whether the impacts are potentially significant, in an EA."[117] CEQ guidance notes that even if a

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[112] 40 C.F.R. Part 1500.
[113] *See Steamboaters v. FERC*, 759 F.2d 1382, 1393 (9th Cir. 1985); *Sierra Club v. Sigler*, 695 F.2d 957, 964 (5th Cir. 1983).
[114] 40 C.F.R. § 1508.4; *see* Nancy H. Sutley, CEQ, Final Guidance for Federal Departments and Agencies on Establishing, Applying, and Revising Categorical Exclusions under the National Environmental Policy Act at 15, https://ceq.doe.gov/current_developments/docs/NEPA_Categorical_Exclusion_Guidance_FINAL.pdf [hereinafter "CEQ Guidance"].
[115] *See Ctr. for Biological Diversity v. Salazar*, 791 F. Supp. 2d 687, 703 (D. Ariz. 2011), *aff'd*, 706 F.3d 1085 (9th Cir. 2013) ("An agency cannot avoid its statutory responsibilities under NEPA merely by asserting that an activity it wishes to pursue will have an insignificant effect on the environment.").
[116] USCG Commandant Instruction M16475.1D, National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts at 2-27, Nov. 29, 2000, https://www.uscg.mil/directives/cim/16000-16999/CIM_16475_1D.pdf [hereinafter "USCG NEPA Guidance"].
[117] 40 C.F.R. § 1508.4; *see* CEQ Guidance at 15 ("In other words, when evaluating whether to apply a categorical exclusion to a proposed activity, an agency must consider the specific circumstances associated with the activity and

proposed activity fits within the definition of a categorical exclusion and does not raise extraordinary circumstances, an agency can, at its discretion, decide to prepare an environmental assessment in order to assist its planning and decision making.[118]

The U.S. Department of Homeland Security ("DHS"), the parent agency of the USCG, requires DHS components (such as the USCG) to determine if there are any extraordinary circumstances that may cause significant impacts; such impacts would preclude the application of the categorical exclusion and require the agency to prepare an EIS or EA.[119] The USCG requires preparation of an EA or EIS if a "proposed action is likely to involve any of the circumstances" set forth in Enclosure (1) to the USCG NEPA Guidance: (1) significant impacts on the environment; (2) substantial controversy; (3) impacts which are more than minimal on properties protected by section 4(f) and section 106 of the Historic Preservation Act; or (4) inconsistencies with any Federal, State, or local law or administrative determination relating to the environment.[120] As demonstrated above, and summarized below, the proposed anchorages would have impacts falling within all categories listed in Enclosure (1) and therefore present "extraordinary circumstances" necessitating an EA or EIS. Because there are plainly potential significant impacts, an EIS should be prepared.

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may not end its review based solely on the determination that the activity fits within the description of the categorical exclusion; rather, the agency must also consider whether there are extraordinary circumstances that would warrant further NEPA review.").

[118] *See* 40 C.F.R. 1501.3(b); CEQ Guidance at 17. An EA provides a brief analysis for determining whether to prepare an EIS.

[119] DHS Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act at V-5, https://www.dhs.gov/sites/default/files/publications/DHS_NEPA%20IM%20023-01-001-01%20Rev%2001_version%20for%20FR_5-27-14.pdf ("The presence of one or more extraordinary circumstances precludes the application of a [categorical exclusion] to a proposed action when the circumstance would have significant environmental impacts (i.e., EIS required), or presents the potential for significant environmental impacts (i.e., EA required), or that potential cannot be readily determined (i.e., EA required).").

[120] USCG NEPA Guidance at 2-5 (emphasis added) and at Enclosure (1) page 19.

1. The proposed anchorages would have numerous significant environmental effects constituting "extraordinary circumstances" such that the USCG should prepare an EIS.

USCG guidance lists 10 questions and factors within those questions to guide the determination of a proposal's impacts and whether a categorical exclusion may apply.[121] The proposed anchorages include listed impacts related to all 10 questions and therefore has significant environmental impacts constituting "extraordinary circumstances" that require an EA or EIS.[122]

Question 1 - Is there likely to be a significant effect on public health or safety?

Yes. As shown above, the proposed anchorages would be located near two New York Superfund sites in Yonkers and Hastings-On-Hudson, and would pose a risk of suspending PCBs in the water column from the dragging of anchors and anchor chains, the recontamination of the recently remediated BICC site in Yonkers and the potential addition of contaminants to the Anaconda site in Hastings-On-Hudson. Further, to the extent the anchorages are in response to contemplated increased tanker traffic on the Hudson River carrying Canadian crude oil, the additional anchorages would accommodate the transportation of a large amount of fuel. As discussed in Points II.B.2. and II.B.3., the provision of 16 additional anchorages off Yonkers, Hastings-on-Hudson, and Dobbs Ferry as well as six anchorages off Cortlandt would increase the risk of accidents and oil spills. Finally, as discussed in Point II.B.2., recreational traffic on the Hudson River has increased in recent years and could cause safety risks as recreational boaters attempt to navigate increased barge and tanker traffic and anchored vessels, especially at night or in inclement weather.

[121] USCG NEPA Guidance, Enclosure (2). The DHS NEPA guidance contains substantially the same questions to guide determination of whether a categorical exclusion should apply. *See supra* note 119, at V-6.
[122] As a general comment, it is difficult to evaluate overall environmental impacts because the ANPRM does not specify how frequently the anchorages would be used and in what way.

Question 2 - Does the proposed action occur on or near a unique characteristic of the geographic area, such as a historic or cultural resource, park land, prime farmland, wetland, wild and scenic river, ecologically critical area, or property requiring special consideration under 49 U.S.C. 303(c)?

Yes. As detailed in Section I, the Hudson River boasts numerous historic, cultural, and environmental designations. It is listed, in whole or in part, as an American Heritage River, National Heritage Area, National Historic District, National Historic Landmark District, and Scenic Area of Statewide Significance, and is in the New York Estuary Program. Point II.B.4.b. describes how the proposed anchorages conflict with the purposes of these designations by disrupting the iconic viewsheds of the Palisades; damaging fish habitat; stirring up PCB contamination; and risking a catastrophic oil spill. As discussed in Point II.B.4.a., the Hudson River is home to the federally endangered Atlantic Sturgeon whose breeding and feeding habitat would likely be at risk from dragging anchors. And as shown below, the anchored vessels would cause noise, air and light pollution.

Question 3 - Is there a potential for effects on the quality of the environment that are likely to be highly controversial in terms of scientific validity or public opinion?

Yes. The ANPRM has already received nearly 6,000 public comments from individual citizens, municipalities, nonprofit organization, elected officials, and other stakeholders—most of which relate to the numerous significant environmental concerns discussed throughout this Memorandum. Moreover, Westchester and Rockland Counties, as well as 14 municipalities in Westchester, have passed resolutions opposing the proposed anchorages. See Exhibit C. Federal courts have found the application of a categorical exclusion in the face of such extensive controversy over the potential effect to be an arbitrary and capricious decision; indeed, the USCG's

effort to employ a categorical exclusion in another controversial matter involving navigational rules was rejected by the Court of Appeals for the First Circuit.[123]

Question 4 - Is there a potential for effects on the human environment that are highly uncertain or involve unique or unknown risks?

Yes. As discussed in Point II.B.3., because the anchorages, according to the Committee, would allow for increased traffic of Canadian crude oil tankers, there will be an increased risk of an oil spill, with far-reaching catastrophic human health and environmental impacts. The precise effects of such a spill are unknown and would be unique among potential environmental harms in the region. Further, as discussed in Point II.B.4.a., additional anchorages in the Yonkers Extension in particular could affect ongoing remediation, result in the recontamination of riverine areas that were just remediated or slated for remediation, and contaminate other areas of the River.

Question 5 - Will the action set a precedent for future actions with significant effects or a decision in principle about a future consideration?

Yes. The Hudson River has great national and statewide environmental, cultural, historical, and economic significance. The disregard for these features by constructing anchorage grounds for over 40 vessels (and particularly 42 long-term anchorages) would set a harmful precedent for other sensitive, valuable regions that we as a society have designated as requiring special attention and protection. Contrary to the mandates of the Hudson's American Heritage River and National Heritage Area designations, the USCG did not consult with relevant state and local authorities, which sets an adverse precedent for future collaboration and trust among government entities and stakeholders. The anchorages would also constitute precedent for the USCG adopting a large number of anchorages in other parts of the country without any

[123] *See United States v. Coal. for Buzzards Bay*, 644 F.3d 26, 39 (1st Cir. 2011) (finding the USCG had acted arbitrarily and capriciously in adopting a categorical exclusion and disregarding the "plethora of worried comments" and "ferocious and widespread opposition," and requiring the agency to conduct a NEPA review).

environmental review, as it is difficult to envision a situation more demanding of environmental review, and less appropriate for a categorical exclusion, than the addition of over 40 anchorages to one of the most important and valued rivers in the United States. In addition, to the extent the proposal for additional anchorages is related to the goal of expanding the transport of crude oil on the River, as articulated in the Committee Letter, the establishment of additional anchorages would set a precedent for similar USCG action throughout the country.

Question 6 - Are the action's impacts individually insignificant, but cumulatively significant when considered along with other past, present, and reasonably foreseeable future actions?

The proposed anchorages have individually and cumulatively significant impacts. This Memorandum focuses on the consequences of locating additional anchorages in the River off Westchester and Rockland Counties; however, many of the same concerns would apply for the rest of the Hudson and waterfront communities opposite proposed anchorages. If all 43 proposed anchorages are approved, the number of anchorages in the Hudson will jump from seven to 50. This dramatic increase in anchorages will mean more anchors and chains dragging on the River bottom and more disruption of fish habitat, including that of the endangered Atlantic Sturgeon, and of contaminants such as PCBs and metals. More vessels in transit and at anchor increase the danger to recreational boaters and increase the risk for collisions, with the attendant increased risk of an oil spill.[124]

[124] As noted, the potential for increased vessel traffic due to increased availability of anchorages should be considered in conjunction with the proposed expansion of the Port of Albany, which would allow more crude oil tanker traffic and further increase the risk of an oil spill. Thus, the USCG should consider the proposed expansion and increased shipments of petroleum as "connected actions" under NEPA. *See* 40 C.F.R. § 1508.25(a)(1).

Question 7 - Is the proposed action likely to have a significant impact on a district, site, highway, structure, or object that is listed on or eligible for listing on the National Register of Historic Places, or to cause the loss or destruction of a significant scientific, cultural, or historic resource?

Yes. As detailed above, the Hudson River boasts numerous historic, cultural, and environmental designations. It is listed, in whole or in part, as an American Heritage River, National Heritage Area, National Historic District, National Historic Landmark District, and Scenic Area of Statewide Significance. Point II.B.4.b. describes how the proposed anchorages conflict with the purposes of these designations by disrupting the iconic viewshed; causing noise, air, and light pollution; damaging habitat for the endangered Atlantic Sturgeon; stirring up PCB and metal contamination; and risking a catastrophic oil spill.

Question 8 - Will the proposed action have a significant effect on species or habitats protected by Federal law or Executive Order?

Yes. As discussed in Point II.B.4.a., the Hudson River is home to the federally endangered Atlantic Sturgeon whose breeding and feeding habitat would be at risk from dragging anchors. The Hudson is classified as an Essential Fish Habitat for the Atlantic Butterfish, Summer Flounder and Bluefish, whose habitats would also be adversely affected.

Question 9 - Is there a potential for, or threatened violation of, a Federal, State, or local law or requirement imposed for the protection of the environment?

Yes. This Memorandum has described the potential for PCB contamination in Point II.B.4.a., disturbance of Atlantic Sturgeon habitat in Point II.B.4.a., and the risk of a catastrophic oil spill in Point II.B.3. In addition to these impacts, the proposed anchorages stand to cause noise, light, and air pollution.

Vessels in transit and anchored produce a variety of noises, some of which happen within quick succession and/or travel long distances.[125] In conditions of limited visibility, vessels use

[125] For a complete discussion of potential noise pollution, *see* Cushing Report at 63-65.

their fog horns and anchored ships ring bells and gongs. For example, vessels over 60 meters in length must ring a bell rapidly for five seconds at intervals not exceeding one minute. Other sources of noise include the vessels' diesel engines, which for smaller vessels with inadequate mufflers, can be heard miles away. If a vessel has a diesel generator, it may run continuously while at anchor. If maintenance is performed on an anchored vessel, noise can come from chipping (a form of descaling of rust), painting, or other construction activities on board; this is considered industrial-level noise.

Vessels also use a variety of lights.[126] Vessels over 100 meters in length at anchor must use lights to illuminate its decks. Barges must exhibit two white lights visible for one mile when moored in groups three or more, or when moored in a configuration not parallel to the River. See the photograph below illustrative of such lighting.

[126] For a complete discussion of potential light pollution, *see* Cushing Report at 66.

Question 10 - Is the action likely to have some other significant effect on public health and safety or on any other environmental media or resources that are not specifically identified in the checklist? An additional concern is socioeconomic impacts and environmental justice.

Yes. As discussed in Points II.B.1. and II.B.2., the proposed anchorages could negatively impact years of community planning for local waterfront development and related financial investment. For example, Yonkers' identity and economic future are tied up in sustainable waterfront development as well as visual and recreational access to a clean, healthy Hudson River. Part of Yonkers' effort to repair the environmental and socioeconomic damage of its past is to improve living conditions for its low-income and minority environmental justice populations. As discussed in Point II.D., these communities are primarily located on the River side of Yonkers and therefore stand to be most negatively affected by light, noise, and air pollution from the proposed anchorages. Similar socioeconomic impacts would take place in other riverfront communities, such as Hastings-On-Hudson and Cortlandt.

The anchorages would increase the risks of boating accidents in the River, due to both collisions/allusions between commercial vessels and accidents involving the high number of recreational vessels that now use the River, and are increasing in number.

2. <u>The NEPA review should consider the significant environmental impacts of and alternatives to the proposed anchorages.</u>

The prior sections of this Memorandum of Law discuss in detail the potential environmental impacts of the proposed anchorages. The NEPA review, through an EIS (or at minimum an EA), should consider these impacts, which include:

a. Hudson River historic, cultural, and ecological designations

b. Local waterfront land use planning

c. Socioeconomic impacts

d. Environmental justice

e. Recreational use of the Hudson River

f. PCB contamination in the Yonkers/Hastings reach

g. Lighting

h. Noise

i. Air emissions

j. Endangered species

k. Risk of a catastrophic event

The NEPA review should also "rigorously explore and objectively evaluate all reasonable alternatives," including the alternative of no action.[127] For the proposed anchorages in the Hudson River, the analysis of alternatives should include alternative locations for the anchorages as well as alternative uses, including long-term versus short-term use and what these terms mean, the activities allowed at the anchorages (such as oil and fuel transfers or vessel repairs, which could result in fuel spills in the River), and the impacts of the anchorages (such as lighting and noise).

CONCLUSION

For the foregoing reasons, the USCG should not proceed with a formal rulemaking on the proposed anchorages. If the USCG does issue a Notice of Proposed Rulemaking, it must ensure that there is a manifest need for such anchorages and that the proposed rule receives the appropriate internal and external review. The USCG must prepare an EIS, or at a minimum an EA, analyzing the impacts address in the report because there are extraordinary circumstances precluding use of a categorical exclusion. Finally, the USCG should hold public hearings to allow for additional comment on the Advance Notice of Proposed Rulemaking.

[127] 40 C.F.R. § 1502.14.

Dated: New York, NY
November 30, 2016

Respectfully Submitted,

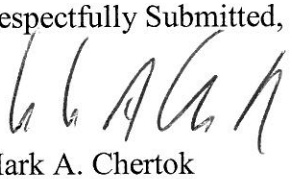

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Exhibit A

RECORD OF DECISION

Harbor at Hastings
Operable Unit Number 02: Hudson River Sediments
State Superfund Project
Hastings-on-Hudson, Westchester County
Site No. 360022
March 2012

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

DECLARATION STATEMENT - RECORD OF DECISION

Harbor at Hastings
Operable Unit Number: 02
State Superfund Project
Hastings-on-Hudson, Westchester County
Site No. 360022
March 2012

Statement of Purpose and Basis

This document presents the remedy for Operable Unit Number: 02: Hudson River Sediments of the Harbor at Hastings site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, 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 (the Department) for Operable Unit Number: 02 of the Harbor at Hastings site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development

2. Installation of a sheet pile wall within the Hudson River to provide containment and allow for the recovery of liquid PCB DNAPL offshore of the northwest corner of the site. The location and alignment of the northwest extension area (NEA) sheet pile wall will be verified during the remedial design to minimize filling into the Hudson River while enabling effective DNAPL containment and recovery and maintaining stability of the site. It is estimated that this area of fill will encompass 0.88 acres. The area behind the sheet pile wall will be filled with soil and/or lightweight aggregate as approved by the Department. The sheet pile wall will include sealed joints, installation of tie-rods, upland anchors, and cathodic protection. The wall system will also include groundwater filtration units to adsorb contaminants that may be present in groundwater before discharge to the river.

3. Mitigation of fill placed into the Hudson River to replace the aquatic habitat that will be lost as a result of the NEA. Mitigation will involve the creation and/or restoration of river habitat in accordance with a Department-approved plan.

4. Development and implementation of a plan for further delineation and recovery of PCB DNAPL from beneath the northwest corner of the site and the NEA.

5. Removal of sediment and fill that contains PCB concentrations greater than 1 ppm and/or copper, zinc and lead concentrations above the background concentrations listed in Table 2 of Exhibit A, to a maximum excavation depth of 6 feet within the area where sediment resuspension controls, such as a fixed silt curtain, are feasible. This area generally corresponds to a water depth of 15 feet and a distance from the shoreline into the river of approximately 60 to 80 feet and along approximately 2000 feet of shoreline.

6. The specific area where fixed sediment resuspension controls can be feasibly deployed will be evaluated during design based on the water depth and velocity conditions at the site. Alternative designs for fixed resuspension controls will be evaluated to increase the depth of feasible resuspension controls. Designs for mobile resuspension controls will also be evaluated and developed for dredging in deeper water, if necessary.

7. Removal of sediment from a targeted area outside the northwest extension area in deeper than 15 feet of water that is defined by PCB concentrations greater than 50 ppm, to a maximum depth of 6 feet. During the design, sampling will be performed to determine whether additional areas of PCBs greater than 50 ppm exist. Based upon an evaluation of the significance of the distribution of contaminants and the feasibility of removal, additional areas of sediment may be targeted for dredging.

8. On-site dewatering of dredged and excavated sediments for off-site transportation and disposal or onsite reuse, as appropriate. On-site reuse of sediments will be evaluated during

design. Water removed from the sediment will be treated and discharged back to the river in compliance with regulatory requirements.

9. Backfill of dredged areas with Department-approved material. Dredged areas within the resuspension controls will be backfilled with clean material to isolate remaining contamination, prevent erosion of cap materials, restore bathymetry, and provide a habitat layer. In nearshore areas which have contamination remaining above background concentrations, isolation capping will be placed following dredging. The isolation cap will consist of a sand isolation layer; armoring layer; and a minimum of a 24 inch habitat layer. The isolation and armoring layer thicknesses and materials of the cap will be established in the remedial design. As part of the design, a river flow and deposition study will be conducted to determine approximate sedimentation rates and the acceptability that up to 12 inches of the habitat layer may fill in by natural deposition within a reasonable duration of time after installation of the remainder of the isolation cap. Additional backfill needed to reach bathymetry requirements will be placed between the erosion protection layer and habitat layer. The habitat layer will be designed to restore aquatic habitat. Dredged areas that are outside the near shore area will be backfilled with appropriate river substrate to within 12 inches of the pre-dredge elevation provided that the sedimentation study demonstrates that sufficient deposition will occur within a reasonable time frame. All activities associated with the excavation and restoration of Hudson River sediments will meet the requirements of 6NYCRR Part 608.

10. Imposition of an institutional control in the form of an environmental easement for the NEA which will be included with the environmental easement for OU1 that will:

a. require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

b. allow the use and development of the controlled property for restricted residential uses as defined by Part 375-1.8(g), consistent with the OU1 ROD, as amended,, although land use is subject to local zoning laws;

c. restrict the use of groundwater and/or surface water as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Westchester County DOH;

d. prohibit agriculture or vegetable gardens on the controlled property; and

e. require compliance with the Department approved Site Management Plan.

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

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

Institutional Controls: The Environmental Easement discussed in Paragraph 10 above.
Engineering Controls: The sediment containment system and cover discussed in Paragraphs 2 and 9.

This plan includes, but may not be limited to:

i. Excavation and Sediment Management Plan which details the provisions for management of future excavations in areas of remaining contamination and includes a prohibition on the construction of pile-supported structures within the Northwest Extension Area;

ii. descriptions of the provisions of the environmental easement including any land use, groundwater, and surface water use restrictions;

iii. provisions for the management and inspection of the identified engineering controls;

iv. maintaining site access controls and Department notification; and

v. the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

b. a monitoring plan to assess the performance and effectiveness of the remedy. The plan will be designed to measure PCB and metals concentrations and evaluate the long-term contaminant trends in the affected media (biota, sediment, water). One goal of the monitoring program will be to determine if the remedy is successful in reducing the local contribution to PCB tissue concentrations in biota. This program will monitor the performance and effectiveness of the remedy in achieving the remedial goals established for the project and will be a component of the monitoring and maintenance of the site. The plan includes, but may not be limited to:

i. baseline sampling of biota; surficial sediment sampling; biota sampling in the vicinity of the site and at reference locations; porewater and surface water sampling in the vicinity of the site and at reference locations; shoreline and nearshore bathymetry; and habitat characterization;

ii. long-term sampling of biota; surficial sediment sampling; biota sampling in the vicinity of the site and at reference locations; porewater and surface water sampling in the vicinity of the site and at reference locations; shoreline and nearshore bathymetry; and restoration success to assess the performance and effectiveness of the remedy; and

iii. a schedule of monitoring and frequency of submittals to the Department.

c. an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

i. compliance monitoring of treatment systems to ensure proper O&M as well as providing

the data for any necessary permit or permit equivalent reporting;

ii. providing the Department with required notifications and access to the site and O&M records.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy 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.

March 30, 2012

Date

Robert W. Schick, P.E., Acting Director
Division of Environmental Remediation

RECORD OF DECISION

Harbor at Hastings
Hastings-on-Hudson, Westchester County
Site No. 360022
March 2012

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

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

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Hastings Public Library
Attn: Susan Feir
7 Maple Avenue
Hastings-on-Hudson, NY 10706

Phone: 914-478-3307

NYSDEC Region 3
Attn: Call for Appointment

21 South Putt Corners Road
New Paltz, NY 12561
Phone: 845-256-3154

Village Clerk
Municipal Offices
7 Maple Avenue
Hastings on Hudson, NY 10706
Mon - Fri: 8:30 - 4:00
Phone (914) 478-3400

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located on approximately 28 acres along the Hastings-on-Hudson waterfront, separated from the village commercial district by railroad tracks. The site is bounded on the north and west by the Hudson River and to the south by the Tappan Terminal site. A former marina borders the site to the north.

Site Features: Most of the site is covered by pavement or concrete building slabs. One building remains at the site (Building 52). The shoreline consists of areas of loosely-placed rip rap and concrete rubble in the north and decaying wooden bulkheads, docks and piers in the central area. Two former boat slips are present along the waterfront, both of which have filled in to a shallow depth with naturally-deposited sediment. The shoreline south of the South Boat Slip consists of modern steel sheeting.

Current Zoning and Uses: The site is zoned general industrial, and is the subject of planning studies by the Village of Hastings-on-Hudson. Several temporary trailers are in use for security and remedial activities.

Historic Uses: The site is the former Anaconda Wire and Cable Company, which ceased operations in 1974. Wire manufacturing operations during a portion of the operating period caused the release of PCBs and metals to site soil, groundwater and sediments. A site investigation was performed in 1986-87 in connection with a potential real estate development. This investigation led to the discovery of high levels of PCBs beneath the northwest corner of the site.

Operable Units: The site is divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. Operable Unit 1 (OU1) is the on-site soils area west of the railroad tracks. OU2 is the off-site impacts to the Hudson River.

Site Geology and Hydrogeology: The landmass of the property was constructed by placement of fill material into the Hudson River until the early 1900s. This fill material is approximately 10-20 feet thick along the railroad tracks, and 20-40 feet thick along the river. Beneath the fill layer lies the Marine Silt, which is a structurally weak clayey silt material that is approximately 40 feet thick along the shoreline. Beneath the Marine Silt lies the Basal Sand unit, a very dense sand and gravel material, into which all structural piles for site buildings were placed. Groundwater is approximately 2 to 8 feet below ground surface in the fill material, and is influenced by tidal variation. Groundwater in the Basal Sand unit is confined by the Marine Silt unit and is present in an artesian condition. The shoreline shows signs of historical erosion due to storm events and wave action. Low-lying parts of the site have been flooded during larger storms.

Operable Unit (OU) Number 02 is the subject of this document.

A Record of Decision was issued previously for OU 01.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

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

SECTION 5: ENFORCEMENT STATUS

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

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

Atlantic Richfield Company (ARCO)

The Department and ARCO entered into Consent Orders in 1995 and March 2005. These Orders obligate ARCO to implement a RI/FS and RD/RA for OU1.

The PRPs for the site declined to implement the remedial investigation and feasibility study portion of the remedial program for OU2 when first requested by the Department. Since 2003 the PRPs have voluntarily performed additional investigations and submitted work plans and reports which include a feasibility study to advance the remedial program. After the remedy is selected, the PRPs will again be contacted to execute an order on consent for the OU2 remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

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

The following general activities are conducted during an RI:

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

The analytical data collected on this site includes data for:

- groundwater
- surface water

- soil
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

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

Polychlorinated Biphenyls (PCB)	Lead
Copper	Zinc

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

- surface water
- sediment

6.2: Interim Remedial Measures

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

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

6.3: Summary of Environmental Assessment

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

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 02, 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 primary contaminants of concern for the site are PCBs (Aroclors 1260 and 1262) and metals, including copper, lead and zinc from historic wire manufacturing operations. For OU1, soil and groundwater beneath the site are contaminated with PCBs and metals, including beryllium, above standards, criteria and guidance values. For OU2, PCBs and metals have also contaminated Hudson River surface water and sediments, and site-related PCBs have been detected in resident fish.

The site presents a significant environmental threat due to ongoing releases from contaminated soils and/or sediments to groundwater, surface water and the Hudson River ecosystem. Metals in sediment pose a toxicity threat to benthic organisms, and PCBs in sediment pose a toxicity and bioaccumulation threat to fish and wildlife.

6.4: Summary of Human Exposure Pathways

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

For OU-1: The site is completely fenced, which restricts public access. Some contaminated soils remain at the site below concrete and/or clean fill, therefore, people will not come in contact with contaminated soil unless they dig below the surface materials. Contaminated groundwater at the site is not used for drinking or other purposes as the site is served by a public water supply that obtains water from a different source not affected by this contamination. For OU-2: People using the river for recreational purposes such as swimming and boating may come into direct contact with site related contaminants. The river is not a source of potable water in this area. People may come in contact with contaminants present in shallow sediment while entering and exiting the river. Fish in the river are likely to contain the same contaminants that are present in surface water and sediment; therefore, people who consume fish from the river are likely to be consuming these contaminants as well. For specific advisories on fish consumption in this area please refer to NYSDOH's Health Advise on Eating Sportfish and Game. http://www.health.ny.gov/environmental/outdoors/fish/health_advisories/docs/advisory_booklet_2011.pdf

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to

pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Surface Water

RAOs for Public Health Protection

- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Restore surface water to ambient water quality criteria for the contaminant of concern.
- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the marine or aquatic food chain.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of (ambient water quality criteria).
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

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

maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

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

The selected remedy is referred to as the Nearshore Dredge to 6 feet, Limited Deepwater Dredge and Northwest Extension remedy.

The estimated present worth cost to implement the remedy is $105,000,000. The cost to construct the remedy is estimated to be $95,200,000 and the estimated average annual cost is $454,000.

The elements of the selected remedy are as follows:

1. A remedial design program would be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principals and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

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

2. Installation of a sheet pile wall within the Hudson River to provide containment and allow for the recovery of liquid PCB DNAPL offshore of the northwest corner of the site. The location and alignment of the northwest extension area (NEA) sheet pile wall will be verified during the remedial design to minimize filling into the Hudson River while enabling effective DNAPL containment and recovery and maintaining stability of the site. It is estimated that this area of fill will encompass 0.88 acres. The area behind the sheet pile wall will be filled with soil and/or lightweight aggregate as approved by the Department. The sheet pile wall will include sealed joints, installation of tie-rods, upland anchors, and cathodic protection. The wall system will also include groundwater filtration units to adsorb contaminants that may be present in groundwater before discharge to the river.

3. Mitigation of fill placed into the Hudson River to replace the aquatic habitat that will be lost as a result of the NEA. Mitigation will involve the creation and/or restoration of river habitat in accordance with a Department-approved plan.

4. Development and implementation of a plan for further delineation and recovery of PCB DNAPL from beneath the northwest corner of the site and the NEA.

5. Removal of sediment and fill that contains PCB concentrations greater than 1 ppm and/or copper, zinc and lead concentrations above the background concentrations listed in Table 2 of Exhibit A, to a maximum excavation depth of 6 feet within the area where sediment resuspension controls, such as a fixed silt curtain, are feasible. This area generally corresponds to a water depth of 15 feet and a distance from the shoreline into the river of approximately 60 to 80 feet and along approximately 2000 feet of shoreline.

6. The specific area where fixed sediment resuspension controls can be feasibly deployed will be evaluated during design based on the water depth and velocity conditions at the site. Alternative designs for fixed resuspension controls will be evaluated to increase the depth of feasible resuspension controls. Designs for mobile resuspension controls will also be evaluated and developed for dredging in deeper water, if necessary.

7. Removal of sediment from a targeted area outside the northwest extension area in deeper than 15 feet of water that is defined by PCB concentrations greater than 50 ppm, to a maximum depth of 6 feet. During the design, sampling will be performed to determine whether additional areas of PCBs greater than 50 ppm exist. Based upon an evaluation of the significance of the distribution of contaminants and the feasibility of removal, additional areas of sediment may be targeted for dredging.

8. On-site dewatering of dredged and excavated sediments for off-site transportation and disposal or onsite reuse, as appropriate. On-site reuse of sediments will be evaluated during design. Water removed from the sediment will be treated and discharged back to the river in compliance with regulatory requirements.

9. Backfill of dredged areas with Department-approved material. Dredged areas within the resuspension controls will be backfilled with clean material to isolate remaining contamination, prevent erosion of cap materials, restore bathymetry, and provide a habitat layer. In nearshore areas which have contamination remaining above background concentrations, isolation capping will be placed following dredging. The isolation cap will consist of a sand isolation layer; armoring layer; and a minimum of a 24 inch habitat layer. The isolation and armoring layer thicknesses and materials of the cap will be established in the remedial design. As part of the design, a river flow and deposition study will be conducted to determine approximate sedimentation rates and the acceptability that up to 12 inches of the habitat layer may fill in by natural deposition within a reasonable duration of time after installation of the remainder of the isolation cap. Additional backfill needed to reach bathymetry requirements will be placed between the erosion protection layer and habitat layer. The habitat layer will be designed to restore aquatic habitat. Dredged areas that are outside the near shore area will be backfilled with

appropriate river substrate to within 12 inches of the pre-dredge elevation provided that the sedimentation study demonstrates that sufficient deposition will occur within a reasonable time frame. All activities associated with the excavation and restoration of Hudson River sediments will meet the requirements of 6NYCRR Part 608.

10. Imposition of an institutional control in the form of an environmental easement for the NEA which will be included with the environmental easement for OU1 that will:

a. require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

b. allow the use and development of the controlled property for restricted residential uses as defined by Part 375-1.8(g), consistent with the OU1 ROD, as amended,, although land use is subject to local zoning laws;

c. restrict the use of groundwater and/or surface water as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or Westchester County DOH;

d. prohibit agriculture or vegetable gardens on the controlled property; and

e. require compliance with the Department approved Site Management Plan.

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

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
Institutional Controls: The Environmental Easement discussed in Paragraph 10 above.
Engineering Controls: The sediment containment system and cover discussed in Paragraphs 2 and 9.

This plan includes, but may not be limited to:

i. Excavation and Sediment Management Plan which details the provisions for management of future excavations in areas of remaining contamination and includes a prohibition on the construction of pile-supported structures within the Northwest Extension Area;

ii. descriptions of the provisions of the environmental easement including any land use, groundwater, and surface water use restrictions;

iii. provisions for the management and inspection of the identified engineering controls;

iv. maintaining site access controls and Department notification; and

v. the steps necessary for the periodic reviews and certification of the institutional and engineering controls.

b. a monitoring plan to assess the performance and effectiveness of the remedy. The plan will be designed to measure PCB and metals concentrations and evaluate the long-term contaminant trends in the affected media (biota, sediment, water). One goal of the monitoring program will be to determine if the remedy is successful in reducing the local contribution to PCB tissue concentrations in biota. This program will monitor the performance and effectiveness of the remedy in achieving the remedial goals established for the project and will be a component of the monitoring and maintenance of the site. The plan includes, but may not be limited to:

i. baseline sampling of biota; surficial sediment sampling; biota sampling in the vicinity of the site and at reference locations; porewater and surface water sampling in the vicinity of the site and at reference locations; shoreline and nearshore bathymetry; and habitat characterization;

ii. long-term sampling of biota; surficial sediment sampling; biota sampling in the vicinity of the site and at reference locations; porewater and surface water sampling in the vicinity of the site and at reference locations; shoreline and nearshore bathymetry; and restoration success to assess the performance and effectiveness of the remedy; and

iii. a schedule of monitoring and frequency of submittals to the Department.

c. an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

i. compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;

ii. providing the Department with required notifications and access to the site and O&M records.

Exhibit A

Nature and Extent of Contamination

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

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two categories: pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium.

The former manufacturing operations within OU 1 caused the release of PCBs and metals to site soil, groundwater and sediments at the Harbor at Hastings Site. The nature and extent of contamination found in OU 1 is important to understanding the contamination found in the sediments of OU 2. The areas of concern include the Northwest Corner On-Shore Area, Building 52 outfalls, Building 15 Outfall, and Sluice Area have been identified as areas which have caused the release and discharge of contaminants from portions of OU 1 to the OU 2 sediments. These areas are shown on Figure 2.

The OU 2 portion of the site is divided into different areas which has been useful to define the nature and extent of contamination and evaluate alternatives. These areas are described below and are labeled on Figure 2.

Near Shore Area: The area of sediments along the shore defined by the feasible limit of resuspension controls on the west and the existing bulkhead between OU1/OU2 boundary on the east. This area is generally within 60 to 80 feet from the shoreline. This area does not include the Backwater Area or the Northwest Corner Off-Shore Area.

Backwater Areas: These sediment areas include the Old Marina, North Boat Slip, and South Boat Slip and are areas with lower river velocities and have been identified with increased sediment deposition.

Deepwater Area: Sediment areas beyond the feasible deployment of resuspension controls. The furthest extent of contamination is approximately 400 feet west of the OU 1 shoreline and 300 feet north, and adjacent to the OU1 southern boundary.

Northwest Corner Off-Shore Area: The area of rip rap that is offshore of the Northwest Corner On-Shore Area of OU1. This area extends approximately 100 feet from the shoreline and represents an area of approximately 0.88 acres.

The Northwest Corner On-Shore Area: The area of OU1 where PCB DNAPL has been found and current PCB DNAPL recovery is occurring.

Waste/Source Areas

As described in the RI and Feasibility Study reports, waste/source materials were identified at the site and are impacting sediment.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the site in sediment areas in close proximity to outfalls and manufacturing buildings.

The highest levels of PCB in sediments at the site were found in the Northwest Corner Off- Shore Area and were associated with separate phase PCB material that varies in consistency from a fluid dense non-aqueous phase liquid (DNAPL) to an elastic material that resembles rubber cement. This PCB material is the Aroclor wire insulating mixture that was formulated in the Northwest Corner On-Shore Area of the property in Building 56. This material apparently migrated through the soil beneath the property in its fluid form and was also discharged into the Hudson River through outfalls; by runoff; and eroded surface soil from areas where wire reels were dried or stored on the site.

The PCB Material has been classified in three different physical states, the variation in the physical state of the material represents weathering changes since the material was released:

Liquid PCB (LPCB) Material or Dense Non-aqueous Phase Liquid was observed to be amber in color, is less viscous than the Semi-Solid or Trace PCB Material and is highly to moderately mobile, readily flowing into monitoring wells when it is encountered.

Semi-Solid PCB (SSPCB) Material was generally observed to be more viscous than Liquid PCB Material and appeared grayish-brown in color. Based on visual observations, SSPCB has a sticky, string-like consistency. Although not as fluid or capable of migration, large deposits of semi-solid PCBM have been identified.

Trace PCB (TPCB) Material, when observed, consists of small quantities of TPCB Material intermingled with the soil and was more difficult to visually observe. Like the Semi-Solid PCB Material, the Trace PCB Material had a string-like consistency (small strings and hair-like filaments) and appeared grayer in color.

Samples containing PCB Material were found in sediments adjacent to the northwest corner of the property, as indicated on Figure 3. Samples outside this area generally contained lower levels of PCBs, indicating that the contamination is sorbed onto the sediment particles. The precise locations in the subsurface and boundaries between the different forms of PCB material is not currently known, due to the limitations to perform investigation borings to the targeted depth in the area of rip rap immediately off-shore of the site.

With limited exceptions, the depth of PCB migration in both OU1 and OU2 is controlled by the marine silt layer, which is present between 30 and 42 feet beneath the site. The surface of the marine silt, which generally tilts towards the Hudson River, is also characterized by troughs and ridges. These features may be directing the migration of the Liquid PCB Material beneath the site, creating preferential pathways and depressions where the material may pool.

Investigations beginning in 2006 and continuing into 2011 identified locations at which Liquid PCB Material is present beneath the Northwest Corner On-Shore Area shoreline in both monitoring wells and DNAPL recovery wells. Soil and sediment sampling has generally identified the PCB nature and distribution in the shoreline and sediment area. The location where PCB DNAPL was identified in monitoring and recovery wells is shown on Figure 3.

The waste/source areas identified will be addressed in the remedy selection process.

Surface Water

Surface water samples were collected during the RI from upstream and on-site locations in the Hudson River. The samples were collected to assess the surface water conditions on and off-site. The results indicate that polychlorinated biphenyls (PCBs) and lead in surface water at the site exceed the Department's Surface Water Quality Standards. Levels of PCB in Hudson River surface water were higher than the 0.001 parts per trillion (ppt) standard in all of the 5 samples taken. The highest level, 62.4 ppt, was found in the North Boat Slip area of the site. Elevated levels were also found in samples taken offshore of Dobbs Ferry, the background location (57.0 ppt), in the former marina area (52.7 ppt), and offshore of the northwest corner (46.6 ppt). The sample taken offshore of Dobbs Ferry was significantly more turbid than the others, and elevated levels seen there may have resulted from suspended material in the sample. A much lower level (18.0 ppt) was found in the south boat slip.

The PCB analysis for these samples was congener-specific, so an evaluation of Aroclor patterns was not performed. However, the highest degree of chlorination, which is consistent with the higher numbered Aroclors (eg. Aroclor 1260) found at the site, was found in the sample collected from the old marina. The lowest degree of chlorination was found in the sample collected from Dobbs Ferry, the upstream location. These results suggest that the site is a source of dissolved PCBs in the Hudson River.

Table 1 - Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb) or (ppt)	Frequency Exceeding SCG
Metals			
Lead	6.3 to 23.1 ppb	8.0 ppb	2 of 4
Pesticides/PCBs			
PCBs, total	18.0 to 57.0 ppt	0.001 ppt	4 of 4

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b-SCG: Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1) and 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards.

The primary surface water contaminants are polychlorinated biphenyls (PCBs) and lead associated with historical manufacturing and disposal at the site. The primary surface water contamination is found where high levels of PCBs were found in soils and sediments near the Northwest Corner Off-Shore Area.

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

Sediments

Sediment samples were collected during the RI and during additional investigations from the Hudson River and at locations upstream, adjacent and downstream of the site along the Hudson River. The samples were collected to

assess the potential for impacts to river sediment from the site related contaminants. The results indicate that sediment in the Hudson River exceed the Department's sediment SCGs for PCBs, copper, lead, mercury, nickel, silver and zinc. The following is a summary of the SCGs and patterns of detection for these metals and PCBs.

The highest PCB concentrations in shallow and deeper sediment were found offshore of the northwest corner of the property. The samples included PCB material identified as semisolid PCB material. Movement of PCB Material as DNAPL through the fill in OU-1 has historically occurred vertically and, to a limited extent, horizontally along the interface with the Marine Silt. It appears that there has been some historical movement of DNAPL along the Marine Silt interface near the boundary between OU-1 and OU-2. However, there are also other transport mechanisms by which PCBs were likely deposited in OU-2. For example, PCB Material was likely associated with the outfalls of pipes associated with Building 52 and other manufacturing operations on OU-1. In addition, historic activities such as the mixing of PCB manufacturing ingredients along the Northwest Corner may have resulted in the overland transport of PCBs to the River, and other historic activities along the old dock and pier structures may also have resulted in PCB deposition in river sediments. Finally, prior to the installation of the IRM in the northwest corner, PCB contaminated soils may have washed or eroded from the upland surface soils. It appears that the PCB Material moved through the more permeable fill unit and into the sediments. A conceptual model of PCB migration showing the PCB migration pathways is shown in Figure 4.

Screening Criteria for PCBs

For PCBs and other organic contaminants, the "Technical Guidance for Screening Contaminated Sediments" lists four screening values that correspond to different levels of protection. The values for these criteria were calculated using the site-specific values of organic carbon content, as directed by the guidance, and are listed in Table 3.

Remediation Goals That Account for Background Contamination

Because sediments in the lower Hudson River are widely contaminated with low levels of PCBs that exceed some of these screening criteria, background levels were factored into the development of site-specific remediation goals. Background levels of PCBs in the 10 samples taken upstream and across the river from the site ranged from non-detectable to 7.0 ppm. The sediment containing the 7.0 ppm value was re-sampled and determined to contain 1.2 ppm PCB based on re-sampling. As a result, the Feasibility Study considered 1 ppm as a remedial goal based on background conditions. It should be noted that where background concentrations that exceed risk-based criteria for toxicity and/or bioaccumulation are used as remediation goals, some ecological risk is anticipated to remain in the unremediated sediments.

Screening Criteria for Metals

New York State sediment criteria for metals are based on their toxicity to sediment-dwelling (benthic) organisms. For each metal, the following criteria were considered. Specific values are listed in Table 2.

The following effects-based values are based on observed toxicity from field studies, as reported in the literature:

Effects Range - Low (ER-L) - The level of sediment contamination that can be tolerated by most benthic organisms, but still causes toxicity to a few species.

Effects Range - Median (ER-M) - The level at which significant harm to benthic aquatic life is anticipated.

Remediation Goals That Account for Background Contamination

Because sediments in the lower Hudson River are widely contaminated with some metals that exceed effects-based levels, background levels were factored into the development of site-specific remediation goals. The site-derived background concentrations were determined based on a combined sediment data set from the 2003 Feasibility Study and "Hudson River Estuary Sediments – Metals" (NYSDEC 2009). The 90^{th} and 95^{th} percentile values of the background data set were used to determine the range of site-specific background concentrations of metals.

Copper concentrations exceeded the effects range median (ER-M) of 270 ppm in shallow sediment at three locations: offshore of the sluice discharge area, offshore of the Building 15 SPDES discharge pipe, and in the northwest area over the Fill Unit. The extent of copper concentrations in the deeper sediments was greater in comparison to the shallow sediments.

Lead concentrations also exceeded the ER-M of 218 ppm in sluice area, the northwest area over the Fill Unit, and a location off-shore. The detection of high concentrations of lead were similar to copper, but at a lesser distance from shore.

The range of mercury contamination in shallow sediments (0.018 to1.4 ppm) is similar to background levels (0.41 to 2.5). The pattern of mercury contamination shows that levels are higher near shore and near the former marina, which are both sediment deposition areas. Because mercury levels are consistent with background, and there is no pattern of mercury contamination near OU 1 source areas, mercury appears to be caused by regional or upstream contaminant sources.

Nickel exceeded the ER-M of 52 ppm in both the shallow and deeper sediments at the same locations, off-shore of the sluice and water tower areas.

Silver exceeded the ER-M of 3.7 ppm in two locations of the northwest area of the site for the shallow sediments and broad areas offshore of the south boat slip, north boat slip, and old marina for the deeper sediments. Silver was not identified as a contaminant of concern on the OU 1 property, and the pattern of silver contamination is not consistent with the presence of the on-site source areas.

Zinc exceeded the ER-M of 410 ppm offshore of the sluice area and the water tower area for the shallow sediments. The deeper sediments exceeded the ER-M offshore of the sluice, Building 15 discharge pipe, and offshore of the water tower area.

The highest concentrations of metals in sediments are found in the offshore of the sluice area, Building 15 discharge pipe, and water tower area. The concentrations of metals found in these areas are much lower past approximately 100 feet of the shoreline. The deeper sediments within 100 feet of shore, up to 6 feet, generally have higher concentrations than the shallow sediments (0- 2 feet).

Figure 5 and 6 present the areas identified with PCB and metals sediment contamination from the site.

Table 2 - Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG	Site Derived Value [c] (ppm)	Frequency Exceeding Site Derived Value
Metals					
Arsenic	1.5 – 44.4	ER-L 8.2 ER-M 70	330 of 543 0 of 543		
Cadmium	ND – 87.3	ER-L 1.2 ER-M 9.6	376 of 574 181 of 574		
Copper	ND -4301	ER-L 34 ER-M 270	393 of 546 92 of 546	104 to 129	219 of 546 190 of 546
Lead	ND- 2,700	ER-L 46.7 ER-M 218	359 of 523 15 of 523	110 to 132	153 of 523 105 of 523
Mercury	ND – 4.0	ER-L 0.15 ER-M 0.71	360 of 492 284 of 492		
Nickel	ND- 1,390	ER-L 20.9 ER-M 51.6	391 of 523 8 of 523		
Silver	ND -11.9	ER-L 1.0 ER-M 3.7	284 of 523 65 of 523		
Zinc	ND- 6,450	ER-L 150 ER-M 410	278 of 523 35 of 523	203 to 234	153 of 523 111 of 523
PCBs					
	ND-5,200	See Table 3		1	314 of 1014

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department's "Technical Guidance for Screening Contaminated Sediments."
c – Site Derived Value: Background range for metals (copper, lead and zinc) is the 90th to 95th percentile values of the metals background data set.
ER-L = Effects Range – Low and ER-M = Effects Range – Median. A sediment is considered contaminated if either of these criteria is exceeded. If the ER-M criteria are exceeded, the sediment is severely impacted. If only the ER-L is impacted, the impact is considered moderate.

Table 3 PCB Screening Criteria for Alternate Levels of Protection

LEVEL OF PROTECTION	PCB SCREENING CRITERION	FREQUENCY OF EXCEEDANCE IN SURFACE SEDIMENT (0-6")	FREQUENCY OF EXCEEDANCE IN SUBSURFACE SEDIMENT (>6")
Human Health Bioaccumulation	0.019 ppb[a]	85/153	380/863
Wildlife Bioaccumulation	34.2 ppb	85/153	380/863
Benthic Aquatic Life Chronic Toxicity	1.010 ppm	46/153	271/863
Benthic Aquatic Acute Toxicity	335 ppm[a]	0/153	21/863

These are site-specific values calculated based on the average measured organic carbon content of the sediment of 2.43%.

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

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

Exhibit B

Description of Remedial Alternatives

Site Specific Conditions Limiting the Development of Alternatives

Geotechnical instability associated with the northwest corner is a critical factor in the development of the alternatives. Global stability refers to the ability of a slope or retaining wall to resist a rotational or sliding failure that would cause destabilization. A slope or retaining wall failure in the northwest corner would release contaminated soil into the Hudson River and cause damage to the site. It is generally recognized that the global stability factor of safety of 1.5 is the minimum allowable for design of a slope or retaining wall. The global stability factor of safety for the existing condition in the northwest corner is approximately 1.0, indicating that the slope is marginally stable. Removal of existing rip rap from along this portion of the shoreline, even temporarily, would reduce the resistance to rotational failure (the "buttressing effect"), and increase the potential for contaminant release.

Because the contamination in the Northwest Corner Off-Shore Area cannot be fully removed, the following two remedial approaches are used in the alternatives to address the unique site conditions in the Northwest Corner Off-Shore Area.

Northwest Sloped Cap: This is a subaqueous cap which provides chemical and physical isolation of contamination from the environment. The cap would be placed in layers after sufficient dredging to allow the cap's final grade to approximate the existing bathymetry.

Northwest Extension Area:

This remedial approach involves the Northwest Corner Off-Shore Area of the site which is distinguished by the presence of rip rap and PCB Material that will be contained by a proposed sealed sheet pile wall. The sheet pile wall will contain PCB Material and prevent further release into the environment, and will be filled with lightweight fill to an elevation that rises to meet the OU 1 grade. To meet the requirements of Article 15 and 6 NYCRR Part 608, the sheet pile wall alignment will be placed to minimize filling of the Hudson River while still meeting the remedial goals. The alignment is anticipated to be along the toe of the rip-rap slope. Fill behind the wall will be minimized to reach the minimal necessary elevation for remedial actions. The location of the sheet pile wall was also chosen to avoid drag down of the PCB Material (liquid or semi-solid) or creation of vertical flow pathways along sheet piles into underlying uncontaminated layers. Due to the potential presence of PCB Material throughout this area, pile-supported structures will not be permitted on the Northwest Extension. This remedial approach will require aquatic habitat mitigation for placing fill into the Hudson River.

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

Alternative 1: No Action

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

Alternative 2: Near Shore Cap and Northwest Sloped Cap

Alternative 2 includes installation of a 3-foot subaqueous cap in the near shore area with associated sediment dredging to maintain the existing bathymetry; targeted dredging and placement of a subaqueous cap or backfill in backwater and deepwater areas, as appropriate; dredging and installation of a sloped subaqueous cap in the northwest area; institutional controls and monitoring. The overall thickness of the subaqueous cap in near shore areas may allow for up to 12 inches to be deposited naturally through sedimentation. Disposal options for removed sediments include a combination of off-site disposal and potential on-site re-use in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. This alternative includes an institutional control, in the form of a site management plan, necessary to protect the sediment cap, protect public health, and monitor the environment due to contamination remaining at the site.

Present Worth: $74,400,000
Capital Cost: $65,800,000
Annual Costs: $394,000

Alternative 3: Near Shore Dredge (up to 6-feet) and Backfill and Northwest Sloped Cap

Alternative 3 includes dredging up to 6 feet in near shore areas where sediments exceed the site-specific cleanup goals listed in Table 2; placing subaqueous cap or backfill in near shore areas to restore dredged areas to existing grades, which may allow for natural deposition; targeted dredging and placement of a subaqueous cap or backfill in backwater and deepwater areas, as appropriate; dredging and installation of a sloped subaqueous cap in the Northwest Corner Off-Shore area; institutional controls; and monitoring. Disposal options for removed sediments include a combination of off-site disposal and potential on-site reuse in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. This alternative includes institutional controls, in the form of a site management plan, necessary to protect the sediment cap, to protect public health, and to monitor the environment due to contamination remaining at the site.

Present Worth: $77,900,000
Capital Cost: $69,400,000
Annual Costs: $394,000

Alternative 4: Near Shore Dredge (up to 10-feet) and Backfill and Northwest Sloped Cap

Alternative 4 includes dredging up to 10 feet in near shore areas where sediments exceed the site specific clean-up goals listed in Table 2; placing subaqueous cap or backfill in near shore areas to restore dredged areas to existing grades, which may allow for natural deposition; targeted dredging and placement of a subaqueous cap or backfill in backwater and deepwater areas, as appropriate; dredging and installation of a sloped subaqueous cap in the Northwest Corner Off-Shore area; institutional controls; and monitoring. Disposal options for removed sediments include a combination of off-site disposal and potential on-site reuse in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. This alternative includes institutional controls, in the form of a site management plan, necessary to protect the sediment cap, to protect public health, and to monitor the environment due to contamination remaining at the site.

Present Worth: $78,600,000
Capital Cost: $70,100,000
Annual Costs: $394,000

Alternative 5: Near Shore Cap with Dredge (for cap) and Northwest Extension

Alternative 5 includes installation of a 3-foot subaqueous cap in the near shore area with associated dredging to maintain the existing bathymetry; placing subaqueous cap or backfill in near shore areas to restore dredged areas to existing grades, which may allow for natural deposition ; targeted dredging in backwater and deepwater areas; extension of the Northwest Corner On-Shore Area to create an above-grade containment area; institutional controls for contaminated sediments; and long term monitoring. The Northwest Corner of the site property would be extended by installing a sealed sheet pile wall at a feasible location beyond the limits of Liquid PCB Material and backfilling it with clean material, while minimizing fill placed in the river. Disposal options for removed sediments include a combination of off-site disposal and potential on-site reuse in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. A mitigation plan would be developed and implemented to mitigate the habitat impacts associated with installation of the bulkhead wall and placement of fill into the river. This alternative includes institutional controls, in the form of a site management plan, necessary to protect public health and to monitor the environment due to contamination remaining at the site.

Present Worth: $89,000,000
Capital Cost: $79,100,000
Annual Costs: $454,000

Alternative 6: Near Shore Dredge (up to 6-feet) and Backfill and Northwest Extension

Alternative 6 includes dredging up to 6 feet in near shore areas where sediments exceed the site specific clean-up goals listed in Table 2; placing subaqueous cap or backfill in near shore areas to restore dredged areas to existing grades, which may allow for natural deposition; placing a subaqueous cap in backwater and deepwater areas; targeted dredging in backwater and deepwater areas; extension of the Northwest Corner as described in Alternative 5; institutional controls for contaminated sediments; and monitoring. Disposal options for removed sediments include a combination of off-site disposal and potential on-site reuse in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. A mitigation plan will be developed and implemented to mitigate the habitat impacts associated with the installation of the bulkhead wall and placement of fill into the river. This alternative includes institutional controls, in the form of a site management plan, necessary to protect public health and to monitor the environment due to contamination remaining at the site.

This alternative has been modified from the alternative developed in the FS to include additional dredging in deepwater, old marina, and north boat slip areas, as shown on Figure 7. The FS evaluated dredging in the near shore area limiting the area to be dredged to a maximum water depth of 15 feet, which represents the limit of commercially-available silt curtains. The location and types of sediment resuspension controls in greater than 15 feet of water may include other innovative and customized approaches to extend areas of dredging to approximately 100 feet from shore, or approximately 20 feet of water for targeted areas. This approach would dredge sediments in targeted areas which contain the most highly impacted sediment for PCB and metals and therefore represents a greater sediment volume than the original Alternative 6. Targeted dredging is defined for deepwater areas where resuspension controls cannot be feasibly used due to water depth and current velocities. The areas were preliminarily identified as those containing PCB contaminated sediments with greater than 50 ppm.

Present Worth: $92,600,000
Capital Cost: $82,700,000
Annual Costs: $454,000

Modified Alternative 6 Costs

Present Worth: $105,000,000
Capital Cost: $95,200,000
Annual Costs: $454,000

Alternative 7: Near Shore Dredge (up to 10-feet) and Backfill, Northwest Extension

Alternative 7 includes dredging up to 10 feet where sediments exceed the site specific cleanup goals listed in Table 2; placing subaqueous backfill in near shore areas to restore dredged areas to existing grades, which may allow for natural deposition; placing subaqueous cap in backwater and deepwater areas; targeted dredging in backwater and deepwater areas; installing a bulkhead wall (steel sheeting) beyond PCB dense non-aqueous phase liquid (DNAPL) in the Northwest Corner Area; institutional controls for contaminated sediments; and monitoring. Disposal options for removed sediments include a combination of off-site disposal and potential on-site re-use in OU-1. The details and limitations for the on-site re-use will be developed during the remedial design. Mitigation of habitat impacts due the installation of the bulkhead wall and placing fill in the river. This alternative includes institutional controls, in the form of a site management plan, necessary to protect public health and the environment from any contamination remaining at the site.

Present Worth: $93,300,000
Capital Cost: $83,400,000
Annual Costs: $454,000

Alternative 8: Near Shore/Backwater Dredge to Feasible Limits and Backfill, Limited Deepwater Dredging, Northwest Extension

This alternative would include dredging to the deepest feasible depth where sediments exceed the site specific clean-up goals listed in Table 2 in near shore and backwater areas; limited dredging in deepwater areas; placing subaqueous backfill in near shore, backwater, and deepwater areas, which may allow for natural deposition; installing a bulkhead wall (steel sheeting) beyond PCB dense non-aqueous phase liquid (DNAPL) in the Northwest Corner Area; institutional controls for contaminated sediments; and monitoring. The feasible dredging depth is defined as dredging all sediments that exceed site-specific clean-up levels to constructable limits. Disposal options for removed sediments include a combination of off-site disposal and potential on-site re-use in OU-1. The details and limitations for the on-site re-use will be developed during the remedial design. Mitigation of habitat impacts due the installation of the bulkhead wall and placing fill in the river. This alternative includes institutional controls, in the form of a site management plan, necessary to protect public health and the environment from any contamination remaining at the site.

Present Worth: $185,000,000
Capital Cost: $179,000,000
Annual Costs: $272,000

Alternative 9: Dredge to Feasible Limits in All OU-2 Areas and Backfill, Northwest Sloped Cap

This alternative would include dredging to feasible limits where sediments exceed the site specific clean-up goals listed in Table 2; placing subaqueous backfill in near shore, backwater and deepwater areas, which may allow for

natural deposition; monitoring. The feasible limit to dredging in the Northwest Corner Off-Shore Area is based on driving steel sheeting along the toe of the rip rap to control DNAPL migration and removing all sediments that exceed site-specific cleanup levels to constructable limits. Sediment remaining in the Northwest Corner Off-Shore Area would be capped with a subaqueous cap. Disposal options for removed sediments include a combination of off-site disposal and potential on-site re-use in OU-1. The details and limitations for the on-site reuse will be developed during the remedial design. This alternative includes institutional controls, in the form of a site management plan, necessary to protect public health and the environment from any contamination identified at the site. The remedy will not rely on institutional or engineering controls to prevent future exposure. There is no Site Management, no restrictions, and no periodic review.

Present Worth: $245,000,000
Capital Cost: $242,000,000
Annual Costs: $174,000

Exhibit C
Remedial Alternative Costs

Remedial Alternative	Capital Cost[1] ($)	Annual Costs ($)	Total Present Worth[1] ($)
1. No Action	0	0	0
2. Near Shore Cap and Northwest Sloped Cap	$65,800,000	$394,000	$74,400,000
3. Near Shore Dredge (up to 6-feet) and Backfill and Northwest Sloped Cap	$69,400,000	$394,000	$77,900,000
4. Nearshore Dredge (up to 10-feet) and Backfill and Northwest Sloped Cap	$70,100,000	$394,000	$78,600,000
5. Nearshore Cap with Dredge (for cap) and Northwest Extension	$79,100,000	$454,000	$89,000,000
6. Nearshore Dredge (up to 6-feet) and Backfill and Northwest Extension	$82,700,000 ($95,200,000)[2]	$454,000	$92,600,000 ($105,000,000)[2]
7. Nearshore Dredge (up to 10-feet) and Backfill, Northwest Extension	$83,400,000	$454,000	$93,300,000
8. Nearshore/Backwater Dredge to Feasible Limits and Backfill, Limited Deepwater Dredging, Northwest Extension	$179,000,000	$272,000	$185,000,000
9. Dredge to Feasible Limits in All OU-2 Areas and Backfill, Northwest Sloped Cap	$242,000,000	$174,000	$245,000,000

[1] Capital Cost and Annual Costs include a 30% contingency in calculating Total Present Worth

[2] Modified Alternative 6 includes additional dredging in the following areas and increases the costs presented in Feasibility Study as follows:

Old Marina	6,000 yards^3 with an estimated cost of $600/ yards^3= $3,600,000
North Boat Slip	3,500 yards^3 with an estimated cost of $600/ yards^3= $2,100,000
Deepwater Areas for >50 ppm PCBs	4,700 yards^3 with an estimated cost of $1,200/ yards^3= $5,640,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department has selected modified Alternative 6, Near Shore Dredge (up to 6 feet) and Backfill and Northwest Extension as the remedy for this site. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 7.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375.

The modified Alternative 6 was selected because, as described below, it satisfies the threshold criteria and provides the best balance of the balancing criteria described below. It achieves the remediation goals for the site by removing sediment containing greater than 1 ppm PCB and metals exceeding background from the near shore and backwater areas, where the potential for public health and environmental exposures are most likely. Dredging to a depth of 6 feet removes sediment that has the potential to be scoured and migrate, and thus represents an exposure pathway for human and environmental receptors. In deepwater areas, where dredging activities cannot be fully contained, the selected remedy removes PCBs in targeted areas at a higher threshold of 50 ppm up to a depth of 6 feet, thereby removing the highest levels of PCBs from the Hudson River environment. Targeting deepwater areas with PCBs above 50 ppm reduces the time needed to complete dredging activities when compared to deepwater areas above 1 ppm. While this action does not eliminate ecological exposures, it does limit the potential for construction-related impacts associated with disturbance to the river bottom and migration of suspended sediments. The majority of targeted PCB dredging areas identified in the deepwater are within the top two feet. Therefore, the targeted dredging will remove sediments which have the highest levels of PCBs and the greatest potential to migrate and be an on-going source to the environment.

In the Northwest Corner Off-Shore Area, where the full depth of sediment contamination cannot be feasibly excavated without destabilizing the shoreline, the selected containment of the area using sealed sheet piles provides the greatest degree of long term effectiveness by containing the material with the highest levels of PCBs. This extension also enables the more effective removal of Liquid PCB Material from the source area beneath the Northwest Corner On-Shore and Northwest Corner Off-Shore areas by creating a land platform to support additional investigation and removal activities. The sheet piles will be driven along an alignment that is known to be free of liquid or semi-solid PCBs, ensuring that drag down or migration of PCBs into the clean Basal Sand aquifer will not occur. Groundwater passing through the Northwest Corner On-Shore Area will be treated before entering the Hudson River, providing a higher degree of environmental protection and reliability than alternatives that rely on capping the Northwest Corner Off-Shore Area sediments in place. While creation of this filled area in the river results in greater impacts than the capping alternative in terms of loss of habitat, the need to eliminate environmental exposure to the PCBs in this area has been deemed to outweigh the loss of habitat. A mitigation plan will be developed and implemented to mitigate the habitat impacts associated with the installation of the bulkhead wall and placement of fill into the river.

Overall, Alternative 6 is an effective remedy which removes and isolates significant portions of the contamination from the environment that has the potential for exposure to the greatest feasible degree. The remaining known PCB material within the NEA is contained by a structure that provides the highest degree of environmental protection and reliability, and the greatest opportunity for removal of the most mobile material. This alternative creates the

conditions necessary for the restoration of surface water and sediment to the extent practicable when it is integrated with the remedy for OU1.

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.

Alternative 1, the No Action Alternative would not be protective of human health or the environment since it would not achieve remediation goals described in Section 6.5.

Alternatives 2 through 4 provide increasing protection for human health and the environment by removing sediment which exceeds cleanup levels for PCBs and metals. These three alternatives are comparable to Alternatives 5 through 7 because of the same depth of sediment removal outside of the Northwest Corner Off-Shore Area. Alternatives 2 through 4 and 5 through 7 involve the same increasing depths of sediment removal of up to 3, 6 and 10 feet, respectively. The removal of 3 feet of contaminated sediment would leave a greater amount of contaminated sediment than the removal of 6 feet of sediment. The removal of contaminated sediment to a depth of 6 feet provides greater overall protection by reducing the potential for sediment resuspension due to human activities or an extreme erosion event. Because sediment between 6 and 10 feet is not expected to migrate or become exposed, the removal of up to 10 feet of sediment would not provide a substantial increase in environmental protection in comparison to removing 6 feet of sediment. Alternative 6 provides the best balance in the level of protection for the Near Shore sediment because the highest levels of contamination will be removed.

For Alternatives 5 through 8, the installation of the sheet pile wall around the Northwest Extension is more protective of human health and the environment in comparison to the capping evaluated for the Northwest Corner Off-Shore Area in Alternatives 2 through 4 and 9. The sheet pile wall provides better overall protection of public health and the environment than the capping alternatives by more effectively containing PCB DNAPL; enhancing PCB DNAPL recovery options; and preventing PCB contaminated groundwater from entering the Hudson River. By minimizing the further release of PCBs to the Hudson River, the sheet pile wall will prevent site-related contributions to exceedances of surface water standards that contribute to the current PCB contamination in fish tissues in the vicinity of the site. However, installation of the sheet pile and creation of the filled area in the river does result in greater habitat impacts than the capping alternative, which will require mitigation.

Alternative 9 includes an area of extensive deepwater dredging which provides the highest degree of protection for human health and the environment because it would remove a greater extent of contamination that could potentially cause impacts at its current location. However, the substantially increased cost of this alternative ($140 million) is not justified, especially considering the increased short-term risks to the environment due to extensive dredging without turbidity control which could mobilize contaminated sediment to other areas.

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

The primary chemical specific SCGs for the site are the surface water quality standards and sediment screening guidance values. The No Action Alternative would not meet these criteria because groundwater discharging into the

Hudson River would continue to materially contribute to the contravention of the PCB surface water standard. The PCB and metals concentrations found in sediments also exceed the guidance values for screening contaminated sediments and as well as site-specific background sediment concentrations. Therefore, Alternative 1 is rejected as a potential candidate for a remedy for OU 2 because it would not meet the threshold criteria of protecting public health and the environment and would not achieve the SCGs for surface water and sediment.

Alternatives 2 through 4 and 9 would not be as effective in complying with the PCB surface water standard in the Northwest Corner Off-Shore Area, as compared to Alternatives 5 through 8. The capping alternatives (Alternatives 2, 3, 4, and 9) would continue to allow the flow of groundwater through highly contaminated sediment and fill with subsequent discharge into the Hudson River. The resulting desorption of PCBs from sediment into the water column, which currently contributes to the contravention of PCB surface water standards, would continue. Because Alternative 9 removes greater depths of sediment in the different areas, it complies with the SCG for the sediment source to the greatest extent for the alternatives which involve capping the Northwest Off-Shore Area. Alternatives 5 through 8 are more effective at complying with the surface water standard through the installation of a sealed sheet pile wall to contain PCB in the Northwest Extension and treat the groundwater contamination. Groundwater will pass through gates in the wall and will be treated to remove PCBs before it passes into the river. These alternatives will therefore provide a higher degree of surface water protection than Alternatives 2 through 4 and 9. Because Alternative 8 removes greater depths of sediments, it complies with the SCG for the sediment to the greatest extent for the alternatives that involve construction of the Northwest Extension.

Alternatives 2 and 5, which remove 3 feet of sediment, would leave behind a greater mass of PCB and metals which exceed the sediment background and screening guidance concentrations. Alternatives 3 and 6, which remove up to 6 feet of sediment, would address the PCB and metals which exceed the sediment background and screening guidance concentrations to a greater degree than Alternatives 2 and 5. Alternative 4 and 7, which remove up to 10 feet of sediment, would address the PCB and metals which exceed the sediment background and screening guidance concentrations to a greater degree than Alternative to 3 and 6.

In addition, the alternatives will need to meet the substantive requirements of the applicable location-specific SCGs found in 6NYCRR Part 608 Use and Protection of Waters and Environmental Conservation Law Article 15 due to the dredging and filling in the Hudson River. These requirements apply most significantly to Alternatives 5 through 8 because of the construction of the Northwest Extension and associated filling of approximately 0.88 acres of the Hudson River. The allowance for filling the River is based on the findings of the stability analysis and the engineering determination that it is not feasible to address the PCBs in the northwest corner of the site without the Northwest Extension. The NEA extension will be designed to minimize the filling of the Hudson River; however, creation or restoration of river habitat will be required to mitigate for the placement of fill in the river.

The next six "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.

The short-term impacts to the community, workers, and environment for Alternatives 2 through 4 and 5 through 8 generally increase, and are proportional, to the additional material handling activities (dredging, capping and containment work) performed. These impacts include noise, air emissions, resuspension of contaminated sediment

from dredging and truck traffic. Alternatives 8 and 9 would have the greatest short-term impacts due to the greater area dredged and volume of sediment handled. The short term impacts from noise, air emissions, and resuspension would be controlled by monitoring and mitigation measures to protect human health and the environment and will be identified in the remedial design. Alternative 2 would have fewer short term impacts than Alternatives 3 and 4 for the dredging and capping alternatives. Alternatives 5 would have fewer short term impacts than alternatives 6 and 7 for the dredging, capping and containment alternatives.

The FS evaluated dredging in the near shore area limiting the area to be dredged to a maximum water depth of 15 feet, which represents the limit of commercially-available silt curtains. The location and types of sediment resuspension controls in greater than 15 feet of water may include other innovative and customized approaches to extend the area of dredging to approximately 100 feet from shore, or approximately 20 feet of water. The additional targeted dredging to approximately 100 feet from shore has the potential to increase the short term environmental impacts, but will increase long term effectiveness and overall environmental protection, provided the short term impacts can be controlled with the alternative approaches.

Short term environmental impacts with PCB resuspension for the dredging and capping Alternatives 2 through 4 and 9 will be greater than Alternatives 5 through 8 in the Northwest Corner Off-Shore Area. These short term impacts are greater because they involve dredging high levels of PCB sediment in the Northwest Corner Off-shore Area to install the cap as compared to containing the same area with the sealed sheet pile.

The short term environmental impacts of dredging in Deepwater Areas were also evaluated because complete resuspension control will not be feasible due to the water depths and velocities. Partial resuspension controls are available in the form of mobile containment systems that are suspended from dredging barges. These provide limited reductions in particle migration from the dredge, but are limited to the upper portion of the water column. The short term impacts for dredging PCB contaminated sediment in limited targeted Deepwater Areas (greater than 50 ppm PCB) in Alternatives 2 thorough 8 will provide long-term benefits by removing concentrated areas of PCBs, particularly in shallow sediments that are most vulnerable to migration and exposure.

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.

Alternatives 2 through 4 would provide long-term effectiveness and permanence in increasing order by providing greater removal and capping of increased quantities of sediment. The capped or backfilled sediment layer represents a source of risk that is proportional to the remaining sediment contamination and its respective depth below the sediment surface. Of these alternatives, Alternative 2 will have the least long-term effectiveness and Alternative 4 will have the greatest for the capping alternatives. A monitoring and maintenance program will insure the reliability, but there are potential challenges to maintaining a cap at this location. There is the potential need to repair or replace portions of the cap if it is damaged or if contaminant breakthrough would occur, particularly for the PCB DNAPL beneath the Northwest Corner Off-Shore Area for Alternatives 2 through 4. Contaminant breakthrough is less likely where greater quantities of contaminated sediment are removed and there is a greater thickness of the cap or backfill materials placed over the remaining contaminated sediment. Additionally, the Department has concerns for the long-term stability of the northwest corner that are not addressed under Alternatives 2 through 4.

Alternatives 5 through 8 provide greater long-term effectiveness and permanence in increasing order of the alternative by the containment of PCB DNAPL in the Northwest Extension and dredging of sediments to greater

depths. There is an increase in the long-term reliability for the alternatives which remove greater quantities of contaminated sediment. The remaining source of risk from the sediments is directly proportional to the remaining sediment contamination and the respective depth below the sediment surface. Alternative 5 will have the greatest potential for long-term risk and alternative 8 will have the least potential. The sealed sheet pile wall in the Northwest Extension provides the greatest degree of long term effectiveness for containment of the highest levels of PCBs without compromising the geotechnical stability of this area. The extension area also enables the greatest removal of Liquid PCB Material from the source area beneath the Northwest Corner Off-Shore Area by creating a land platform to support delineation and removal activities. The sealed sheet pile wall in the Northwest Extension is considered to be more effective and permanent to control both Liquid PCB Material migration and dissolved groundwater contamination as compared to the sloped shoreline and capping approach in Alternative 9. Monitoring of habitat and biota will be required to ensure the long-term effectiveness of the remedy. However, installation of the sheet pile and creation of the filled area in the river does result in additional ecological impacts because of the loss of habitat.

The removal of up to 6 feet of PCB and metals contaminated sediment in Alternative 6 is more permanent and effective in the long-term due to the removal of greater quantities of PCB and metals contaminated sediments than Alternatives 5. This significantly and permanently reduces the potential for migration of site-related contaminants through erosion, resuspension and re-distribution of sediments, including, but not limited to those mobilized during extreme events or human activities.

Alternative 9 includes extensive deepwater dredging area which will increase short-term impacts due to dredging without turbidity control and migration of contaminated sediment to other areas, however, the long-term impacts will be reduced by removal of the greater volume of contaminated sediment.

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.

The alternatives under consideration reduce the mobility of contamination by removing metal and PCB-contaminated sediments from the river system and placing them in secure upland areas and/or landfills. Alternatives that remove greater quantities of sediment provide a greater reduction in potential mobility. However, because the potential for sediment scour at depths greater than 6 feet is less than for surficial sediments, there is little additional reduction in mobility provided by Alternatives 4 and 7 as compared to Alternatives 3 and 6. The toxicity, mobility and volume of wastes at the site are reduced to the degree that Liquid PCB Material is removed from the Northwest Corner Off-Shore Area and destroyed off-site. As a result Alternatives 5 through 8, which include the Northwest Extension and a greater opportunity to remove Liquid PCB Material, would reduce the toxicity, mobility and volume of the PCB DNAPL to a greater degree than Alternatives 2 through 4 and 9. For PCBs that cannot be removed using recovery wells, the sealed sheet pile wall of the Northwest Extension (Alternatives 5 through 8) also provides a greater reduction in mobility than capping the Northwest Corner Off-Shore Area (Alternatives 2 through 4 and 9).

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.

Dredging sediment for all alternatives poses implementation challenges related to water depths and flow dynamics, resuspension control and monitoring, and debris management. Proven technologies such as energy and turbidity

barriers, real-time turbidity monitors and a variety of dredging equipment are available to address these challenges. The OU 1 site property provides a large staging area for managing the sediments. The location of the site on a major navigable waterway and adjacent to a rail line greatly expands opportunities for dredged material transport. The major construction differences between alternatives involves the installation a sloped shoreline (Alternatives 2, 3, 4, and 9) versus a sheet pile wall (Alternatives 5, 6, 7, and 8) in the Northwest Corner Off-Shore Area; the depth for dredging sediments; and deepwater dredging. Both groups of alternatives are implementable and acceptable from a geotechnical perspective by using readily available, materials, equipment, and construction practices.

Alternatives 5 through 8 are more challenging to construct because they require the off-shore construction of a large bulkhead wall requiring heavy king pile construction; associated tie-rods and deadman system; and a corrosion protection system. The tie-rod and deadman system will need to be designed to accommodate settlement. Both groups of alternatives will require monitoring and maintenance to add fill for areas that experience settlement. For Alternatives 2, 3, 4, and 9 in Northwest Sloped Cap will require additional construction of erosion protection for wave, ice and potential scouring events to protect the capped areas. The maintenance of the sheet pile wall for repairs and cathodic protection is more specialized in comparison to the sloped shoreline.

Dredging contaminated sediments at deeper depths will require the same monitoring as for the shallower depths of dredging. Sediment resuspension controls will be used during dredging which are designed for the appropriate water depth and velocity conditions at the site. Dredging in the deepwater areas will be performed with limited resuspension controls in targeted areas, which may require site-specific evaluations to implement. Alternative 9, which requires extensive dredging in the Deepwater Areas is the most difficult alternative to implement.

The ability to monitor the effectiveness of the alternatives is more difficult for the Northwest Sloped Cap shoreline in Alternatives 2, 3, 4 and 9. The monitoring will need to determine if PCB breakthrough of the cap over the sloped shoreline area is occurring.

Both groups of alternatives will require a permit from the United States Army Corps of Engineers for construction within the in the navigable waters of the Hudson River. The administrative implementability is more challenging for Alternatives 5, 6, 7, and 8 than for Alternatives 2, 3, 4 and 9 due to the construction of the Northwest Extension into the Hudson River. Permitting and approvals will be required from local and federal agencies for all alternatives that involve fill being placed into the Hudson River and the installation of the sheetpile wall.

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

The no action alternative would be the least expensive to implement since there would be no cost associated with its implementation.

The costs associated with the alternatives for this site are substantial, and range from $74.4 to $245 million due to the size and complex nature of the site conditions. Alternatives 2 through 9 involve increasing present worth costs which vary with the extent of dredging, capping, backfilling, creating the Northwest Extension, and monitoring. These costs increase with the volume of material dredged and disposed. In general, Alternatives 2 through 4 have a lower present worth cost ($74.4 to $78.6 million) in comparison to Alternatives 5 through 7 ($89 to $93 million). The major reason for the increase in cost between the two sets of alternatives involves the higher cost to construct the Northwest Extension as compared to the installation of the Northwest Sloped Cap. However the extension of

land is cost effective because the sealed sheet piles provides a greater degree of long term effectiveness for containment of the highest levels of PCBs. This extension also enables the greatest removal of Liquid PCB Material from the source area beneath the Northwest Corner On-Shore Area by creating a land platform to support delineation, monitoring and removal activities.

Table 4 provides a summary of the total costs of Alternatives 2 through 9 with several measures of cost-effectiveness. The costs increase proportionally for dredging PCB and metals contaminated sediments at greater depths. The present worth cost for Alternative 3 is $3.5 million greater than Alternative 2 due to the additional sediment dredging depth (6 feet versus 3 feet) and material handling. Alternative 3 removes roughly the same amount of PCBs as Alternative 2 (2,610 pounds versus 2,590 pounds), but more than twice the amount of copper (19,440 pounds versus 8,240 pounds). The increased present worth cost for Alternative 4 is $0.7 million over Alternative 3 and removes the same amount of PCB and slightly more copper.

Of the alternatives that include the Northwest Extension, the present worth cost of Alternative 6 is $16 million greater than Alternative 5 for the additional sediment dredging depth and material handling. Alternative 6 removes roughly the same amount of PCB as Alternative 5 (610 pounds versus 590 pounds), but more than twice the amount of copper (18,240 pounds versus 7,040 pounds). The increased present worth cost for Alternative 7 is $4.3 million and represents removal of the same amount of PCB as Alternative 6 and a slight increase (1,000 pounds) in the amount of copper contaminated sediment. These estimates represent dredging to a maximum water depth of 15 feet. Other temporary containment approaches may extend the area of dredging to approximately 100 feet from shore and would similarly increase the estimated volume of sediment in each alternative.

The total present worth costs for Alternative 8 and Alternative 9 are $185 and $245 million, respectively. While these alternatives provide for greater sediment dredging and disposal, they are not considered cost effective due to the substantial increase in capital costs relative to the additional environmental benefit.

Table 4: Cost Effectiveness Measures of Alternatives 2 through 9

Alternative	Depth of Sediment Removal and volume[2]	Estimated PCB mass removal (contained) and percentage	Estimated Copper mass removal and percentage	Estimated Lead mass removal and percentage	Cost
2	3 feet 15,800 yd^3	2,590 lbs 25%	8,240 lbs 11%	10,100 lbs 45%	$74, 400,000
3	Up to 6 feet 22,400 yd^3	2,610 lbs 25%	19,440 lbs 27%	12,800 lbs 48%	$77,900,000
4	Up to 10 feet 23,300 yd^3	2,610 lbs 25%	20,440 lbs 29%	14,300 lbs 64%	$78,600,000
5[1]	3 feet 12,900 yd^3	590 lbs 6%	7,040 lbs 10%	8,600 lbs 39%	$89,000,000
6[1]	Up to 6 feet 19,500 yd^3	610 lbs 6%	18,240 lbs 25%	11,200 lbs 50%	$92,600,000 ($105,000,000)
7[1]	Up to 10 feet 20,800 yd^3	610 lbs 6%	19,240 lbs 27%	12,700 lbs 57%	$93,000,000
8[1] (NWE)	Greatest extent practicable nearshore and backwater areas 98,700 yd^3	3,000 lbs 29%	41,020 lbs 57%	19,400 lbs 87%	$185,000,000
9 (NW Slope)	Greatest extent practicable 168,300 yd^3	10,460 lbs 100%	71,500 lbs 100%	22,200 lbs 100%	$245,000,000

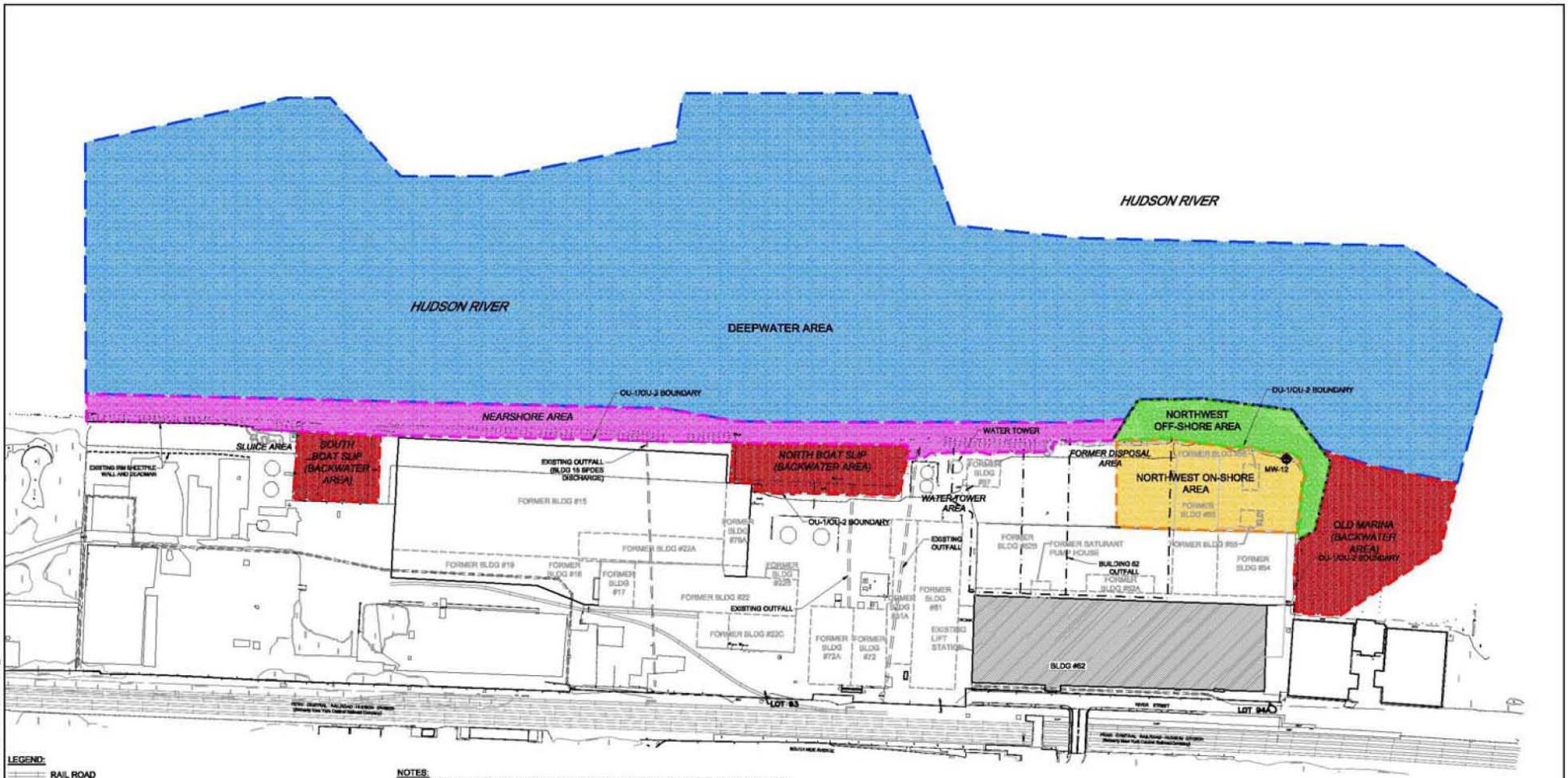
[1] Alternatives which include the Northwest Extension will contain approximately 2,000 pounds of PCBs within the sheetpile wall
[2] The estimated volume of sediment removed assumed dredging to a maximum water depth of 15 feet. Targeted dredging in deepwater areas would increase the estimated volume of sediment in each alternative.

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

8. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternative 6 has been selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

Site Location



LEGEND:

- RAIL ROAD
- EXISTING STRUCTURES
- RIP-RAP
- BUILDING 52 OUTFALLS
- EXISTING OFFSITE OUTFALLS
- MONITORING WELL
- DEEPWATER AREA
- NEARSHORE AREA
- NORTHWEST OFF-SHORE AREA
- NORTHWEST ON-SHORE AREA
- BACKWATER AREA

NOTES:

1. BASE PLAN PROVIDED BY BOSWELL ENGINEERING DRAWING NO. 04-209-MW (01/27/2006).
2. OTHER SITE FEATURES BASED ON VARIOUS HISTORICAL DOCUMENTS.
3. NUMEROUS MONITORING WELLS ARE LOCATED ON SITE. HOWEVER, ONLY MW-12 IS SHOWN AS IT IS THE FIRST LOCATION WHERE LIQUID PCB MATERIAL WAS OBSERVED.
4. MEAN HIGH AND MEAN LOW WATER ARE EL. +2.2 AND EL. -2.0, BASED ON HISTORICAL SITE REPORTS.
4. THE OU-2/OU-1 BOUNDARY IS LOCATED AT THE MHW.

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SCALE IN FEET

HALEY & ALDRICH

NYSDEC SITE #3-60-022
1 RIVER STREET
HASTINGS-ON-HUDSON, NEW YORK

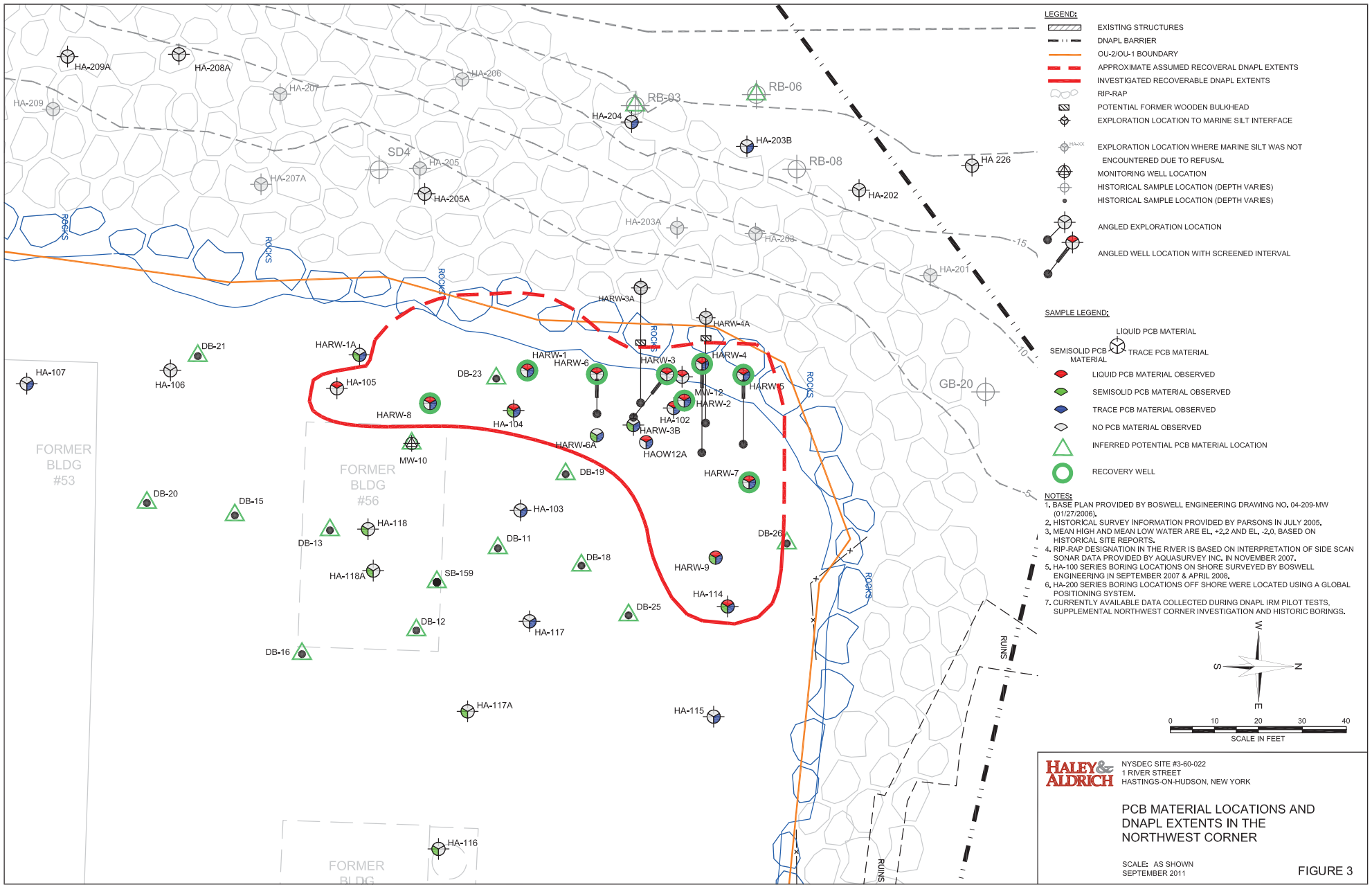
OU-2 SITE PLAN WITH AREA DESCRIPTIONS

SCALE: AS SHOWN
MAY 2011

FIGURE 2

G:\PROJECTS\208612\250 - RFS\CAD\PLAN VIEWS & SECTIONS\208612-OU-2 SITE PLAN_D2.DWG

Site Features


LEGEND:
EXISTING STRUCTURES
DNAPL BARRIER
OU-2/OU-1 BOUNDARY
APPROXIMATE ASSUMED RECOVERAL DNAPL EXTENTS
INVESTIGATED RECOVERABLE DNAPL EXTENTS
RIP-RAP
POTENTIAL FORMER WOODEN BULKHEAD
EXPLORATION LOCATION TO MARINE SILT INTERFACE
EXPLORATION LOCATION WHERE MARINE SILT WAS NOT ENCOUNTERED DUE TO REFUSAL
MONITORING WELL LOCATION
HISTORICAL SAMPLE LOCATION (DEPTH VARIES)
HISTORICAL SAMPLE LOCATION (DEPTH VARIES)
ANGLED EXPLORATION LOCATION
ANGLED WELL LOCATION WITH SCREENED INTERVAL
SAMPLE LEGEND:
LIQUID PCB MATERIAL
SEMISOLID PCB MATERIAL
TRACE PCB MATERIAL
LIQUID PCB MATERIAL OBSERVED
SEMISOLID PCB MATERIAL OBSERVED
TRACE PCB MATERIAL OBSERVED
NO PCB MATERIAL OBSERVED
INFERRED POTENTIAL PCB MATERIAL LOCATION
RECOVERY WELL
NOTES:
1. BASE PLAN PROVIDED BY BOSWELL ENGINEERING DRAWING NO. 04-209-MW (01/27/2006).
2. HISTORICAL SURVEY INFORMATION PROVIDED BY PARSONS IN JULY 2005.
3. MEAN HIGH AND MEAN LOW WATER ARE EL. +2.2 AND EL. -2.0, BASED ON HISTORICAL SITE REPORTS.
4. RIP-RAP DESIGNATION IN THE RIVER IS BASED ON INTERPRETATION OF SIDE SCAN SONAR DATA PROVIDED BY AQUASURVEY INC. IN NOVEMBER 2007.
5. HA-100 SERIES BORING LOCATIONS ON SHORE SURVEYED BY BOSWELL ENGINEERING IN SEPTEMBER 2007 & APRIL 2008.
6. HA-200 SERIES BORING LOCATIONS OFF SHORE WERE LOCATED USING A GLOBAL POSITIONING SYSTEM.
7. CURRENTLY AVAILABLE DATA COLLECTED DURING DNAPL IRM PILOT TESTS, SUPPLEMENTAL NORTHWEST CORNER INVESTIGATION AND HISTORIC BORINGS.
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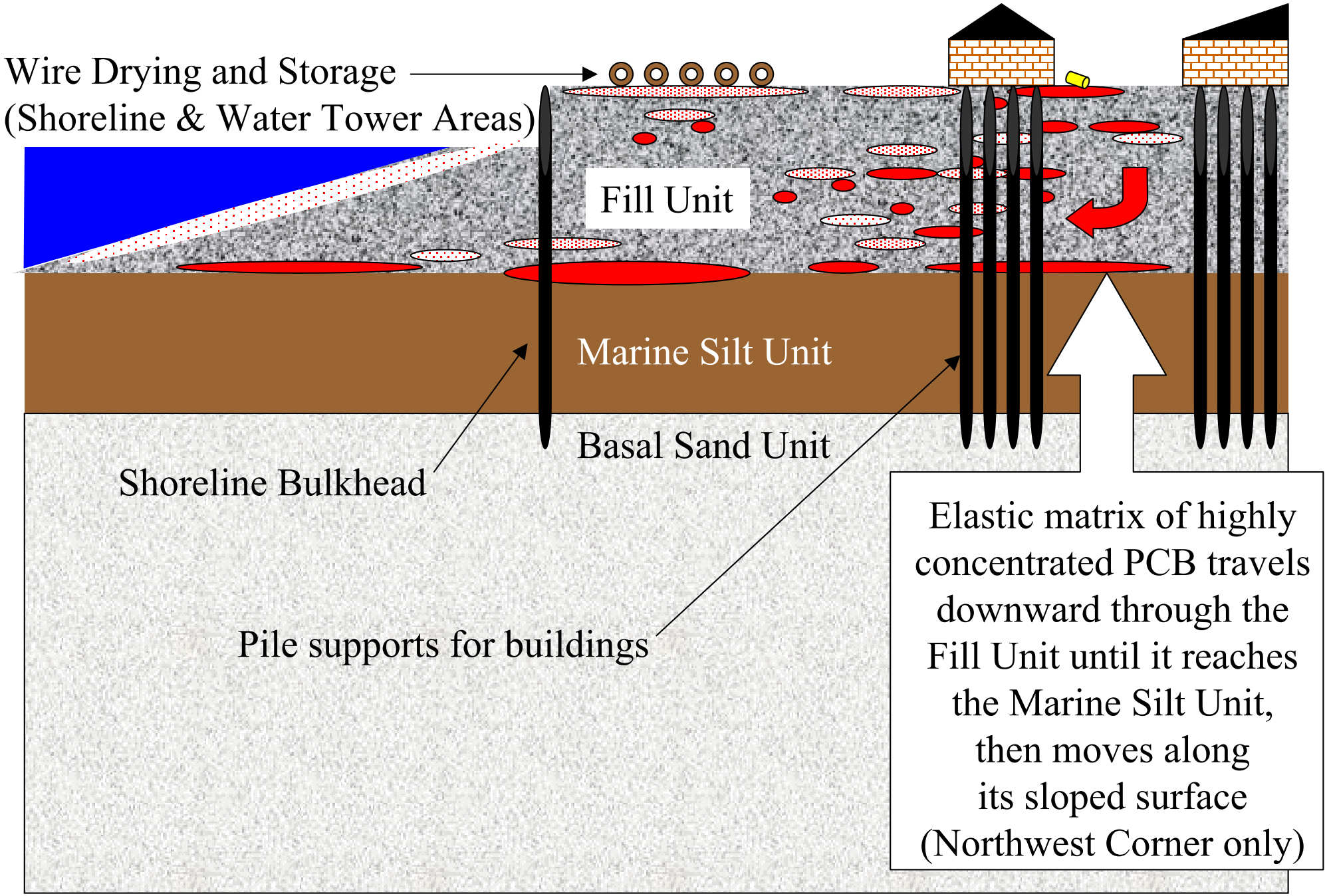
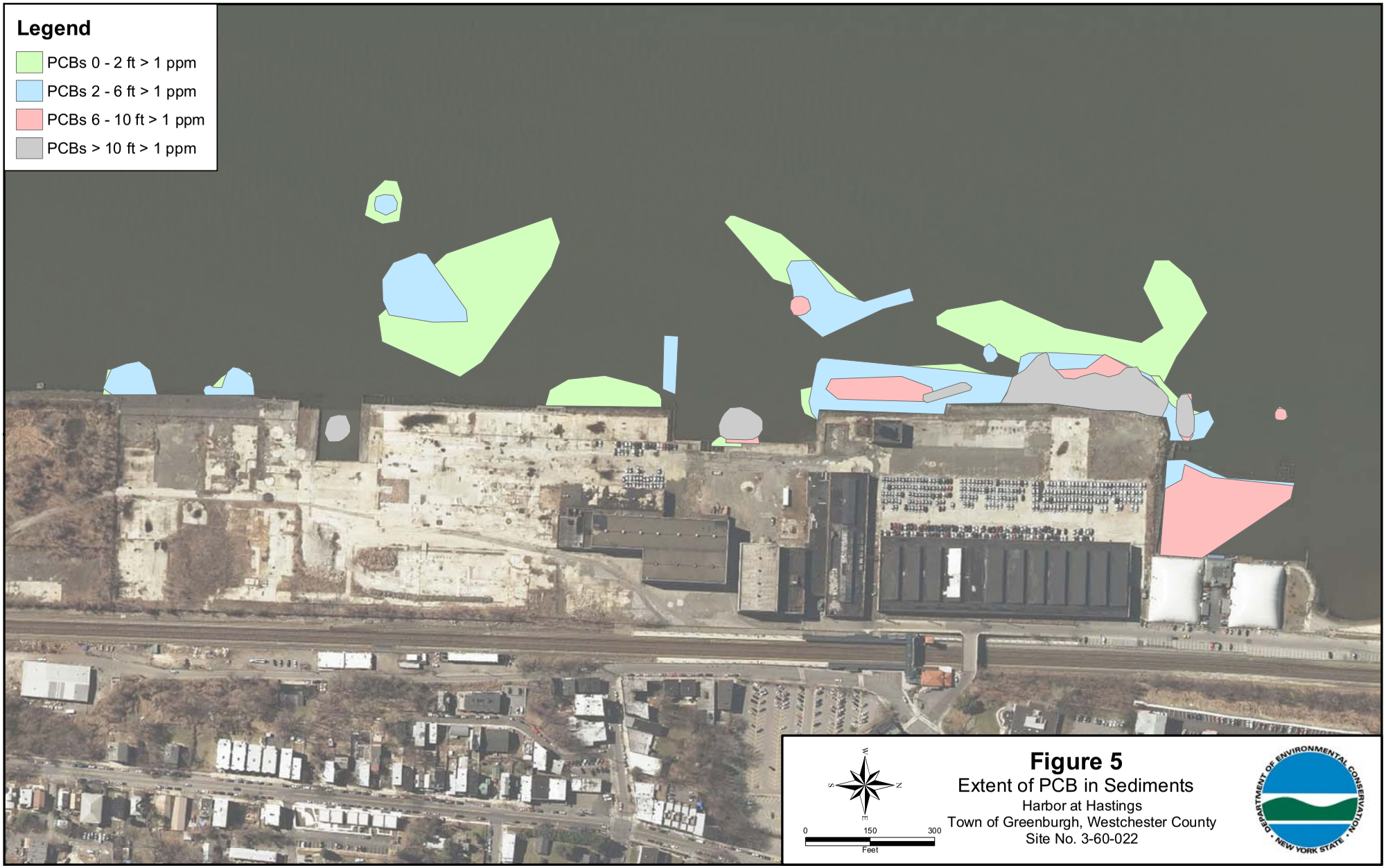
30
40
SCALE IN FEET
HALEY & ALDRICH
NYSDEC SITE #3-60-022
1 RIVER STREET
HASTINGS-ON-HUDSON, NEW YORK
PCB MATERIAL LOCATIONS AND DNAPL EXTENTS IN THE NORTHWEST CORNER
SCALE: AS SHOWN
SEPTEMBER 2011
FIGURE 3
G:\PROJECTS\28612\250 - RFS\COMMUNICATIONS\2011-09-29 DEC FIGURE\28612-PCB MATERIAL EXTENTS_DF.DWG

Figure 3: Conceptual Model of PCB Migration




Legend
PCBs 0 - 2 ft > 1 ppm
PCBs 2 - 6 ft > 1 ppm
PCBs 6 - 10 ft > 1 ppm
PCBs > 10 ft > 1 ppm
W
S
E
0
150
300
Feet
Figure 5
Extent of PCB in Sediments
Harbor at Hastings
Town of Greenburgh, Westchester County
Site No. 3-60-022
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE

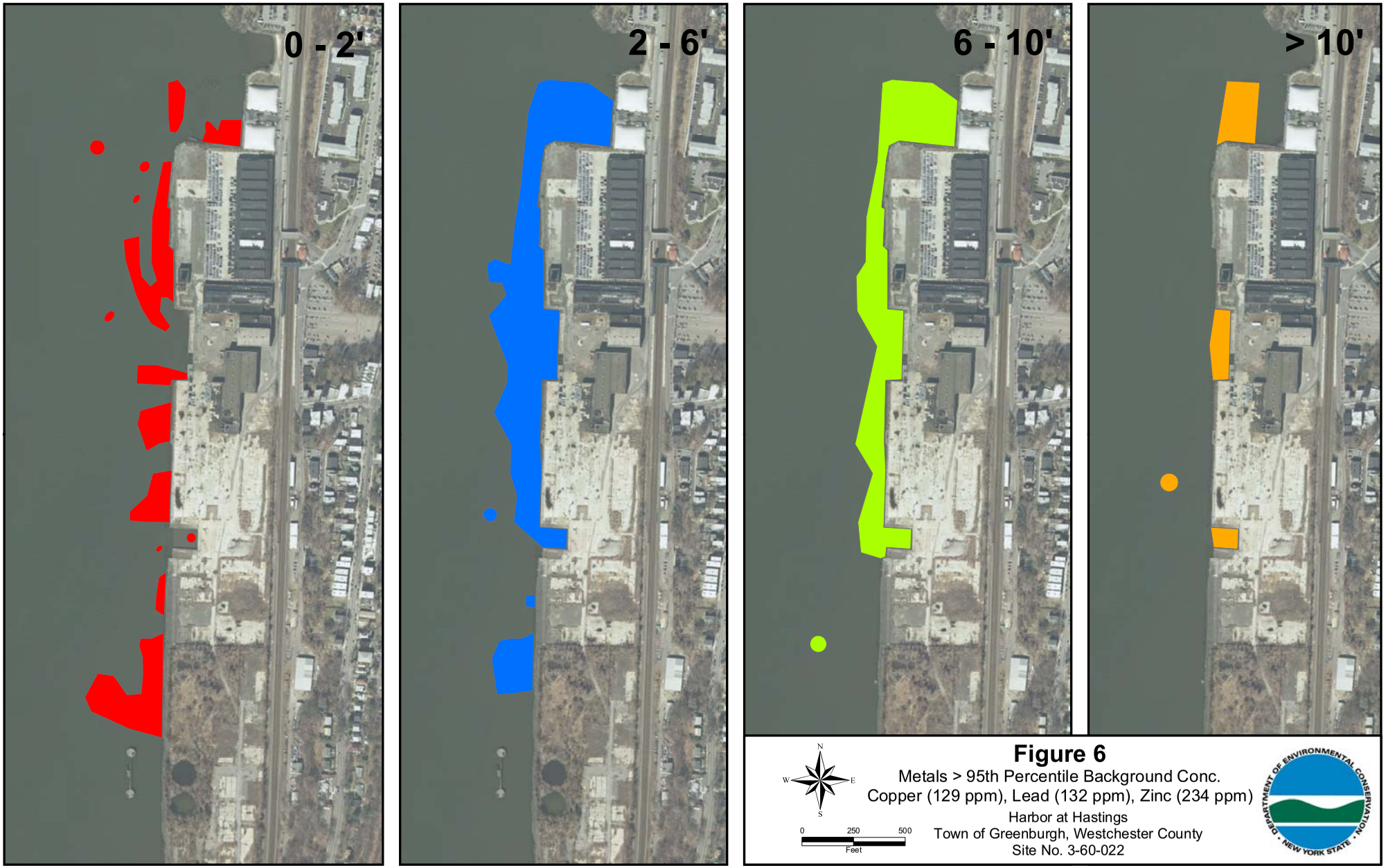
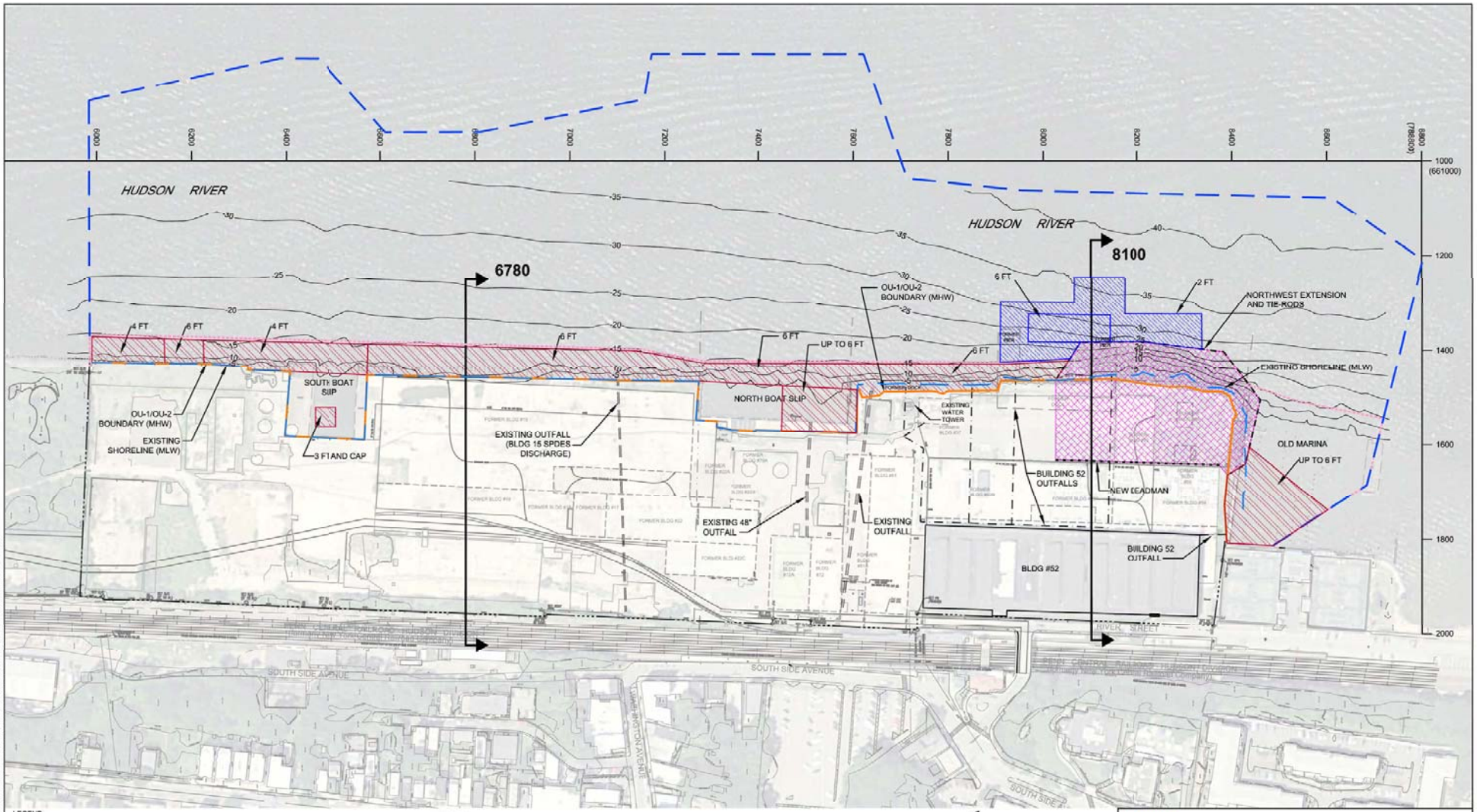


Figure 6

Metals > 95th Percentile Background Conc.
Copper (129 ppm), Lead (132 ppm), Zinc (234 ppm)

Harbor at Hastings
Town of Greenburgh, Westchester County
Site No. 3-60-022

DEPARTMENT OF ENVIRONMENTAL CONSERVATION · NEW YORK STATE ·



LEGEND:

- PROPERTY LINE
- RAIL ROAD
- FENCE
- RIP-RAP
- EXISTING OFFSITE OUTFALLS
- EXISTING SHORELINE (MLW)
- OU-1/OU-2 BOUNDARY (MHW)
- SILT CURTAIN
- OU-2 SECTION LINES
- NORTHWEST EXTENSION
- NEARSHORE AND BACKWATER DREDGE AREA
- DEEPWATER DREDGE ARIA
- BULKHEAD WALL
- OU-2 LIMITS

NOTES:

1. BASE PLAN PROVIDED BY BOSWELL ENGINEERING DRAWING NO. 04-209-MV (01/27/2006).
2. OTHER SITE FEATURES BASED ON VARIOUS HISTORICAL DOCUMENTS.
3. EXISTING 5 FT BATHYMETRY BASED ON DATA FROM ALPINE OCEAN SEISMC SURVEY (1997).
4. ELEVATION CONTOURS ARE BASED ON NAVD 88 DATUM.
5. BACKGROUND ORTHOIMAGERY FROM NAIP, 2010.
6. DREDGE DEPTHS ARE SHOWN AS MAXIMUM DEPTHS. ACTUAL DREDGE MAY BE CONSTRAINED BY CONSTRUCTIBLE LIMITS, AS SHOWN ON THE SECTIONS.
7. OU-1 REMEDIAL ACTIVITIES ARE SHOWN ON FIGURES 28 AND 30.
8. MEAN HIGH AND MEAN LOW WATER ARE EL. +2.2 AND EL. -2.0, BASED ON HISTORICAL SITE REPORTS.

W S N E

0 200 400

SCALE IN FEET

HALEY & ALDRICH

NYSDEC SITE #3-60-022
1 RIVER STREET
HASTINGS-ON-HUDSON, NEW YORK

PLAN VIEW
MODIFIED ALTERNATIVE 6

SCALE: AS SHOWN
FEBRUARY 2012

FIGURE 7

G:\PROJECTS\26812\265 - FINAL RFS\CAD\MODIFIED ALTERNATIVE 6\26812-265-PRAP MODIFIED ALT 6.DWG

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Harbor at Hastings
Operable Units No. 1 and 2
State Superfund Project
Village of Hastings on Hudson, Westchester County, New York
Site No. 360022

The Proposed Remedial Action Plan (PRAP) for the Harbor at Hastings site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on January 2012. The PRAP outlined the remedial measure proposed for the contaminated soil, sediment, surface water, groundwater at the Harbor at Hastings 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 26, 2012, which included a presentation of the remedial investigation and feasibility study (RI/FS) for the Harbor at Hastings 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 February 10, 2012, however it was extended to March 12, 2012, 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, with the Department's responses:

COMMENT 1: Justification of the 1ppm PCB cleanup goal for soils should be provided through risk assessment modeling.

RESPONSE 1: The 1 ppm soil cleanup objective (SCO) is set forth in 6 NYCRR 375-6.8, and this SCO is protective for residential and ecological resources as well as the future intended use of the site for restricted-residential. The 1 ppm SCO was adopted from EPA and was based on risk management considerations for high occupancy scenarios as described in section 6 of the Development of Soil Cleanup Objectives Technical Support Document, September 2006, which may be found at http://www.dec.ny.gov/chemical/34189.html

COMMENT 2: What are the health hazards of the proposed sediment processing operation?

RESPONSE 2: The NYSDEC and NYSDOH pay close attention to the quality of life for the surrounding community during all parts of the remedial work at a site, including the sediment processing portion of the cleanup. All concerns will

be addressed whether it is noise, odor or dust migration in a manner that will monitor and minimize any release or potential for exposure. See response number 11 for CAMP details. Monitoring and other appropriate engineering controls will be in place to assure no hazards result from this or any other operations required to implement the selected remedy.

COMMENT 3: Will BP/ARCO reimburse the State for its costs?

RESPONSE 3: Yes, reimbursement of New York State costs is expected as part of the consent order negotiated with BP/ARCO, the responsible party.

COMMENT 4: Has soil beneath Building 52 been sampled to determine if contamination is beneath it?

RESPONSE 4: Yes the soil beneath Building 52 was sampled and characterized to determine the levels of contaminants below the building.

COMMENT 5: How much semi-solid PCBs are present beneath the river?

RESPONSE 5: The presence of semi-solid PCB has been identified in the areas shown on Figure 3 of the ROD. The full extent and amount of semi-solid PCBs present beneath the river has been difficult to estimate due to the difficulty in installing borings and sampling the area immediately offshore of the Northwest Corner. This area was not extensively sampled because the equipment needed to penetrate the rip rap could not access areas of shallow water under current conditions.

COMMENT 6: Is it safe to use Kinnally Cove for recreational wading in the water and sediments due to potential contamination?

RESPONSE 6: Yes, Kinnally Cove may be used for recreational wading in the water with respect to the contamination associated with the site. Sediments in Kinnally Cove were sampled for PCBs by the Department in 2001, the range of concentrations detected were 0.088 and 1.5 ppm of total PCBs.

COMMENT 7: Will the proposed Northwest extension include cathodic protection of the steel sheeting?

RESPONSE 7: Yes the Northwest extension will include cathodic protection of the steel sheeting.

COMMENT 8: There is concern for sea level rise greater than predicted by the USACE. The remedy needs to add additional rip rap and foundation to accommodate the potential rise in sea level.

RESPONSE 8: The remedial design will include design considerations which take into account estimated sea level changes. Shore protection will be designed to prevent erosion of the shore due to the action of wind, waves and other forces to prevent damage to on-shore development or potential exposure and subsequent transport of contaminated soils.

COMMENT 9: We support the proposed restricted residential use of the site.

RESPONSE 9: Comment noted.

COMMENT 10: What is the scientific basis for the two-foot cover system for restricted residential use of the site?

RESPONSE 10: The basis for the 2 foot cover system is 6NYCRR Part 375, and the associated 2006 Technical Support Document, which may be found at http://www.dec.ny.gov/chemical/34189.html

COMMENT 11: When the CAMP is developed, we are concerned for using the standard particulate action level as a proxy for airborne PCBs. Before construction begins, the community needs a presentation of how the action level for PCBs is developed as part of the CAMP.

RESPONSE 11: In the remedial design phase a site specific Community Air Monitoring Plan (CAMP) will be developed which will specify the action levels for dust, volatile organic compounds and PCBs. Before implementation of the remedy a public meeting will be held and will explain in further detail how the CAMP will be protective of the community.

COMMENT 12: The green remediation elements of the PRAP are too vague. More specific requirements should be stated to minimize construction impacts to Village. These include requirements for barge and/or train transport of contaminated and clean soil, filtered diesel emissions, use of ultra low sulfur diesel fuels and Tier 3 diesel emission standards.

RESPONSE 12: The green remediation elements presented are there to acknowledge the DEC's commitment to green remediation, specific green remediation elements will be identified in the remedial design. The goal will be to minimize construction impacts to the Village to the extent feasible while implementing the remedy.

COMMENT 13: Will the two foot soil cover be able to be breached to construct building foundations?

RESPONSE 13: In areas where building will be permitted, the two foot soil cover may be disturbed provided the requirements included in the approved Site Management Plan are followed.

COMMENT 14: The annual cost of the two-foot cover system is underestimated because it does not include the additional cost for implementing the Site Management Plan during development.

RESPONSE 14: The annual cost does not factor in the costs for development, since these are beyond the scope of this ROD.

COMMENT 15: Who is responsible for the annual costs that are presented in the PRAP?

RESPONSE 15: ARCO will be responsible for the annual operation and maintenance costs.

COMMENT 16: What are potential health effects of other metals in the sediment, such as nickel, mercury and arsenic?

RESPONSE 16: In order to have health effects from metals present in the sediment there first has to be direct contact with these contaminants. Presented below are potential health effects if exposure occurred and at high concentrations.

Nickel: The most common reaction is a skin rash at the site of contact. The skin rash may also occur at a site away from the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.

Mercury: Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation.

Arsenic: Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs. Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Additional information on these metals can be found on the Agency for Toxic Substances and Disease Registry's website.
http://www.atsdr.cdc.gov/substances/index.asp

COMMENT 17: Will there be any stipulated penalties in the Order on Consent to ensure compliance with the schedule for implementing the remedy?

RESPONSE 17: Stipulated penalties will be subject to negotiations between ARCO and the Department concerning the OU2 Order on Consent. Note that Environmental

Conservation Law also provides for penalties for non-compliance with the terms and conditions of orders on consent.

COMMENT 18: When will the remedial work start and end?

RESPONSE 18: The remedial work will begin after an Order on Consent that includes the OU2 remedy is signed and the remedial design is completed. The public will be notified at important milestones. The Department anticipates the project will take approximately 5 years to complete.

COMMENT 19: What are likely impacts upstream and downstream of the dredging project? We are concerned about this project harming the ongoing efforts to establish oyster beds just upstream of the site.

RESPONSE 19: The impacts upstream and downstream from implementing the remedy are expected to be minimal as a result of the controls that will be in place. This is based on the nature of the contamination and knowledge gained at other sediment remedial projects. The majority of the dredging will be performed using silt curtains which will minimize resuspension from dredging. Monitoring will be performed to identify acceptable requirements to protect water quality in upstream and downstream locations. It is also our understanding of the proposal that the oyster beds are not intended for human consumption.

COMMENT 20: The Department and/or ARCO should use additional outreach such as social media methods to keep residents apprised of the remedial progress and address concerns for airborne exposures during construction. Information should be disseminated in layman's terms using hubs in the Village such as coffee shops, the train platform, etc. as posting locations.

RESPONSE 20: The Department has successfully used websites which provide weekly updates, construction status and daily monitoring, and will work with the PRP explore and implement a website or additional outreach to keep the community informed during the remedial design and construction.

COMMENT 21: Is the proposed 2-foot cover consistent with the five foot cover that is required by the Village and Riverkeeper's Federal Consent Decree with ARCO?

RESPONSE 21: The proposed 2-foot cover is consistent with the Village and Riverkeeper's Federal Consent Decree with ARCO.

COMMENT 22: The Department should request and review ARCO's proposed lighting plan as part of the remedial design.

RESPONSE 22: The need for extensive construction lighting will depend on the nature and schedule of the work to be performed. Decisions concerning work hours and

the need for supplemental lighting to safely conduct the work will be made in consultation with the Village of Hastings-on-Hudson.

COMMENT 23: What is included in the proposed restricted residential use? Why are single family homes not permitted?

RESPONSE 23: Restricted residential use is the land use category when there is to be common ownership or a single owner/managing entity for the site. Therefore apartment buildings, condominiums and recreational uses would be allowed that are managed by a single entity pursuant to a site management plan (SMP). It prohibits single family housing because managing and restricting the use of property would be more difficult, and could result in a greater possibility for individual owners and hired contractors to take actions not in conformance with the SMP. Furthermore, agriculture or vegetable gardens on the controlled property would be prohibited with the exception of community gardens with the approval of the Department.

COMMENT 24: Where will additional sampling be conducted in pre-design? Not just in the Northwest Area.

RESPONSE 24: Additional sediment sampling will be performed to identify depths of sediment contamination that will be removed in both nearshore and deepwater areas. Baseline monitoring will also be performed for the long-term monitoring plan to determine the pre-remedial conditions. The baseline monitoring plan will include sampling at background locations to determine ambient contaminant levels that are unrelated to the Harbor at Hastings site.

COMMENT 25: Will the liquid PCB removal operation affect the ability to use the northwest corner and northwest extension area?

RESPONSE 25: The remedial design will seek to minimize the impact of PCB recovery operations on the future use of the northwest extension area.

COMMENT 26: Can some of the shoreline be used for deep water dock access?

RESPONSE 26: The future use of portions of the shoreline for deep water dock access would need to be identified during the remedial design to assure the design takes this into account.

COMMENT 27: Does the PRAP provide for financial assurance to ensure long term monitoring and maintenance of the remedy?

RESPONSE 27: The PRAP and Record of Decision do not include financial assurance to ensure the long term monitoring and maintenance of the remedy. However, the Department has regulatory authority to require financial assurance, and could consider this option during the negotiation of the Order on Consent.

COMMENT 28: What information and experience from the Upper Hudson remediation will be utilized in the design and implementation of this remedy?

RESPONSE 28: While representing a different set of site specific conditions, the applicable information and experience from the Upper Hudson, will be used extensively to design and implement this remedy. Experience concerning the types and frequency of monitoring, community interaction issues, debris removal, air monitoring, dredge techniques, and silt controls will be used in developing the remedial design.

COMMENT 29: Where will the PCBs be taken after they are removed from the site?

RESPONSE 29: The dewatered PCB sediment will be taken to a facility which is permitted to accept PCB waste of the type and concentration removed.

COMMENT 30: Barge and rail transport of both clean and contaminated soils and sediments should be evaluated during the remedial design.

RESPONSE 30: The modes of transport for both clean and contaminated soils and dewatered sediment will be evaluated in the remedial design.

COMMENT 31: Is there a plan for diverting and/or protecting river traffic during the dredging operation?

RESPONSE 31: The appropriate navigational warnings will need to be reviewed and approved for conformance with US Coast Guard requirements before they are deployed.

COMMENT 32: Discuss the significance of the “drag-down” concept.

RESPONSE 32: The “drag down” refers to the potential for the liquid and semisolid PCB material to adhere to the steel sheet piles as they are driven through these materials into deeper into uncontaminated zones. The concern is that PCBs would be carried down into an uncontaminated area during the driving of the piles or flow as a dense non-aqueous phase liquid (DNAPL) through a newly-created migration pathway.

COMMENT 33: Are the proposed new wells in the northwest extension area just to monitor PCBs?

RESPONSE 33: The remedy anticipates installing new wells to both monitor and recover the PCB DNAPL, if present. The details of the additional work will be identified in the remedial design and site management plan.

COMMENT 34: How much of the PCBs have you removed so far in terms of the total amount there?

RESPONSE 34: The amount of PCB DNAPL present was not estimated due to the difficulty in obtaining samples from the immediate offshore area. As a result, the proportion of PCBs removed has not been calculated, but to date approximately 500 gallons of PCB DNAPL have been collected and disposed off-site.

COMMENT 35: Were samples for metals treated with acid to allow for metals speciation?

RESPONSE 35: Yes, samples for metals analysis were acidified, and therefore the results represent total metals in the sample. However, metal speciation was not performed.

COMMENT 36: Were single or duplicate assays performed?

RESPONSE 36: Most samples were single analysis. However, a certain number of samples were analyzed as duplicates, in accordance with generally-accepted practice for conducting environmental investigations.

COMMENT 37: Do you have to do more investigation to determine whether the new bulkhead will go into the liquid PCB pool?

RESPONSE 37: More investigation will be performed during remedial design to determine the final alignment of the sheet pile wall. Previous probing work identified a proposed location which is shown on Figure 7. The major factor concerning the alignment is the presence of the rip rap which will need to be avoided or moved during installation.

COMMENT 38: How long will the monitoring wells be there?

RESPONSE 38: The monitoring wells will remain in place as long as they are needed to monitor contamination in the groundwater.

COMMENT 39: Are you getting pure PCBs out of the recovery wells now?

RESPONSE 39: The material being removed from the wells contains approximately 30-40 % PCB.

COMMENT 40: As to backfilling the site, it is underwater at times. The Army Corps of Engineers (ACOE) guidelines you are following need to be enhanced.

RESPONSE 40: The remedial design will evaluate design considerations which take into account estimated sea level changes. Shore protection will be designed to prevent erosion of the shore due the action of wind, waves and other forces to prevent damage to on-shore development or potential exposure and

subsequent transport of contaminated soils. These design elements will also be part of the review by the ACOE as part of their permitting process.

COMMENT 41: What action levels will be used in the CAMP? How can you justify 1ppm for baseline? How, during a limited public comment period, can the public determine whether the 1ppm is sufficiently protective?

RESPONSE 41: The 1 ppm action level is the soil cleanup objective for soil. The Community Air Monitoring Plan (CAMP) still needs to be developed, and it will define the site specific action level for airborne PCBs. The Department has used a 100 ng/m^3 action level for PCBs on recent PCB removal projects. However, the site-specific action level will be developed and documented in the CAMP during the remedial design phase.

COMMENT 42: Has contamination from the upper Hudson River dredging released contamination to the lower Hudson River down to this location, will it?

RESPONSE 42: In 2009 and 2011, the General Electric Company under the oversight of the US Environmental Protection Agency dredged PCB contaminated sediment from stretches of the Upper Hudson River as part of the Hudson River PCB Superfund Site. During dredging, Hudson River water quality was monitored daily at several locations downstream of operations in the Upper Hudson (north of Troy) and samples were collected monthly in the Lower Hudson River at Albany and Poughkeepsie. Water quality was also monitored in the Upper Hudson during the off-season when no dredging was underway. Most relevant based on proximity to the Harbor at Hastings Site are the PCB levels measured in water samples collected from Poughkeepsie; these sample results indicate that PCB levels in river water at Poughkeepsie during dredging are consistent with levels measured before dredge operations began. Water quality will continue to be closely monitored as dredge operations continue.

Jacques Padawer, Ph.D. submitted a letter via email dated February 1, 2012, which included the following comments:

COMMENT 43: Does the DEC have chromatographic and elemental profiles of these three (or more) PCB species in the Arco property? This is critical, should be available, and should be disclosed.

RESPONSE 43: Chromatograms may be found in several documents, including the January 2005 "Field Work Summary Report for Fall 2004" Appendix C, and the November 2009 "Report on Supplemental Northwest Corner Investigation Findings". These documents are available for public review in the repositories.

COMMENT 44: Low chlorination PCBs (“liquid?”) of relatively higher vapor pressure are known to be sequestered by the liver, bind to DNA, and induce liver

carcinomas. What modified precaution(s) does the DEC propose to use to monitor the new threats?

RESPONSE 44: In order to have health effects from these PCBs there first has to be exposure to them. In the remedial design phase a site specific Community Air Monitoring Plan (CAMP) will be developed which will specify the action levels for these PCBs. Before implementation of the remedy a public meeting will be held and will explain in further detail how the CAMP will be protective of the community.

Jeremiah Quinlan a Trustee with the Village of Hastings-on-Hudson submitted a letter dated February 29, 2012 which included the following comments:

COMMENT 45: Evaluate and, as appropriate, remediate sanitary/process sewers on site

RESPONSE 45: The process sewers and floor drains from Building 52 are identified for removal. Other sanitary and process sewers will be further identified during the remedial design and will be evaluated for remediation as appropriate.

COMMENT 46: Evaluate the use of the adjacent railroad thoroughly and use it to the extent reasonable.

RESPONSE 46: See Response 30.

COMMENT 47: Disposal of on-site sediments: Strict standards are needed to avoid future issues. Clean and sandy sediments will have less future risk of being a future contamination issue and will have fewer compaction/settlement issues.

RESPONSE 47: The remedial design will identify the parameters for reusing sediment on-site. The reuse of sediments on-site has the benefit of reducing transportation related impacts for both contaminated material and backfill.

COMMENT 48: Where a sloped shoreline will be employed, heavy armoring will provide better protection during storms.

RESPONSE 48: The type of armoring will be identified in the remedial design and the protection during storm events will be evaluated as a factor in identifying the proper size of the material.

COMMENT 49: Concerns on how will the IRM wells be protected from the public in the northwest corner that will be a public park.

RESPONSE 49: The recovery wells in the Northwest Extension Area will be protected from the public in anticipation that the area may be used for public access. This area may need to be temporarily closed during operation and maintenance activities. The remedial design will identify approaches, such as flush

mounting the wells; dedicated vaults; or other engineering controls to protect the public while allowing the operation of the wells for their intended purpose.

Eileen Bedell, the property owner of the Hudson Valley Health & Tennis Club, submitted a letter dated March 9, 2012 which included the following comments:

COMMENT 50: I would like the plan to show my property lines reflected on all drawings. My deed includes both shallow and deep water riparian rights. In fact, all of the "Old Marina" is owned by Hudson Valley Health & Tennis Club, although I have no objection to the use of "Old Marina" on your diagrams.

RESPONSE 50: The property lines will be shown on the future drawings and plans in the remedial design. The Department acknowledges the ownership and potential future use of the marina and the need to gain access.

COMMENT 51: I would like the plan to be modified to take into consideration my future plans for reopening the marina. This includes depth, configuration and access issues.

RESPONSE 51: The sediment removal areas are based on the contamination identified in the remedial investigation phases. The approved plans for potential re-use of the marina will be factored into the remedial design with the objective of reducing the footprint of the Northwest Extension Area and minimizing backfill in the marina area. The backfill requirements will be evaluated and adjusted for the future and reasonably anticipated use of the sediment removal area of the marina. However, any additional or future dredging for the marina project must obtain approvals through the regular permitting process, including ECL Article 15 or 6NYCRR Part 608. As noted earlier, additional investigations will be needed before the final sheet pile wall alignment is determined.

COMMENT 52: The metals and PCB contamination plan is inconsistent with the data ARCO has provided me. In addition, test sampling was often restricted by the logistics of sample extraction.

RESPONSE 52: The extent of metals and PCB contamination is identified in the Feasibility Study, Appendix C. The sediment results are presented based on the depth below the sediment/water interface, and are consistent with previous reports. The Department agrees that data gaps exist in the marina area due to the inability to physically access certain locations. For this reason additional sediment sampling will be performed during the design phase and the obstructions are removed.

COMMENT 53: I would like the plan to clarify how future zoning changes for the ARCO property apply or do not apply to my property.

RESPONSE 53: The easement placed on the ARCO property pursuant to the ROD will not apply to the Hudson Valley Health & Tennis Club property. Concerns related to future zoning issues should be directed to the Village of Hastings-on-Hudson.

COMMENT 54: I would like clarification as to whether piles and pile-supported structures will be permitted in the marina.

RESPONSE 54: Restrictions on the installation of piles and pile-supported structures outside of Northwest Extension Area (NEA) are not planned. The installation of piles will not be restricted in the marina area provided that PCB DNAPL is not present. The remedial design will determine the precise boundaries of the NEA.

COMMENT 55: I have no need for backfilling of the marina post dredging. In addition I welcome reuse of the silt as landfill on the OU1 site.

RESPONSE 55: The comment is noted. See Response 51.

COMMENT 56: As you are aware from our discussions, I am opposed to the plan as drafted, particularly based on #2 and #3 above (*as referenced in the letter*). Without modification, I would be unwilling to grant access for executing the work.

RESPONSE 56: The Department acknowledges the plans for re-use of the marina. Additional work will be performed during the remedial design to minimize or eliminate the sheet pile wall on your property, to the extent it can be while still meeting the ROD objectives, to allow implementation of both the remedy and the proposed marina.

Daniel E. Estrin and Justin M. Davidson from Riverkeeper submitted a letter dated March 12, 2012 which included the following comments:

COMMENT 57: Riverkeeper is particularly concerned with the PRAP's general lack of clarity regarding the cleanup procedures that will be followed. In the interest of providing an open and transparent dialogue around the Department's efforts to remediate the site, we want to ensure that the public is well informed as to the particular processes that will be employed during the long-awaited cleanup of the Site.

RESPONSE 57: The cleanup procedures will be identified in the remedial design. The Department shares Riverkeeper's concern that the public should remain well informed during the remedial design and implementation of the remedy. Additional outreach activities will be scheduled at appropriate milestones in the project.

COMMENT 58: The PRAP is unclear as to where additional delineation sampling and study will be conducted. Before dredging and removal activities commence in the deepwater portion of the site, additional delineation sampling must be conducted in order to entirely understand and characterize the full extent of contamination. In particular, paragraph 6 of the proposed remedy provides, "the specific area where fixed sediment resuspension controls can be feasibly deployed will be evaluated during design based on the water depth and velocity conditions. Alternative designs for fixed resuspension controls will be evaluated to increase the depth of feasible resuspension controls." Paragraph 7 of the proposed remedy – which deals with "removal of sediment from a targeted area outside the northwest extension area in deeper than 15 feet of water" – explains that "during design, sampling will be performed to determine whether additional areas of PCBs greater than 50 ppm exist. Based upon an evaluation of the significance of the distribution of contaminants and the feasibility of removal, additional areas of sediment may be targeted for dredging." Taken in conjunction, these two statements suggest that the PRAP fails to define with reasonable specificity the areas where these additional sampling efforts will take place. Particularly, it is not clear whether this sampling will be confined to the immediate vicinity of the northwest extension area, or whether it will appropriately extend downriver to other areas where earlier incomplete and insufficient sampling indicates the possible presence of PCB concentrations.

RESPONSE 58: Additional sampling will be performed in both the near shore and deepwater areas where data gaps exist to provide a precise delineation of sediment to be removed. Such additional sampling is not confined to the immediate vicinity of the Northwest Area.

COMMENT 59: Definition of the areas to be sampled and the associated extent of the potential dredging are essential elements of efforts to evaluate the potential for resuspension and contaminant dispersion and the need for and type of resuspension controls. Recent experience in the upper Hudson near Fort Edward, New York indicates that the combination of equipment selection and dredging protocols can substantially reduce downstream dispersion and in many cases have the potential to eliminate the need for fixed controls such as silt curtains. This potential should be carefully evaluated with full consideration of complications associated with water depths in excess of 15 feet and/or energetic river and/or tidal flows after specification of the area and associated contaminant mass to be dredged. It does not appear to Riverkeeper that such an evaluation has been conducted to date.

RESPONSE 59: The Department has determined that resuspension controls will be used where feasible to reduce and minimize the dispersion of contaminants and will require that the extent of contamination, and the associated extent of the potential dredging, be determined during the design in order to design the controls necessary to address resuspension and contaminant dispersion. The

recent experience in the upper Hudson River has provided information that can be applied to the remedial design of this dredging project. However this experience has limitations since the river velocities in the upper Hudson River are less than the current velocities near Hastings-on-Hudson. Also the sediment matrix at this site is also much finer than in the upper Hudson. These site-specific factors will be evaluated in the remedial design to choose the appropriate resuspension controls. The Department contacted a silt curtain manufacturer and a remedial contractor to independently verify the limitations for resuspension controls based on the site specific conditions in selecting the remedy.

COMMENT 60: During the Public Meeting on January 26, 2012, held in the Village of Hastings-on-Hudson, DEC Staff (Mr. George Heitzman) explained that during design, additional delineation sampling will be conducted "throughout." However, it is still unclear where precisely this additional sampling will be conducted, and a thorough explanation should be described in the Record of Decision ("ROD") for OU-2. DEC Staff further explained that additional sampling will be conducted only in areas where previous sampling results indicated "contiguous or concentrated" concentrations over 50 ppm of PCB, rather than "one hit" concentrations above 50 ppm. Earlier sampling that was conducted in portions of the deepwater site outside the northwest extension area was incomplete and unable to accurately define the full extent of contamination, so it would be erroneous to base future sampling efforts on what was conducted previously. Extensive additional delineation sampling should be conducted throughout the entire deepwater portion of the site to best understand precisely where these contiguous or concentrated zones exist and to allow accurate definition of the mass of PCB in each zone.

RESPONSE 60: The previous sampling provided sufficient information to allow the selection of remedy, but the remedy calls for additional sediment sampling in the deepwater areas to further delineate the areas to be dredged to meet the cleanup goals for PCBs. Post-ROD delineation sampling is routinely conducted at remediation sites to more precisely determine removal limits. The Department also agrees that additional sampling is needed to identify whether, and where, contiguous or concentrated zones may exist to allow accurate definition of the sediment to be dredged.

COMMENT 61: Because of the ambiguity surrounding the additional delineation sampling, Riverkeeper requests that an Additional Delineation Sampling Workplan be developed to describe with specificity the locations, actions, and timing of the additional delineation sampling to be conducted. In light of the lack of detail in the PRAP concerning additional in-river sampling to be conducted, we believe this Workplan should be publicly noticed and made available for public comment.

RESPONSE 61: The Department will require the development of a Sediment Delineation Sampling Work Plan as an element of the design and it will be publicly noticed and made available for public review.

COMMENT 62: The proposed action level of 50 ppm for the OU-2 deepwater area is premature, and a more stringent action level threshold below 50 ppm is necessary to protect the benthic community. The PRAP indicates that dredging of sediment in the deepwater portion of OU-2 will be conducted in areas defined by PCB concentrations greater than 50 ppm to six feet below the existing bottom. However, the PRAP completely fails to explain the technical rationale for the proposed 50 ppm action level. According to the DER-10, a PRAP must summarize the "alternatives considered and discuss the reasons for proposing the remedy," which has not been done here with respect to this proposed action level. During the Public Meeting on January 26, 2012, DEC Staff stated that a 50 ppm action level "struck the right balance," given the practical concerns and difficulties with dredging in deeper water. While Riverkeeper understands these concerns, this narrative answer can not suffice as a cogent technical basis to support 50 ppm as the appropriate action level. A satisfactory technical explanation must be made so the public can be informed and properly analyze the bases for selecting an action level that is relatively high.

In addition, on choosing a 50 ppm action level, the PRAP only states that "Targeting deepwater areas with PCBs above 50 ppm reduces the time needed to complete dredging activities when compared to deepwater areas above 1 ppm." However, when asked at the Public Meeting about whether NYSDEC calculated or estimated exactly how much longer dredging would take under a more stringent action level, DEC Staff (Mr. William Ports) responded that DEC had not calculated the time. The PRAP should not conclude without technical backup that choosing a higher action level of 50 ppm will reduce the amount of time needed for dredging when the Department has not calculated or estimated any such temporal differences.

The matter of remedial criteria warrants careful elaboration in the ROD for OU-2. Under the NYCRR, the goal of any remedial program for a specific site is to "restore the site to pre-disposal conditions, to the extent feasible. At a minimum, the remedy selected shall eliminate or mitigate all significant threats to the public health and to the environment presented by contaminants disposed at the site through the proper application of scientific and engineering principles." These words are echoed verbatim in the PRAP as two of its stated goals. The selection of the higher threshold of 50 ppm, without sufficient technical support and explanation supporting that action level, does not appear consistent with this legal mandate and the PRAP's stated goals.

While Riverkeeper understands that this higher threshold selection may be based on concerns that dredging will facilitate dispersion and ultimately increase contaminant bio-availability beyond current levels, such concerns must be based on hard data with particular emphasis on the mass of contaminant to be addressed by dredging. In the presence of a small mass – *i.e.*, a discrete area containing less than several pounds of PCBs where that mass is subject to continuing deposition and minimal erosion – the higher threshold of 50 ppm *may* be justified. However, for larger masses, lower thresholds are recommended with 10 ppm being the highest consistent with values used in other sites in the Hudson River and New England when dealing with significant masses of PCB. Because the data available in the PRAP and Revised Feasibility Study (RFS) do not provide sufficient information to properly assess the mass of PCB concentrations throughout the extent of the Site, the public is unable to determine whether the contamination presents "significant" threats to the public health and environment. As a result, the specification of the threshold is at the very least, premature. The present protocols specified in the PRAP do not appear to be sufficient to provide the necessary level of specificity, and the current approach based on sparse sampling and assumptions of costs should be reconsidered. The ROD for OU-2 must provide the basis for quantitative evaluation of the extent of contamination allowing subsequent evaluation and definition of the threshold criteria.

RESPONSE 62: As discussed in the Basis for Selection section of the ROD, the 50 ppm action level for deepwater sediments balances the potential for construction-related impacts associated with disturbance to the river bottom and migration of suspended sediments with the removal of sediments which have the highest levels of PCBs and the greatest potential to migrate and be an on-going source to the environment. The deepwater sediments present a number of concerns which were factored into the decision to remediate sediments in the site specific deepwater areas. These include environmental consequences of resuspending contaminated sediments without resuspension controls in these areas, the potential for remaining contaminated sediments to be disturbed in the future, the proximity of contamination to the sediment surface, and the concentration of contaminants. The Department evaluated the degree and extent of contamination for different action levels based on currently available information. The additional delineation sampling data from the deepwater areas to be collected during the remedial design will be further evaluated and the following factors will be considered in determining the final deepwater dredge area: 1) depth of PCB contamination, 2) type of environment (erosional or depositional), 3) contiguous areas of contamination, 4) thickness of clean sediment above the PCB contamination, 5) duration of dredging and associated potential for migration of resuspended sediments, and 6) the area weighted surface concentration of PCBs.

The time to remove the sediments in the deepwater areas was estimated for different action levels and is presented in the table below. These estimates are based on standard production rates and do not account for certain site-specific factors. The estimated volume of deepwater sediments that contain greater than 50 ppm PCBs is approximately 5000 cubic yards. The size of the mechanical dredge was assumed to be 5 cubic yards, with a production rate of 80 cubic yards per hour. Time estimates were prepared for both an 8-hour dredge day, and a 4-hour dredge day. The latter estimate reflects an attempt to limit deepwater dredging to the slack period during each daylight portion of the tidal cycle to minimize the migration of fines from the dredge area.

Deepwater PCB Remedial Goal	Estimated Volume of Sediment yd^3	Estimated Time in hours of Dredging	Estimated Days (8 hrs/day)	Estimated Days (4 hrs/day)
50 ppm	5000	64	8	16
10 ppm	20,000	250	31	62
1 ppm	53,000	662	83	166

The Department notes that comparison to action levels for unspecified sites in the upper Hudson River and New England site (presumably the Housatonic River) may not be valid due to the site-specific conditions encountered at this site. Sediments in the deepwater portion of the Harbor at Hastings site are significantly finer, comprising approximately 90% fines passing the #200 sieve, as compared to around 40% fines for the upper Hudson River project. Combined with the greater water depth and current velocity, the potential for uncontrolled dispersion during dredging is much greater at this site. The Department also notes that the Housatonic River project was performed by diverting the river and dredging in a dewatered condition, which provides a high degree of migration control, but is not a feasible approach at this site. As a result, the site-specific action levels that resulted from the balancing of criteria for those sites are not comparable to the Harbor at Hastings site.

To the extent feasible the site will be restored in a manner that will be protective of both the environment and public health. The remedy described in this ROD acknowledges the added difficulties of attaining pre-disposal conditions in an environment that contains levels of PCBs that are above standards in upstream locations not affected by the site. However, through implementation of engineering and institutional controls selected in the remedy, significant threats to public health and the environment will be mitigated.

COMMENT 63: As the Department is aware, on September 8, 2011, Riverkeeper submitted to NYSDEC a position statement for proposed PCB and removal criteria for the offshore areas of the Hastings site prepared by our technical consultant, Dr. W. Frank Bohlen, PhD. *See* Exhibit 3. In that statement, Riverkeeper suggested that sampling should be conducted at sites with PCB concentrations

of 10 ppm at the surface (0-6 inches) or 50 ppm on the vertical between 0.5 and 3.0 feet below the sediment-water interface, unless the site was surrounded by a minimum of four (4) other cores spaced around the acre surface centered on the high concentration site. Supplementary sampling should consist of four (4) sediment cores each to six (6) feet below the sediment-water interface with each taken at the midpoint (or some reasoned alternative) of the perimeter boundaries of a one acre square centered on the high concentration site. Each core should to be sectioned and analyzed to determine PCB concentrations over the vertical for the 0-6 inches, 0.5-3.0 feet, and 3.0-6.0 feet segments. These data will be compiled with concentrations on the 0-3 feet interval used for computation of the area weighted average (AWA) concentrations. The data detailing concentrations in the 3-6 feet layer would be retained for informational purposes.

RESPONSE 63: This approach will be considered in the development of the Sediment Delineation Sampling Work Plan during the remedial design.

COMMENT 64: Department Staff apparently propose to reject Riverkeeper's position statement as a reasonable way to proceed with additional sampling and PCB remediation in the Deepwater areas. Riverkeeper continues to believe that a more stringent action level below 50 ppm is necessary to protect the benthic community, and in turn, human health and safety. Dr. Bohlen advises that a lower threshold concentration of 10 ppm for the first six inches of sediment would greatly reduce the potential for the bio-accumulation of PCBs by the local marine biological community. *See* Exhibit 3. Dr. Bohlen's specification of the 10 ppm threshold is based on distributions of higher concentrations of PCBs residing below that level as shown in the May 2011 data set in the Revised Feasibility Study. If additional sampling shows that these distributions are very localized or that the deeper sediments contain lower concentrations, then leaving them in place *may* be justified. However, that conclusion cannot be made until a more substantive and robust discussion of the issue supported by data is presented.

RESPONSE 64: The Department has not rejected Riverkeeper's approach to additional sampling and remediation in deepwater areas. The Department will consult with the interested stakeholders after the additional sampling data is obtained.

COMMENT 65: First among the nine factors used in selecting a remedy for a site is the "Overall protectiveness of the public health and the environment." Indeed, the PRAP recognizes that "[t]o be selected, the remedy must be *protective of human health and the* environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable." In order to meet the PRAP's stated goal to "eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site," Riverkeeper believes that DEC

must consider and adequately study the feasibility of dredging in deepwater areas with a 10 ppm action level for the first six inches below surface ground. This includes additional sampling and study required to properly assess the mass of PCB concentrations. In fact, as DEC Staff explained in the January 26, 2012 Public Meeting, one of the key lessons learned from the GE Site remediation is to "fully characterize" the contamination. As per DEC's own guidance and experience, therefore, DEC is obligated to fully investigate the extent of contamination, which requires more than a superficial examination and testing of potentially contaminated areas.

RESPONSE 65: See Response 62 above. The Department and NYSDOH believe the selected remedy is protective of human health and the environment because it is unlikely for recreational users of the river to be exposed to site-related contaminants through the incidental ingestion of contaminated surface water and direct contact with contaminated sediments in the deepwater area, the primary human exposure pathway is through the consumption of contaminated fish tissue. One goal of the monitoring program will be to determine if the remedy is successful in reducing the local contribution to PCB tissue concentrations in biota. This program will monitor the performance and effectiveness of the remedy in achieving the remedial goals established for the project and will be a component of the monitoring and maintenance of the site. For specific advisories on fish consumption in this area please refer to NYSDOH's annual Health Advise on Eating Sportfish and Game.
http://www.health.ny.gov/environmental/outdoors/fish/health_advisories/docs/advisory_booklet_2011.pdf

COMMENT 66: The ROD for OU-2 should describe the equipment or technology to be used for the in-water dredging activities. In discussing the proposed elements of the cleanup of the OU-2 portion of the site, the PRAP does not describe what types of technology or equipment will be used during the dredging activities. Section 375-1.8(a)(4) of the NYCRR provides that "Remedy selection at a site may consider the use of innovative technologies which are demonstrated to be feasible to meet the remediation requirements." The upriver dredging operations at the GE site provided for several technical advancements in dredging and re-suspension technologies. Even though the PRAP represents the initial stages of the design effort, it would be important to see the use of advanced technologies evaluated in the ROD and implemented at the Hastings site.

RESPONSE 66: In general there are two types of dredging technologies which are applicable to the Harbor at Hastings site. These include mechanical and hydraulic dredging equipment, both types of dredges will be evaluated during the design. Debris removal will be performed before sediment dredging begins.

COMMENT 67: The DEC should consider effects of flooding and sea level rise in its site design. The PRAP makes no mention of potential effects on OU-1 and OU-2 due to flooding of the adjoining upland portions of the site. Although some accommodation has been made in the preliminary OU-1 designs for expected long-term sea-level rise (accepting the Army Corps of Engineers' two-foot fill layer recommendation), there is also the matter of direct rainfall, storm surge and/or high river stage effects on OU-1 to consider. Over the past several years this area of the Hudson River has experienced several extreme storm events resulting in standing water on the site. In fact, as several local Hastings-on-Hudson residents attested to at the January 26, 2012 Public Meeting, the area around the Site has experienced several major flood events over the past several years, indicating a possible change in climate conditions and storm patterns that should be accounted for in DEC's evaluation and design. Depending on source, volume, and velocity, such waters have the potential to overwhelm proposed containment/treatment facilities and destabilize portions of the shoreline and/or groundcover. The displacement of any contaminants from these areas may in turn affect portions of the adjoining offshore. The ROD for OU-1 and OU-2 should include efforts to demonstrate the adequacy of proposed designs to effectively armor the site and minimize sensitivity to storm impacts.

RESPONSE 67: The Department shares the concerns expressed regarding the potential influence of climate change and rising sea level on the long-term effectiveness of the remedy to contain contamination during large storm events. The remedial design will consider future storm events and rising sea level that are likely to result in more intense storms, higher water events, and greater erosive forces on the site than have been documented in the past.

Eric Larson with ARCO submitted a letter dated March 9, 2012 which included the following comments:

COMMENT 68: We anticipate that remediation (both in OU-1 and in OU-2) may need to be coordinated with anticipated site redevelopment. While future uses of the site have not been resolved, we understand that Atlantic Richfield supports the concept of beneficial reuse of this site and anticipates working closely with the Village and other stakeholders in this regard. We would request that the ROD allow for some flexibility in design so that remediation does not unnecessarily impede redevelopment efforts while still maintaining environmental effectiveness.

RESPONSE 68: The Department agrees with this comment and will implement additional discussions to address issues and concerns with the Village and stakeholders while the remedial design proceeds. However, implementation of the remedy will not be delayed due to development-related issues.

COMMENT 69: Targeted Deepwater Dredging: In the October 2003 PRAP for OU-2, consistent with the scope of the RI work and data developed as part of the administrative record, NYSDEC did not propose to conduct any dredging in the deepwater area. Instead, the 2003 PRAP proposed a long term monitoring program for the deepwater area. Since that time, and consistent with the RI scope, there has been only limited additional analysis of the issues surrounding deepwater dredging as proposed in the current OU-2 PRAP. Silt curtains and other resuspension controls are unlikely to be feasible in this environment, nor are they likely to serve as effective barriers to the transport of resuspended sediments at these depths and flows. Therefore, any targeted dredging must balance the negative environmental consequences of resuspending contaminated sediment with the environmental benefits of conducting this dredging. These considerations weigh in favor of conducting limited targeted dredging for shallow (0-2 feet) hot spots (50 ppm or greater) in areas of scour that show a contiguous and concentrated pattern of sediment contamination. Consideration should be given to an alternative deepwater cleanup level at or below the 335 ppm Level of Protection screening criterion included in Table 3 of the PRAP.

We suggest that deepwater dredging of sediments deeper than about 2 feet, particularly in areas that do not appear to be subject to scour, does not provide an environmental benefit that outweighs the potential negative consequences associated with resuspension and transport of contaminated sediments. The deepwater areas identified in the PRAP on Figure 7 are generally consistent with this remediation approach and we do not believe additional dredging in other areas is warranted based on a review of the existing data and the multiple lines of evidence that suggest a consistently depositional environment. The current geometric weighted average concentration of PCBs in surface sediments is approximately 1.3 ppm for all areas outside the proposed deepwater dredge extents.

In this regard, we asked two reviewers, Dr. Michael Palermo and Dr. Victor Magar to review the proposed remedy with respect to the targeted deepwater dredging and we have attached their comments as well.

RESPONSE 69: The areas of targeted dredging in the deepwater areas will be further refined in the remedial design. The Department recognizes that standard silt curtains will not be effective in this environment. However, the Department does not want to predicate the means and methods of minimizing or reducing sediment resuspension in the deepwater areas. The dredging in the deepwater areas must balance the distribution of contaminants and the feasibility of removal. Therefore when additional sediment data is available from the deepwater areas the following factors will be considered: 1) depth of PCB contamination, 2) type of environment (erosional or depositional), 3) contiguous areas of contamination, 4) thickness of clean sediment above the PCB contamination, and 5) the duration of dredging required and associated potential for migration

of resuspended sediments, and 6) the area weighted surface concentration of PCBs.. The Department rejects using the PCB cleanup level of 335 ppm in the deepwater areas because it would protect the environment based only on acute toxicity to benthic organisms, and it is feasible to achieve a higher level of protection. The Department believes that the 50 ppm cleanup in targeted areas provides the best balance of the selection criteria given site specific conditions at the site.

COMMENT 70: Metals: Nearshore, Old Marina, North Boat Slip

The OU-2 PRAP proposes dredging sediments to depths of up to 6 feet below the current sediment surface in the nearshore area, Old Marina, and North Boat Slip. There appear to be several rationales for this dredging including: (a) removal of sediments exceeding the PCB remediation criteria; (b) removal of sediments exceeding the PRAP's selected metals criteria; and (c) the provision of sufficient depth to install backfill or a cap to isolate remaining contamination and/or protect against scour or erosion.

The metals remediation criteria selected in the PRAP do not reflect metals toxicity and are not indicative of ecological risk. Indeed, site related investigations into metals toxicity have demonstrated the absence of toxicity at levels much higher than the criteria established in the PRAP. Thus, this approach is not consistent with EPA policy and guidance regarding the evaluation of sediment toxicity and the selection of sediment remedies. For this reason, we do not support the metals criteria set forth in the PRAP. We asked Dr. Kenneth Jenkins to review the PRAP with respect to metals criteria, ecological risk, and evidence of site-related toxicity. We have attached his comments in that regard.

Although metals concentrations in sediments do not justify nearshore dredging up to 6 feet in depth as a general approach, we recognize that site-specific evidence suggests that there may be some benthic toxicity associated with copper concentrations in excess of 982 ug/l, in nearshore sediments if they were to become exposed to biota through inadequate separation. In these targeted areas, near two outfalls along the southern portion of the site, metals concentrations in sediment may support dredging sufficient to protect against scour and provide physical separation from biota.

In addition, as a practical matter, there may be other reasons why some of the proposed nearshore dredging may be appropriate for the ROD. For example, much of this dredging will also remove sediments contaminated with PCBs. For areas without PCB contamination, considerations of site-specific scour potential and the need to improve site-specific aquatic habitat depth could also support portions of the proposed dredging. For this reason, we would urge that the ROD provide for dredging of up to 6 feet in depth while allowing

some flexibility in remedial design to determine whether certain nearshore areas could be dredged to less than 6 feet in depth.

While returning sediments to pre-existing conditions to the extent feasible is an RAO, there may be little to no ecological benefit from the removal of metals above the remediation criteria set in the PRAP. As a result, short and long term impacts should be the primary consideration for the feasibility of additional dredging, and the ROD should provide some flexibility to reduce nearshore dredging depths during remedial design to minimize short and long term adverse impacts of dredging, particularly in areas where PCB contamination is absent while accounting for aquatic habitat depth, the integration of a sloped shoreline between OU-1 and OU-2, and other localized factors as may be appropriate.

RESPONSE 70: The metals remediation criteria in the PRAP are based on background concentrations of metals in the sediment. The use of a background concentration as a basis for cleanup concentrations is not based on toxicity but on the occurrence and concentration of the metals in the surrounding area. Toxicity testing conducted on the site was not sufficiently robust to develop a site-specific toxicity threshold. The dredging depth was established to allow for the feasible removal of contaminated sediments and the restoration of the river bed following the remediation. Actual dredge depth will be determined during design based on sampling that indicates the actual depth at which the sediments exceed the cleanup criteria. If other feasibility concerns arise during design, consideration will be given to adjusting dredging appropriately.

COMMENT 71: Capping and Backfilling in the Nearshore Area

The PRAP also proposes the use of backfill and/or capping materials in the nearshore area to protect against scour or erosion, to return the area to pre-dredge depths, and to provide isolation from remaining contamination. Regardless of whether the material is backfill or a cap, 6 feet of fill is not necessary to protect human health and the environment from any contamination that may remain. The analysis presented in the RFS indicated that 3 feet was sufficient. The need for anything more than engineered controls that provide physical separation or isolation is unnecessary. A cover of 6 feet far exceeds any cover necessary to provide separation or isolation of remaining contamination. It is also far more than necessary to provide a substrate for biological activity that would be protected from contact with site-related contaminants. We asked Dr. Danny Reible to review this issue, and we have attached his comments.

Further, in some cases, the requirement for up to 6 feet of backfill may impede the coordination of redevelopment and remediation. The ROD should provide flexibility for backfill/capping in the nearshore areas with between 2 and 6 feet of material and should allow both the full extent of the cap/backfill and

the type and nature of soils, sands, or gravels to be used will be determined in remedial design.

RESPONSE 71: Flexibility regarding backfill is provided for in the ROD. Other than the isolation capping layer, the specific substrate for backfill is not specified. Additionally, the remedy allows for a river flow and deposition study to consider allowing natural in-filling following dredging. As noted in the ROD the purpose of the backfill is to "isolate remaining contamination, prevent erosion of cap materials, restore bathymetry, and provide a habitat layer". Depending on dredging depth and location, replacement of riverbed materials with significantly less than what is removed during dredging would not meet all of these goals. See also Response 51.

COMMENT 72: Certain technical challenges have been deferred to design. Perhaps the most significant is whether resuspension/transport controls might be effective in deeper water to allow the expansion of the nearshore dredging area. We have conducted an initial investigation as part of the studies previously submitted to NYSDEC, which shows that the current limits established in the RFS and PRAP for the implementation of resuspension/transport controls are accurate. Our investigation indicates that there is no demonstrated feasible technology that would allow us to significantly expand the proposed dredging limits without creating a substantial risk of contaminant resuspension and transport. In fact, the limits proposed are at the outer edge of silt curtain effectiveness. Thus, consideration of any expansion of the nearshore area in the design phase is unwarranted. There is no compelling reason to treat this technical issue any differently than other technical issues where future improvements during the design process are always possible and are taken into account if and when they are identified.

In this regard, we asked Dr. Palermo to review this issue, and we have attached his comments as well.

RESPONSE 72: The comment is noted.

COMMENT 73: Long Term Monitoring of the Remedy

The RAOs selected in the PRAP are generic and not site-specific. This presents various potential issues including long term monitoring to evaluate the success of the remedy. In particular, the Hudson River (and particularly the lower Hudson) is a highly urbanized watershed that has been home to industry for over 150 years. As a result, the Hudson River has substantial, system-wide contamination that is not related to the Hastings site, including PCB and metals contamination. We note that concentrations of PCBs in Hudson River reference sediments upstream of the Site range from 1 ppm to 2.1 ppm in a background sample within the 0-2 foot interval. As a result, even with successful remediation, site sediments will eventually "equilibrate" with

urbanized background concentrations of PCBs, metals, and other pollutants, making the generic RAOs difficult to achieve. The presence of this background industrial contamination must therefore be taken into account in the design and implementation of a long term monitoring plan. Metrics like PCB concentrations in fish tissue, for example, which are more likely to reflect Hudson River conditions in general rather than site specific conditions, are not suitable for inclusion in a long term monitoring program.

We have attached the comments of Dr. Magar on this issue.

RESPONSE 73: The Department has used monitoring to discern different PCB source conditions in urban watersheds. These include PCB congener analysis; analysis of recently deposited surface sediment concentration; analysis of the source of the metals; and other techniques that have been used on other sediment remediation sites. The Department acknowledges that there are other sources of contamination that are unrelated the Harbor at Hastings site. The long-term monitoring plan described in the PRAP is expected to include the consideration of other industrial inputs in the river mainly through the use of baseline and reference sampling during monitoring. Previous data on the site indicated a local effect of increased PCBs in eels associated with the site. Since PCBs will remain in the river and the remedy will depend on engineering controls to prevent continued release of PCBs long-term monitoring of organisms in the river, including fish, is necessary to demonstrate the effectiveness of the remedy to decrease the site-specific influences on the local fish and therefore, must be retained as a component of the monitoring plan.

COMMENT 74: An expected schedule for the combined remedy in OU-1 and OU-2, exclusive of the regulatory process leading up to initiation of design, is included in the RFS. Note that the PRAP has added investigation and scope to the alternative recommended in the RFS.

RESPONSE 74: The Department understands and recognizes the added investigation and scope to the remedy will take additional time.

COMMENT 75: A transportation study regarding the handling of materials being brought into the site and leaving the site is specifically indicated in the RFS and will be part of the design process. The RFS assumptions provide a basis for comparison but do not limit the outcome of the transportation study.

RESPONSE 75: The comment is noted

COMMENT 76: Current Zoning and Uses. Portions of the site are no longer leased to other parties.

RESPONSE 76: The comment is noted and the ROD has been revised to reflect this.

COMMENT 77: Historical Uses. Wire manufacturing duration was much longer than the duration that manufacturing involving PCBs. PCBs were used in the manufacture of wire and cable only during the World War II period.

RESPONSE 77: The comment is noted and the ROD has been revised to clarify that PCBs were only used during a portion of the operation period.

COMMENT 78: Operable Units. This section describes "the site" as two operable units, however, in other sections OU-1 is described as "on site" while OU-2 is described as "off-site". The use of the word "site" in two different contexts is confusing. Note that there are some references to "on-site" within the document that specifically refer to OU-2. Also note that when the term "off-site" is used to reference OU-2 portions of the project the term should not reflect the status of ownership of said area.

RESPONSE 78: The Department acknowledges this comment.

COMMENT 79: Atlantic Richfield Company has in fact been participating in the site investigation and the remedy evaluation process for many years and voluntarily developed the feasibility study for OU-2.

RESPONSE 79: The comment is noted the ROD was revised to reflect ARCO's voluntary efforts in developing the remedy for the site.

COMMENT 80: Paragraph 6.3. It should be noted that specific fish advisories in the area of the site are primarily due to regional contamination issues and would remain in effect regardless of any remedial actions taken at this site.

RESPONSE 80: The Department acknowledges that certain contaminants in the fish tissue of certain species are attributable to regional contamination issues. However it is not clear whether for certain species, the fish advisory would remain regardless of remedial actions taken at the site.

COMMENT 81: Paragraph 6.4. Paragraph 6.1.2 states the contaminants of concern (COCs) as PCBs, copper, lead and zinc. Paragraph 6.4 re-states theses as the "primary" COCs for the site (previously defined as OU-1) and then describes a different list of COCs related to OU-1. Clarifying the terminology would assist understanding.

RESPONSE 81: As stated in Exhibit A, primary contaminants of concern are those that drive the remedy. The COCs for OU1 and OU2 are slightly different because beryllium was found in OU1 soils but was not found in OU2.

COMMENT 82: Paragraph 6.4. "Metals in sediment pose a toxicity threat to benthic organisms," Multiple investigations previously conducted indicate that

toxicity levels are significantly higher background. We have attached Dr. Jenkins' comments on this issue.

RESPONSE 82: The metals remediation criteria in the PRAP are based on background concentrations of metals in the sediment. The use of a background concentration as a basis for cleanup concentrations is not based on toxicity but on the occurrence and concentration of the metals in the surrounding area. Toxicity testing conducted on the site was determined to be not sufficiently robust to develop a site-specific toxicity threshold.

COMMENT 83: Paragraph 6.5. The RAOs assigned in the PRAP are generic and not Site-Specific. Due to the regional contamination issues, achievement of the specific objectives listed, especially for surface water, are not controlled by the site conditions. We have attached Dr. Magar's comments on this issue.

RESPONSE 83: The comment is noted. However, the surface water contributions from the site will be controlled by the remedy. Baseline and long term monitoring will be implemented to determine the effectiveness of the remedy.

COMMENT 84: Paragraph 1. The reference to the "FS" is presumed to be to the 2011 Revised Feasibility Study (RFS).

RESPONSE 84: The comment is correct.

COMMENT 85: Element 2. The Dense Non-Aqueous Phase Liquid (DNAPL) observed in OU-1 consists of approximately 30-40% PCBs dissolved in a solvent. The DNAPL occupies the void space within the existing fill otherwise occupied by water. The Revised Feasibility Study (2011) used the term "DNAPL" or Liquid PCB Material. Liquid PCBs were not used in the manufacturing process and have not been observed in OU-1 or OU-2. During the World War II era, PCBs were delivered to the site in the form of powder and then mixed with a solvent on site before application in the manufacturing process as a viscous cable coating for certain shipboard cables made for the United States Navy. This war time use of PCBs is the only known manufacturing use of PCBs in cable production at the site.

RESPONSE 85: The comment is noted and the ROD was revised to eliminate references to "liquid PCBs" in favor of "Liquid PCB Material".

COMMENT 86: Element 5. Text variations within the PRAP resulted in inconsistencies with respect to the proposed dredge in the Nearshore and Backwater areas. NYSDEC has prescribed specific areas of potential/anticipated additional dredging in the Old Marina and North Boat Slip that would be in addition to those described in Alternative 6 as shown on the PRAP Figure 7. This additional dredge scope is consistent with the description of the modified Alternative 6 found in exhibit B which states that "This alternative has been

modified from the alternative developed in the FS to include additional dredging in deepwater, old marina, and north boat slip areas, as shown on Figure 7." And goes on to explain that "This approach would dredge sediments in targeted areas which contain the most highly impacted sediment for PCB and metals and therefore presents a greater sediment volume than the original Alternative 6." To be consistent with the Exhibit B description and Figure 7, along with the associated volume and cost estimate presented in the PRAP, the description of the proposed remedy in this section should include a more precise description of the dredging limits required to satisfy the remedial goals. For example: "Removal of Nearshore and targeted Backwater sediment and fill..."
An updated figure titled Plan View Modified Alternative 6 (attached) shows the dredge extents proposed for Alternative 6 along with the additional areas delineated in Figure 7 of the PRAP. This would represent the anticipated dredge extents for the modified alternative 6 that was recommended in the PRAP.

RESPONSE 86: The removal of sediment from the Backwater areas falls under the existing remedy component for sediment removal where silt curtains may be feasibly installed in less than 15 feet of water. The additional dredging scope was explicitly added to the alternative description in Exhibit B to clearly distinguish the PRAP alternative from the similar alternative developed in the FS.

COMMENT 87: Element 6. The requirement for evaluation of alternative resuspension control designs is open ended. In order to maintain a reasonable project schedule, the extent of the evaluation should be limited to the current standard or proven practice for similar settings at the time the evaluation is conducted. As noted in the introduction of these comments, no feasible alternatives or proven technologies that would be appropriate for the existing river conditions were identified in the RFS process based on our contact with a supplier of mobile silt curtains. We have attached Dr. Palermo's comments on this issue.

RESPONSE 87: The Department agrees that a limited evaluation will be performed regarding alternative resuspension control designs in the deepwater areas. This will include current standard or proven applications in similar settings.

COMMENT 88: Element 7. We do not believe that additional sampling is required in the deepwater area because the data collected to date indicates a high degree of heterogeneity with average concentrations near background. The average surface sediment concentration of PCBs is 1.3 ppm outside of the currently proposed deepwater dredge areas which suggests that contamination is neither contiguous nor concentrated and that the distribution of the relatively few exceedances of 50 ppm are not significant or that dredging would be warranted in light of the negative short and long term impacts associated with dredging in these water depths. If additional sampling is included in the ROD,

it should be limited to delineating areas as shown on Figure 7 of the PRAP and where existing data indicates the potential need for targeted dredging. We have attached Dr. Magar's comments on this issue.

RESPONSE 88: The Department will require additional sediment sampling to determine the distribution of PCB sediments in the deepwater areas to delineate areas to be dredged. This comment is also addressed in Responses 24, 58, 60, 61, 62 and 69.

COMMENT 89: Element 9. Not all elements of an "isolation" cap as defined by the PRAP are necessary at all locations where remaining contamination is above background concentrations. The ROD should allow for the selection of backfill material and capping components to accommodate design for factors including erosion protection requirements (i.e. riprap) and residual contamination as well as provide flexibility for equivalent methods for chemical isolation and habitat creation. For example, areas subject to high erosion forces would require riprap or other appropriate erosion protection at the surface and would not allow for the placement and retention of a 24 inch habitat layer of fine grained silt. Additionally, the migration of divalent metals (including copper) from pore water is improbable and would not require a sand isolation layer in addition to the backfill. We have attached Dr. Reible's comments on this issue. Note that: It is known that this reach of the river has levels of total organic carbon (TOC) with a range of 2.2 – 3.2% (Llansó and Southerland, 2006). This range is considerably elevated compared to other sediment samples obtained from the Hudson (Llansó, R.J. and Southerland, M., 2006). In estuarine/marine systems, copper (Seligman and Zirino, 1998; 2002; Rivera-Duarte, 2006) and other metals (Di Toro et al., 2005;) are known to bind strongly to organic carbon and will be retained even under fairly rigorous extraction procedures (Daminouka and Katsiri, 2009). The likelihood of metals, particularly copper, desorbing from organic ligands in OU-2 sediment is therefore negligible. Previous studies that measured the capacity of naturally occurring sulfides (S-2) to bind divalent metals in both sediment grabs and cores showed that the vast majority of samples had concentrations of S-2 that were greatly in excess of the amount of metals that could be simultaneously extracted with acid (and therefore not bioavailable). Based on equilibrium partitioning sediment benchmarks derived for the protection of benthic organisms to metal mixtures, these levels of sulfides will afford considerable excess binding capacity of any freely dissolved divalent metals in pore water. In addition to this, the placement of backfill would inhibit overlying oxygen in the water column from diffusing into the naturally occurring sediment and therefore encourage anaerobic conditions which, in turn, will stimulate the generation of S-2. The latter would bind to divalent metals, rendering them immobile. Remedial design will consider backfill material and composition for factors including erosion protection requirements (i.e. riprap) and residual contamination concentrations. The ROD should provide flexible language similar the language in the OU-1 ROD

Amendment "The habitat/surface substrate layer will be designed to restore …"

RESPONSE 89: The PRAP identified isolation capping material, but did not specify the specific substrate that should be used for the site backfill. The substrates to be used for restoration will be determined during design and the substrates can vary depending on location in the River.

COMMENT 90: Element 11.a. It is presumed that the phrase "remain in place" with respect to the sediment containment system does not include the habitat layer but rather is intended to ensure that the erosion protection and isolation layers remain in place and are effective.

RESPONSE 90: The comment is correct and is intended for the erosion protection and isolation layers to remain in place. In addition, the habitat layer will be designed to remain in place.

COMMENT 91: Element 11.a.i. The term Northwest Area is introduced in this paragraph and is not defined or shown on the figures. For the purposes of OU-2, it is presumed that this restriction applies to the Northwest Extension Area ("NEA") as defined in the PRAP. Restrictions on the currently existing land in OU-1 are addressed in the OU-1 Proposed ROD Modification.

RESPONSE 91: This element was revised in the ROD to read "Northwest Extension Area", which is located in Operable Unit 2.

COMMENT 92: Element 11.b. After remediation is complete, surface sediments and biota will continue to be affected over time by regional Hudson River contamination that is not associated with the Site, including regional PCB contamination. As a result, it is probable that neither (a) future monitoring of the presence and concentrations of contaminants in surficial sediment nor (b) future monitoring of fish and other migratory species tissue concentrations, or other biologic metrics will provide reliable indicators of the performance of the site remedy. Because these types of monitoring metrics cannot reliably distinguish between local site-related issues and regional contamination, any monitoring program should focus on other parameters, such as bathymetric analysis, to provide information about performance of the remedy. The ROD should provide for sufficient flexibility in the design of a long term monitoring program to allow for these issues to be evaluated during remedial design.
For example, one approach to be considered is evaluating restoration of remediated areas by monitoring for re-colonization by native invertebrate communities. Re-colonization should be weighted more heavily as a monitoring metric than biotic tissue concentrations because of known and ongoing PCB flux from upstream sources and ongoing remediation. Similarly, if re-colonization occurs, benthic macroinvertebrate body burdens should be considered as a more reliable line of evidence for potential site-

related contributions of PCB to biota than would tissue concentrations of other aquatic species. However, benthic macroinvertebrate data would need to be evaluated in the context of sediment and porewater vertical profiles and any protocol for such evaluation must take into account the potential for post-remediation contamination of surficial sediments through deposition from regional non-site related sources.
Fish tissue PCB concentrations should not be considered for monitoring remedy effectiveness because of the conditions throughout the river.
Surface water quality compliance is difficult to measure at the SCG (0.001 parts per trillion). Surface water measurements are potentially confounded by inclusion of suspended particles, which may emanate from multiple sources, including sources unrelated to the site. An apparent absence of migration of site contaminants through porewater to surface water should preclude the need for monitoring biotic tissue, recognizing that the potential tissue concentrations to be influenced by other in-river sources. We have attached Dr. Magar's comments on this issue.

RESPONSE 92: The Department disagrees with the comment regarding the ability of the long term monitoring to be able to distinguish between the site specific PCB sources and those unrelated to the site. Fish tissue samples have been analyzed previously in areas adjacent to the site and have shown site specific influences from the site. The results are reported in the Department's report *1999 As A Special Spatial Year For PCBs in Hudson River Fish*, May 2002.

COMMENT 93: Element 11.b.i and 11.b.ii. The specific baseline and long-term sampling requirements should be developed during design and should consider methods that would provide reliable conclusions that consider regional contamination impacts. We have attached Dr. Magar's comments on this issue.

RESPONSE 93: The Department agrees with the comment that baseline and long-term monitoring should consider methods that would provide reliable conclusions that consider regional contamination impacts.

COMMENT 94: Element 11.c.ii. Regarding "maintaining site access controls", there are no site access controls currently in place for OU-2. A perimeter fence exists in OU-1 along the shore but will be removed as part of the OU-1 remedy implementation.

RESPONSE 94: The comment is noted and the ROD has been revised to reflect this understanding.

COMMENT 95: Page 2. Note that OU-2 samples containing PCB Material have only observed Semi-Solid or Trace PCB Material. No DNAPL has been observed in sediment samples.

RESPONSE 95: The Department does not disagree with the comment that no liquid PCB material have been observed in sediment samples, however the investigation of sediments beneath the rip rap slope has been limited by the inability to obtain samples.

COMMENT 96: Page 3. Surface Water data as summarized on page 3 and in Table 1 requires additional analysis since the conclusions presented are not consistent with other data. Specifically: PCBs; We do not agree with the PRAP's conclusion regarding Surface Water that the degree of chlorination "…results suggest that the Site is the source of PCB contamination in the Hudson River." Any conclusions regarding the source of PCBs within a regional water system like the Hudson River, where there are multiple sources, must be carefully analyzed based on the weight of evidence. For example, while PCBs may be present in samples taken from different locations, sampling results may show differing congener patters, differing degrees of chlorination, or different weathering patterns each of which must be accounted for in attempting to correlate any result to a particular "source." Once in the environment the composition of PCBs changes over time due to various physicochemical properties and biological processes: vapor pressure, solubility, octanol-water partitioning, adsorption, and biodegradation. As the number of chlorine atoms increases, both vapor pressure and water solubility decrease, while adsorption and the octanol-water partitioning coefficient increase. Dechlorination of PCBs occurs primarily through aerobic and anaerobic microbial degradation. Aerobic bacteria preferentially dechlorinate less-chlorinated PCBs resulting in an increase in the degree of chlorination residual over time (i.e., within decades a less chlorinated Aroclor will look more like a more chlorinated Aroclor). Anaerobic bacteria preferentially dechlorinate more highly chlorinated PCBs, mainly by replacement of meta and para positioned chlorine atoms with hydrogen atoms, resulting in predominately ortho substituted mono- through tetra-chlorobiphenyls (i.e., a more chlorinated Aroclor will look more like a less chlorinated Aroclor over time). Additionally, less-chlorinated PCB congeners are less persistent in the environment due to volatilization and solubility; more-chlorinated PCBs are more persistent in the environment due to adsorption. Therefore, over time, under common sediment conditions, an initial release of a less chlorinated Aroclor will often subsequently "weather" in the environment such that sediment samples will present as a more chlorinated Aroclor in laboratory analyses. In summary, the composition of an original PCB mixture released to the environment can be expected to change due to a combination of the processes mentioned above. Therefore, any attempt to determine the source of the PCBs or Aroclors identified in an environmental sample must be approached with caution. Furthermore, Hudson River PCB concentrations show that surface water sample concentrations sampled at the Site are consistent with background concentrations based on all sample locations from 1975 through 2007, summarized in the Injury Determination Report Hudson River Surface Water Resources, Hudson River Natural Resource Damage

Assessment. In addition, surface water PCB concentrations show significantly higher PCB concentrations at upstream sampling locations. Site concentrations show Site levels are consistent with sampling locations immediately upstream and immediately downstream. Therefore, Site surface water PCB concentrations are at, and in most cases below, background PCB levels which suggests that the Site is not a significant contributor of PCBs to the Hudson River. Also note that Site PCB data reports the concentrations of PCBs as Aroclors, whereas the recent NYSDEC results reports the concentrations of PCBs as congeners. During performance studies conducted by EPA for the development of EPA Method 8082, the concentrations determined as Aroclors were larger than those obtained using the congener method, which suggests that Site PCB concentrations reported as Aroclors may be biased high. It should also be considered that, based on initial hydraulic calculations, the pore water volume exiting the site is a small fraction of the surface water and would not be capable of significantly changing the surface water concentrations from background or impacting surface water to the levels indicated in the samples presented within the PRAP. It is unclear if adequate precautions were taken to acquire samples at a location where interference from bottom sediments were eliminated to avoid samples results that were biased high.

RESPONSE 96: The comment is noted.

COMMENT 97: Lead; We do not agree with the conclusion that "The primary surface water contaminants are…lead associated with historical manufacturing and disposal at the site." Based on Gibbs (1994), total suspended sediment concentrations 1 meter above the river bottom increased from approximately 10 mg/kg at the ocean (Varrazano Narrows Bridge, ~45-50 km downstream) to 140 mg/kg in the middle of Haverstraw Bay (~25 km upstream). This work also demonstrated that suspended sediments have metal concentrations much higher (2 to 3 orders of magnitude) than bottom sediments. Site, total and dissolved, lead porewater concentrations as shown in Appendix C of the Field Work Summary Report for Fall 2004 Atlantic Richfield Supplemental Offshore Investigation Former Anaconda Plant Site Operable Unit No. 2 report were reviewed. For the 18 samples collected, all dissolved lead concentrations ranged from non-detect (<0.24 ug/L) to 1.9 µg/L, well below the SCG lead value of 8 µg/L. The total pore water lead concentration averaged 4.7 µg/L and ranged from 0.5 µg/L to 13.2 µg/L; only one sample, which measured 13.2 µg/L lead and was collected in one area south of the south boat slip, exceeded the SCG lead value of 8 µg/L. Given the low Site pore water lead concentrations and the study performed by Gibbs, demonstrating an increase in suspended sediments concentration and associated metals concentration further upstream, one can conclude that the Site is not a significant contributor of lead to the Hudson River.

RESPONSE 97: The Department has a different interpretation of the article by Gibbs. The suspended sediment concentrations measured in the water column for lead will be different from the lead concentration measured in the sediment next to the site. The Department maintains that the lead concentrations found in the sediments near the site are primarily from Harbor at Hastings source areas in OU1, which were identified and found to be related to the former manufacturing and direct discharges into the Hudson River.

COMMENT 98: Page 4. Movement of PCB Material as DNAPL through the fill in OU-1 has historically occurred vertically and, to a limited extent, horizontally along the interface with the Marine Silt. It appears that there has been some historical movement of DNAPL along the Marine Silt interface near the boundary between OU-1 and OU-2. However, there are also other transport mechanisms by which PCBs were likely deposited in OU-2. For example, PCB Material was likely associated with the outfalls of pipes associated with Building 52 and other manufacturing operations on OU-1. In addition, historic activities such as the mixing of PCB manufacturing ingredients along the Northwest Corner may have resulted in the overland transport of PCBs to the River, and other historic activities along the old dock and pier structures may also have resulted in PCB deposition in river sediments. Finally, prior to the installation of the IRM in the northwest corner, PCB contaminated soils may have washed or eroded from the upland surface soils.

RESPONSE 98: The comment is noted and the ROD has been revised accordingly.

COMMENT 99: Page 4, "Screening Criteria for Metals". As noted in the RFS, the ER-L and ER-M values do not account for site-specific conditions. These values are typically used to initially identify contaminated sediment. As stated in the 1999 NYSDEC Technical Guidance for Screening Contaminated Sediments, "Once a sediment has been identified as contaminated, a site-specific evaluation procedure must be employed to quantify the level of risk, establish remediation goals, and determine the appropriate risk management actions. The site-specific evaluation might include for example: additional chemical testing; sediment toxicity testing; or sediment bioaccumulation tests". If criteria are exceeded then sediment contamination is quantified, evaluated with respect to exposure to biota and the significance of exceedances are described in terms of the predicted effects. The guidance also states that "If sediment concentrations of a compound are less than all of the sediment criteria for that substance, aquatic resources can be considered to be not at risk (from that compound)." Given this procedure for evaluating sediments, if the sediment is not considered or shown to be a risk, then remedial action is not necessary. A discussion of previous studies and standard practices is provided hereafter as it pertains to toxicity evaluation of metals in sediment.
The biogeochemistry of sediments influences environmental risk for metals contaminants more than for any other category of environmental contaminants. The PRAP includes provisions for remedial goals based on

background, or ambient concentrations of metals in sediments. Based on empirical evidence and relevant site characteristics, metals in OU-2 sediments are expected to pose no risk to human health or the environment at concentrations much greater than background or ambient concentrations. The proper evaluation of environmental risks caused by sediment contamination typically requires the evaluation of three lines-of-evidence: bulk sediment chemistry, sediment toxicity, and the native benthic invertebrate community. These three lines of evidence (LOEs) (often referred to as a Sediment Quality Triad or SQT) are then evaluated relative to a background or 'reference' area(s), to make an overall conclusion (i.e. a 'weight-of-evidence' or WOE) about risks that contaminated sediments pose to ecological receptors.

Accordingly, remedial goals should consider actual risks to human health and the environment associated with sediment, acknowledging that background conditions may constrain the levels to which cleanup can be sustained. Because of the many factors governing the potential toxicity of metals in sediments, sediment quality values (SQVs) are particularly suspect for metals, and therefore inadequate for basing remedial action decisions without supporting lines of evidence. If toxicity and benthic community results were to reflect an absence of chemical affect on the sediment habitat, metals concentrations exceeding SQVs should not be given greater weight than the other biological lines of evidence. Studies within OU-2 (e.g., Llansó and Southerland, 2006; BB&L, 2006) have identified conditions that indicate a reduction in both the surface sediment concentrations and potential risks of divalent metals (and also PCBs) in the biologically active sediment zone, including:

Deposition of sediments at background concentrations: the OU-2 reach adjacent to the site is "depositional," accumulating suspended sediment from upstream sources (~1 inch/year based on the RI). Ongoing deposition has resulted in levels of constituents of potential concern (CPOCs) that are near background conditions.

Elevated TOC: levels of total organic carbon are greater than most Hudson River reaches (recent data suggests an average of 2.96%), which aids in binding contaminants in sediments, reducing bioavailability to invertebrates and fish; and

Strongly reducing conditions in sediment and a marked excess of acid-volatile (AVS): both contribute to limit or eliminate metals bioavailability - no benthic toxicity is predicted for this type of sediment per the USEPA metals mixtures guidance and should be taken into consideration at this site.

It should also be noted that non-chemical stressors at OU-2 likely affect the benthic community more than site-related COPCs. The degraded conditions at 'reference' locations support this conclusion (e.g., at Greystone.) Also note that the native benthic communities are similar at locations upstream and downstream of OU-2.

It is important that metrics that consider the above lines of evidence be included as a component of remedy selection activities. We have attached Dr. Jenkin's comments on this issue.

RESPONSE 99: This statement is not an accurate summary of the sediment criteria. The criteria indicate a need for analysis of potential toxicity is necessary if the criteria are exceeded. A lack of appropriate investigation cannot be used as a basis to assume the lack of risk from exceedance of the criteria. Toxicity and AVS/SEM testing at this site were not sufficiently robust to determine a site-specific toxicity threshold. Therefore, there has been no demonstration that site-specific factors are ameliorating the expected effects associated with metals concentrations above the sediment criteria.

COMMENT 100: Page 4 "Background Contamination" We note that Site Specific Background Values attributed to our site are similar to background values identified in the TAPPAN ZEE HUDSON RIVER CROSSING PROJECT Draft Environmental Impact Statement. The 95th Percentile concentrations for the 313 samples analyzed for the Tappan Zee Bridge were similar to the background samples selected for OU-2. This data shows that the concentrations upriver of OU-2 were much higher than background in some locations:
Copper 1,550 ppm
Lead 604 ppm
Zinc 399 ppm
PCBs 1.2 ppm

RESPONSE 100: The comment is noted. The Department also notes that the cited values are the maximum values of the Tappan Zee DEIS data set, and may have been taken from a distinct source area that does not represent the potential for remediated sediments to be recontaminated.

COMMENT 101: Table 1. The text indicates the maximum detection was 62.4 ppt, the table indicates 57.0 ppt.

RESPONSE 101: The correction was made in the ROD.

COMMENT 102: Table 2 footnotes, last sentence. "If only the ER-L is impacted …" should read " If only the ER-L is exceeded …"

RESPONSE 102: The correction was made in the ROD.

COMMENT 103: Table 3. Note that a site-specific organic carbon content of 2.96% was measured in more recent investigations which would raise the site-specific screening criteria applicable to this project.

RESPONSE 103: The Department used the organic carbon content value of 2.43% which represents all the reported values including the more recent investigations.

COMMENT 104: Northwest Extension Area. The term "sealed sheet pile wall" is presumed to mean a sheet pile wall with sealed joints as described in the RFS.

RESPONSE 104: Yes.

COMMENT 105: Alternative 6. Clarification. The text refers to "site-specific cleanup goals" in Table 2. Based on Figure 2 it appears that the 95th percentile value in the column labeled "Site Derived Value" in Table 2 is the reference. The ROD should explicitly state the Site-specific Cleanup Levels. The values stated by NYSDEC during the Public Meeting were as follows:
Copper 129 ppm
Lead 132 ppm
Zinc 234 ppm

RESPONSE 105: Footnote c of Table 2 indicates that the site-derived cleanup values are the range of the 90^{th} to 95^{th} percentile values of the background data set.

COMMENT 106: The reference in the first paragraph to Section 7.2 is presumed to be a reference to Section 7 of the PRAP.

RESPONSE 106: The correction is noted and incorporated into the ROD.

COMMENT 107: Basis for Selection, 2nd paragraph, 5th line. Regarding the statement that "Dredging to a depth of 6 feet removes sediment that has the potential to be scoured and migrate." The preceding sentence implies this statement is applicable to both nearshore and backwater areas. In the backwater areas, the natural deposition cited in other sections does not indicate that scour is likely to a depth of 6 feet. Preliminary estimates do not indicate that scour in the nearshore would reach 6 feet and wherever dredging and backfill occurs the backfill will be designed for the river conditions, therefore, dredge to 6 feet is not required to eliminate the potential for scour of contaminated sediment. We have attached Dr. Reible's comments on this issue.

RESPONSE 107: The comment is noted and the ROD is modified to include additional language to justify the removal of sediments to 6 feet. The decision to select the 6 feet is based on the removal of sediment to pre-release conditions to the extent feasible, consistent with the remainder of the site.

COMMENT 108: Criteria 1. The correct increased cost for Alternative 9 is $140 million.

RESPONSE 108: The correction was made in the ROD

COMMENT 109: Figure A. The areas identified as Northwest Off-shore and On-shore Area are presumed to be the Northwest Corner Off-shore and On-shore Areas.

RESPONSE 109: The correction was made in the ROD

COMMENT 110: Note that Atlantic Richfield Company has not declined to implement a remedial program as stated.

RESPONSE 110: The OU1 ROD Amendment is modified to reflect that ARCO has agreed to implement the OU1 remedial program. The OU2 ROD was revised to state that the PRPs for the site declined to implement the remedial investigation and feasibility study portion of the remedial program for OU2 when first requested by the Department. Since 2003 the PRPs have voluntarily performed additional investigations and submitted work plans and reports which include a feasibility study to advance the remedial program.

COMMENT 111: Paragraph 6.1.2. The DNAPL is a PCB mixture, not liquid PCBs. Only Semi-Solid and Trace PCB Material has been observed in sediment. The potential presence of DNAPL (i.e. Liquid PCB Material) beneath the rip-rap has been assumed by NYSDEC but has not yet been confirmed.

RESPONSE111: The comment is correct concerning the Department's expectation of the presence of Liquid PCB Material beneath the rip-rap based on the finding of this material in close proximity to the shoreline. Further delineation will be performed in this area to verify this expectation.

COMMENT 112: Paragraph 6.4. It should be noted that beryllium in groundwater was only slightly exceeded in one out of twenty samples and was non-detect in 20 pore water samples collected during the 2005 OU-2 sampling event. Existing conditions do not suggest the need to include beryllium in long term monitoring plans.

RESPONSE 112: The Department believes that beryllium should be included as a baseline monitoring parameter in the long term monitoring plan. If it is not detected, the monitoring plan may be revised to omit it.

COMMENT 113: Paragraph 6.4. It should be noted that PCBs in groundwater are limited by the extremely low solubility of site-specific Aroclors that are associated with the DNAPL and the mobility of local concentrations is restricted by other site factors including organic content of the soil.

RESPONSE 113: The statements in the comment are accurate, however, PCBs have been detected in unfiltered groundwater samples at the site which exceed the Department's ambient groundwater standards. The selected remedy is intended to prevent contaminated groundwater from leaving the site, and monitoring will be performed to identify PCB concentrations in groundwater.

COMMENT 114: Paragraph 7.2. As previously noted, the presence of Liquid PCB Material off-shore has not been confirmed. Semi-Solid PCB Material has been observed but "PCB DNAPL" has not been "found beneath the river".

RESPONSE 114: See Response #111

COMMENT 115: Paragraph 7.3. Since the westward extent of the DNAPL is unconfirmed, we believe that once the area is accessible during construction, delineation should precede installation of recovery wells.

RESPONSE 115: The Department agrees that delineation of PCB/ DNAPL will precede installation of recovery wells.

COMMENT 116: Paragraph 7.3. The sentence "The containment element for the Northwest On-Site Contamination (formerly identified as the Northwest Corner and Northern Shoreline Area)..." uses an undefined Northwest On-site Contamination term. It is presumed that this statement should be as follows "The containment element for the northwest on-site contamination (formerly identified within the Northwest Corner and Northern Shoreline Area)..."

RESPONSE 116: The comment is correct and the change will be incorporated into the ROD Amendment.

COMMENT 117: Element 2. Note that one of the "additional scope" items referred to in Section 8, Paragraph 7 is an expansion of the extent of excavation (and therefore the areas) in the Northwest Corner and Northern Shoreline areas (see Figure 2 comment below).

RESPONSE 117: The Department acknowledges this increased scope based on the additional information gathered during the pre-design investigations. Although the excavation criteria have not changed, the increased extent will be noted in the ROD Amendment.

COMMENT 118: Element 5. The term "sealed sheet pile wall" is presumed to mean a sheet pile wall with sealed joints as described in the RFS.

RESPONSE 118: Agreed.

COMMENT 119: Element 6. We propose the ROD incorporate the flexibility to accommodate constructability limitations, e.g. "eliminate to the extent practicable any additional fill material…"

RESPONSE 119: The Department agrees with the concept of maintaining flexibility to accommodate constructability limitations during remedial design. There will likely be modifications to the remedial design which were not anticipated at

the issuance of the Record of Decision. These will be documented and addressed on a case by case basis and the Department will follow its guidance and policy regarding such modifications.

COMMENT 120: Element 7. Operation of recovery systems should be continued only as long as recoverable DNAPL is observed.

RESPONSE 120: The shutdown criteria for recovery of DNAPL will be identified in the Site Management Plan. Recoverable DNAPL will be defined and provisions will be included which identify periodic monitoring to determine if the shutdown criteria is acceptable or additional recovery is necessary.

COMMENT 121: Element 10.bi. Groundwater quality and elevation monitoring does not provide data regarding the remedy performance and should not be required for such purposes. The compliance monitoring in Paragraph 10.c.i would provide the required data.

RESPONSE 121: The Department disagrees with the comment. Groundwater quality and elevation monitoring will be needed to evaluate the remedy performance and evaluate any corrective measures needed should they arise in the future. The Department is willing to evaluate and reduce the frequency based on the results obtained.

COMMENT 122: Element 10.b. Consideration should be given to regional contamination when establishing long term monitoring and criteria for groundwater discharged from the Northwest Extension Area. Groundwater treatment may not be necessary based on the extremely low solubility of site-specific Aroclors that are associated with the DNAPL and their concentrations relative to background surface water contamination.

RESPONSE 122: The PCB groundwater results will be evaluated and used to determine appropriate treatment of groundwater. The PCB groundwater results from the site indicate that levels exceed New York State Ambient Groundwater Standards.

COMMENT 123: Element 10.b.iv is presumed to be part of the previous bullet.

RESPONSE 123: The correction was made in the ROD

COMMENT 124: Figure 2. An updated version of Figure 2 that has been updated for the new data and uses the nomenclature in the text of the proposed modification is attached.

RESPONSE 124: The revised figure will be included.

APPENDIX B

Administrative Record

Administrative Record

Harbor at Hastings
Operable Unit No. 2
State Superfund Project
Village of Hastings on Hudson, Westchester County, New York
Site No. 360022

1. Proposed Remedial Action Plan for the Harbor at Hastings site, Operable Unit No. 2, dated October 2003, prepared by the Department

2. Proposed Remedial Action Plan for the Harbor at Hastings site, Operable Unit No. 2, dated January 2012, prepared by the Department

3. Referral Memorandum dated August 16, 1999 for Harbor at Hastings site, Operable Unit No. 2.

4. RI/FS Work Plan, Work Assignment No. D003821-15

5. Remedial Investigation Report, Harbor at Hastings (OU#2), Site 3-60-022, Earth Tech, December 2000

6. Mariniello Cove Sediment Sample Results, NYSDEC November 11, 2001

7. Final Feasibility Study Report, Harbor at Hastings (OU#2), Site 3-60-022, March 2003

8. Public Meeting Transcript for Remedial Actions Proposed for the Harbor at Hastings Site, Operable units #1 and #2, November 19, 2003

9. Supplemental Feasibility Study Report for Operable Unit No. 2, Parsons, April 2006

10. Revised Feasibility Study OU2, Former Anaconda Wire and Cable Company Site, NYSDEC Site # 3-60-22, Haley & Aldrich, October 31, 2012

11. Letter dated March 22, 2005 from Dave Kalet of ARCO regarding, Request to Initiate Technical Dialogue and for Additional DEC Information

12. Letter dated May 10, 2005 from Dave Kalet of ARCO regarding Additional AVS/SEM Information

13. Letter dated June 8, 2005 from George Heitzman of NYSDEC to Dave Kalet regarding Equilibrium Partitioning Sediment Benchmarks

14. Letter dated August 4, 2005 from Dave Kalet of ARCO regarding Use of Equilibrium Partitioning Sediment Benchmarks Methodology

15. Letter dated September 26, 2005 from George Heitzman of NYSDEC to Joseph Sontchi regarding Equilibrium Partitioning Sediment Benchmark

16. Letter dated October 14, 2005 from Dave Kalet of ARCO regarding Application of Equilibrium Partitioning Sediment Benchmarks Methodology to OU-2

17. Letter dated March 12, 2009 from William Ports of NYSDEC to Dave Kalet regarding Equilibrium Partitioning Sediment Benchmark

18. Letter dated February 1, 2012 from Jacques Padawer, Ph. D

19. Letter dated February 29, 2012 from Jeremiah Quinlan, Village of Hastings-on-Hudson Trustee

20. Letter dated March 9, 2012 from Eric Larson of Atlantic Richfield Corporation, including attachments

21. Letter dated March 9, 2012 Ms. Eileen Bedell, owner of the Hudson Valley Health & Tennis Club, including attachment

22. Letter dated March 12, 2012 from Daniel E. Estrin and Justin Davidson of the Pace Environmental Litigation Clinic, Inc. representing Riverkeeper, Inc., including Exhibits

Exhibit B

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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RECORD OF DECISION
BICC Cables Site
Yonkers, Westchester County, New York
Site No. 360051
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: Nature of Contamination

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).

Alternative S1A – No Action

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*

Alternative S2A – Monitored Natural Recovery

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*

Alternative S3A – Sediment Removal

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*

Alternative S4A – Sediment Removal/Capping

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*

Alternative S3B – Sediment Removal

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*

Alternative S4B – Sediment Capping

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.

Alternative I1 – No Action

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*

Alternative I2 – Building Material Encapsulation and Removal

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

Alternative I3 – Building Remediation

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*

Alternative I4 – Building Demolition

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.

Building Interior Component

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: HIGHLIGHTS OF COMMUNITY PARTICIPATION

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

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

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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BICC Cables Corporation, Yonkers, New York

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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BICC Cables Corporation, Yonkers, New York

INTERIOR BUILDING MATERIAL SURFACE ACCUMULATION/IMPACTS (POST-CLEAN)	Potential Contaminants of Concern	Concentration Range Detected[1] (µg/100cm^2)[a]	SCG (µg/100cm^2)[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)
	≤ 1/16-Inch	5,635		1.08	
	≤ 1/8-Inch	6,870		2.65	
	≤ 1/2-Inch	41,055		64	
	≤ 1-Inch	1,470		4.5	
First Floor	> 1-Inch	59,575	67%	1,450	1,525
	≤ 1/16-Inch	9,745		1.8	
	≤ 1/2-Inch	1,345		2.06	
	≤ 1-Inch	1,370		4.2	
Second Floor	> 1-Inch	14,100	34.50%	346	360
	≤ 1/16-Inch	NA		NA	
	≤ 1/2-Inch	3,400		5.2	
	≤ 1-Inch	NA		NA	
Third Floor	> 1-Inch	11,930	83%	293	300

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

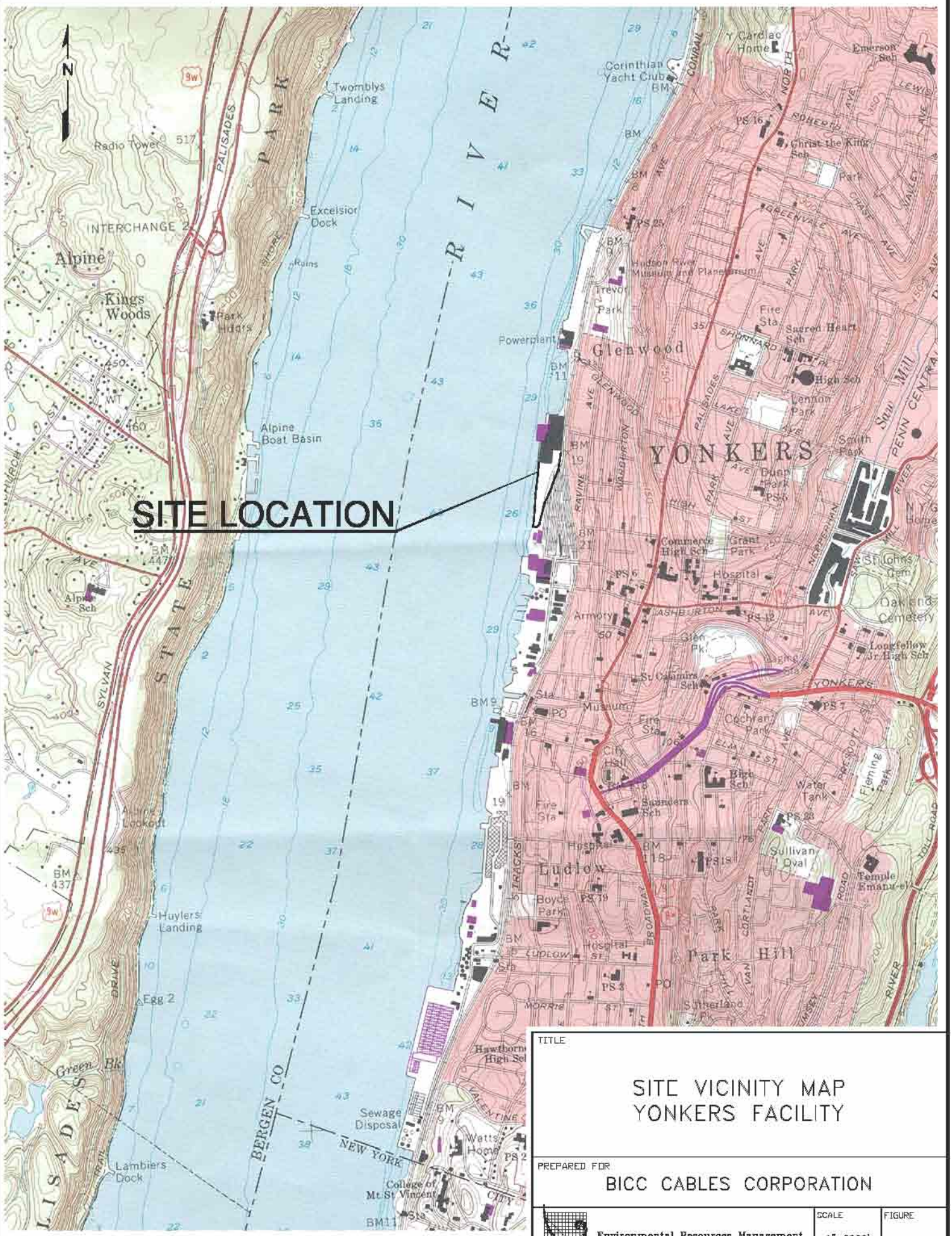
Note:
(1) Does not include surficial quantities provided above
NA-Wood building material is not present on this floor

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

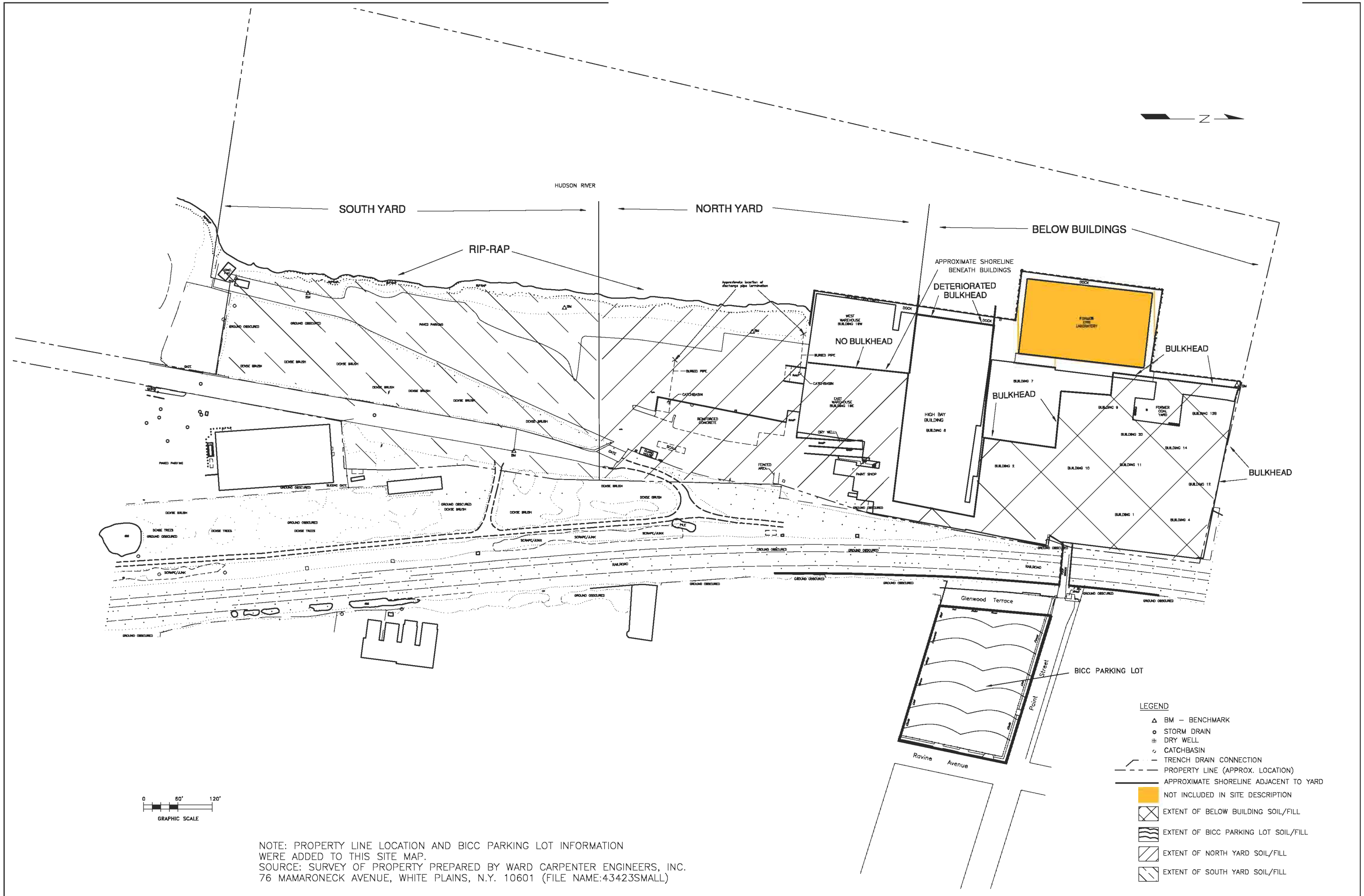
SITE VICINITY MAP
YONKERS FACILITY

PREPARED FOR

BICC CABLES CORPORATION

ERM — Environmental Resources Management

DRAWN:	JOB NO.:	FILE NAME:	SCALE	FIGURE
YS/EMF	X7511.04	x751103003	1"=2000'	1
			DATE: 2/18/02	



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

Environmental Resources Management

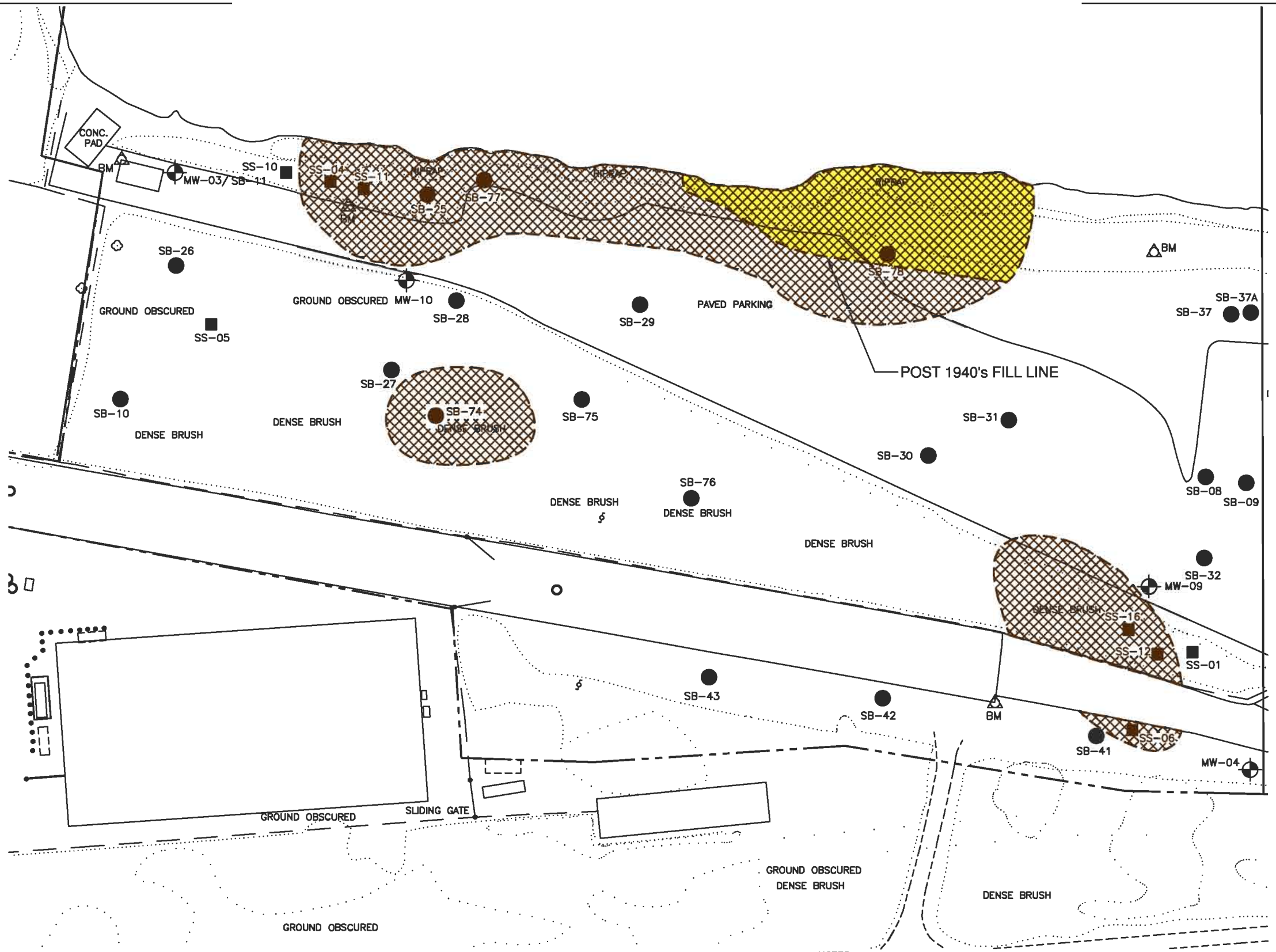
CHECKED		DATE	
DESIGN ENGINEER			
PROJECT ENGINEER			
PROJECT MANAGER	TOM DWYER		
APPROVED			
APPROVED			

SITE PLAN
BICC CABLES CORPORATION YONKERS FACILITY

FIGURE NO. 2 REV. NO.

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

SHEET OF



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

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.

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

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

Environmental Resources Management

ERM

CHECKED		DATE	
DESIGN ENGINEER			
PROJECT ENGINEER			
PROJECT MANAGER			
APPROVED			
APPROVED			

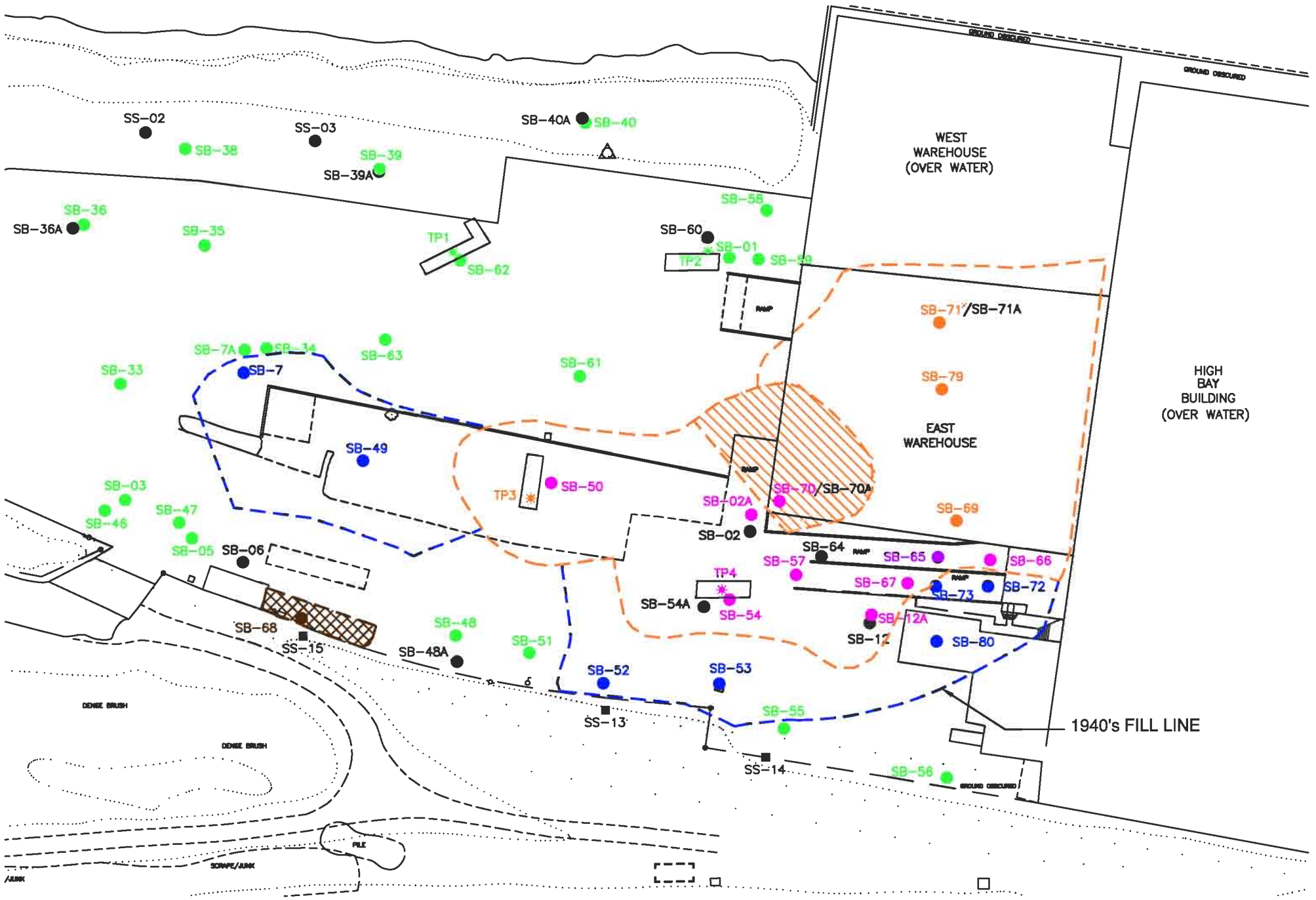
South Yard Soil/Fill Exeeding The PCB and VOC SCGs

DRAWING NO. 3

REV. NO.

DRAWN	DATE	REVISION DATE
YS	11/29/04	

SCALE	JOB NO.	FILE NAME:	SHEET OF
GRAPHIC	0001387-07	0013804.01.004	



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

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

× = One sample was analyzed for SB–71 fram 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 grode.
SB–71A was analyzed for totol lead, TCLP lead, ond VOCs from 3.5' to 8' below grade.

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

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

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

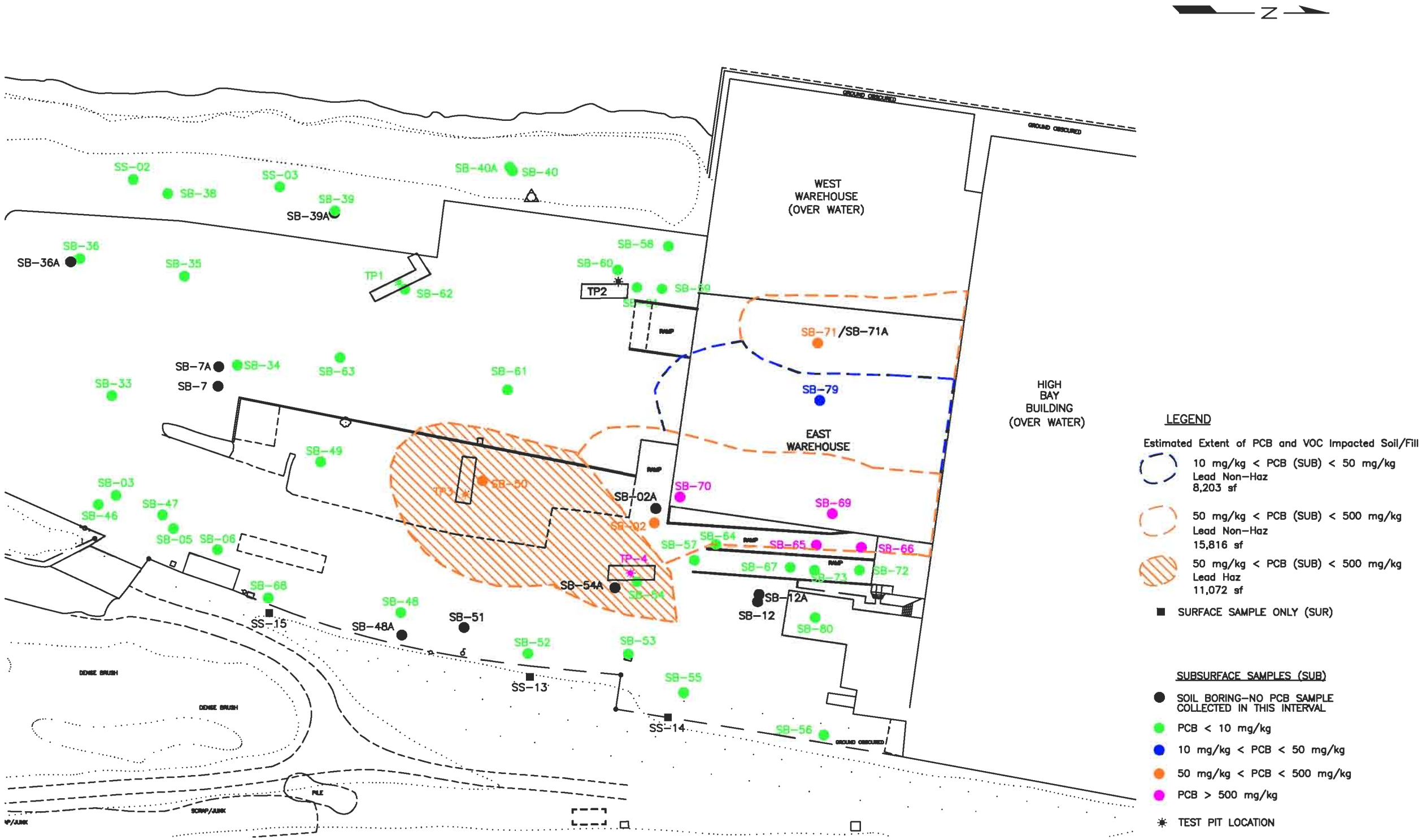
BICC CABLES CORPORATION

Environmental Resources Management

ERM

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

CHECKED		DRAWING NO.	4
DESIGN ENGINEER		REV. NO.	
PROJECT ENGINEER			
PROJECT MANAGER			
APPROVED		DRAWN: EMF/YS	DATE: 11/25/03
APPROVED		SCALE: GRAPHIC	JOB NO.: 0001367–07
		REVISION DATE:	FILE NAME: 0001367–07–002YSem
		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

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 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

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

Environmental Resources Management
ERM

CHECKED		DATE	
DESIGN ENGINEER			
PROJECT ENGINEER			
PROJECT MANAGER			
APPROVED			
APPROVED			

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

DRAWN	DATE	REVISION DATED
EMF/Y.S.	11/25/03	
SCALE	JOB NO.	FILE NAME
GRAPHIC	0001367-07	0001367-07-003ysem

DRAWING NO. 5 REV. NO.

SHEET OF

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

BICC CABLES CORPORATION

Environmental Resources Management
ERM

CHECKED	DATE	North Yard Soil/Fill Exeeding PCB and VOC SCGs Depth 8-12' Below Grade		DRAWING NO. 6
DESIGN ENGINEER				REV. NO.
PROJECT ENGINEER				
PROJECT MANAGER				
APPROVED		DRAWN EMF/YS	DATE 12/22/03	REVISION DATED
APPROVED		SCALE GRAPHIC	JOB NO. 0001367-07	FILE NAME: 0001367-07-006ys
				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.

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

0 30' 60'
GRAPHIC SCALE

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

Environmental Resources Management
ERM

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 DATED
EMF/YS	12/22/03	
SCALE	JOB NO.	FILE NAME
GRAPHIC	0001367-07	0001367-07-004ys

DRAWING NO. 7 REV. NO.

SHEET OF

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

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

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)

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

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

NO.	DATE	APP'D.	REVISION	NO.	DATE	APP'D.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

Environmental Resources Management

ERM

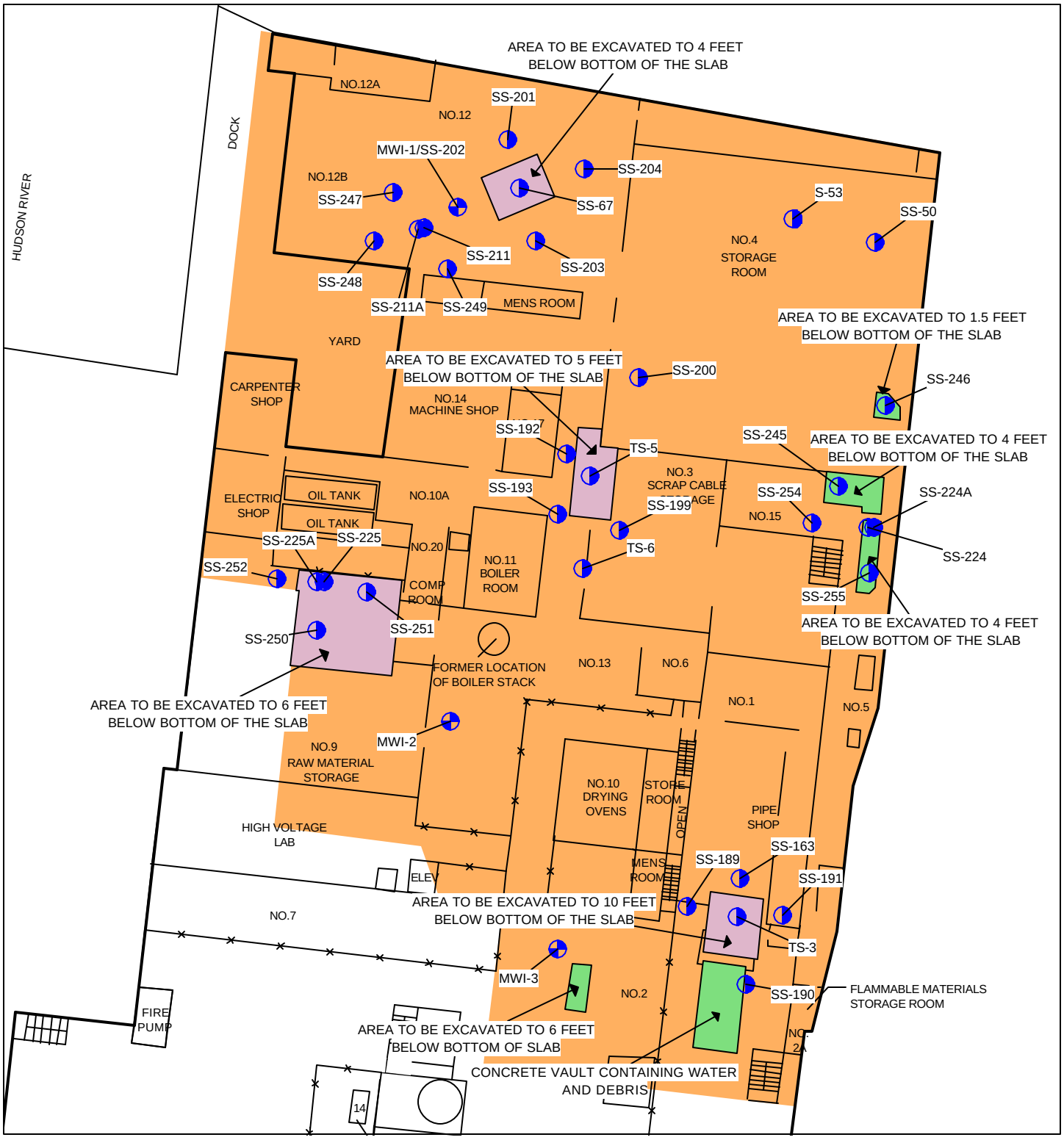
DRAWN	
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

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

DRAWN	DATE	REVISION DATE
EMF/YS	12/22/03	
SCALE	JOB NO.	FILE NAME
GRAPHIC	0001367-07	0001367-07-005y8

DRAWING NO. 8 REV. NO.

SHEET OF



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

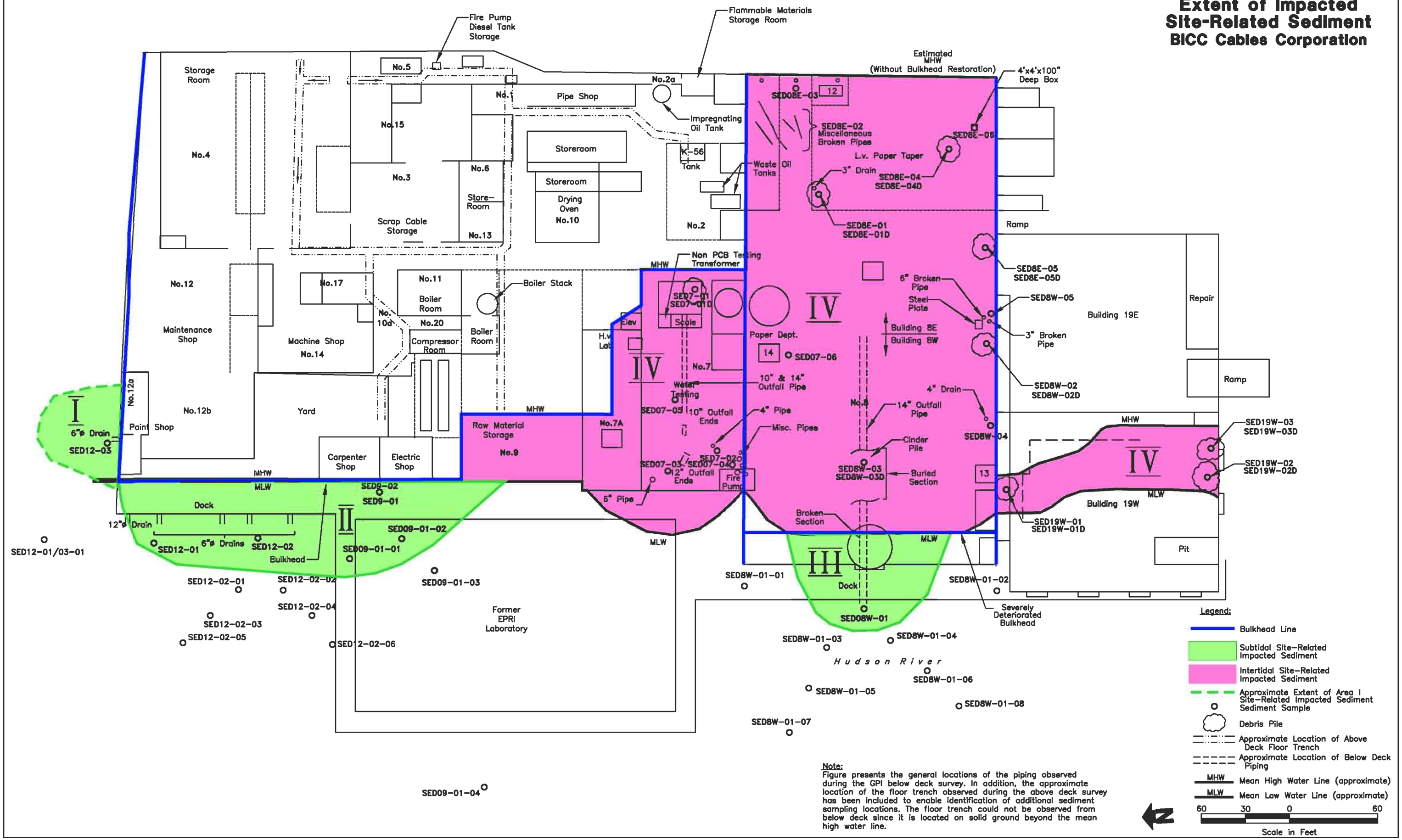
Prepared For:

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



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.

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

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

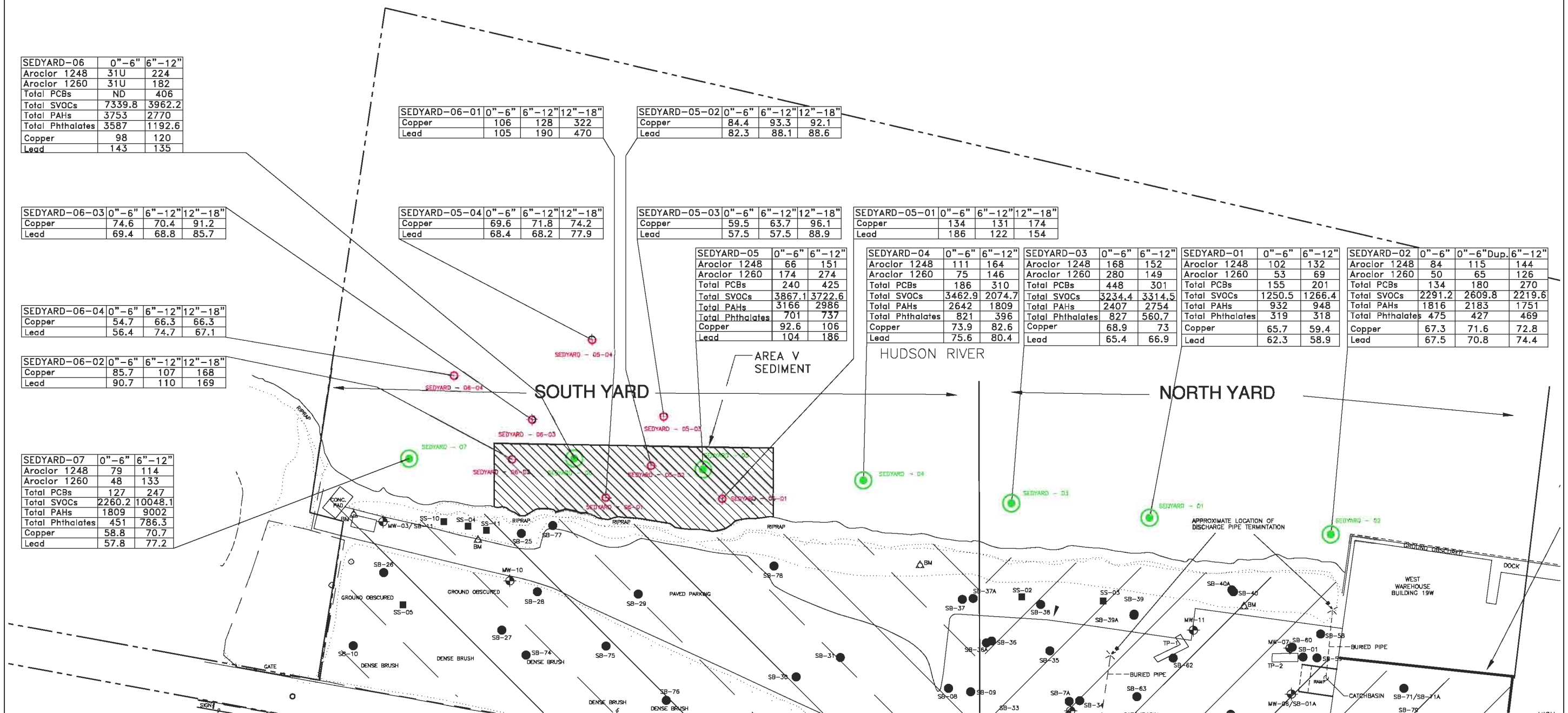
SEDYARD-03	0"-6"	6"-12"
Aroclor 1248	168	152
Aroclor 1260	280	149
Total PCBs	448	301
Total SVOCs	3234.4	3314.5
Total PAHs	2407	2754
Total Phthalates	827	560.7
Copper	68.9	73
Lead	65.4	66.9

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-06-02	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



0 60' 120'

GRAPHIC SCALE

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.

LEGEND

- SEDYARD - 02 — FIRST ROUND SEDIMENT YARD SOIL (SEDYARD) LOCATION
- SEDYARD-05-01 — SECOND ROUND SEDIMENT YARD SOIL (SEDYARD) LOCATION
- SS-01 — SURFACE SOIL (SS) LOCATION
- SB-25 — SOIL BORING (SB) LOCATION
- TP-2 — TEST PIT (TP) LOCATION
- MW-06 — 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

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)

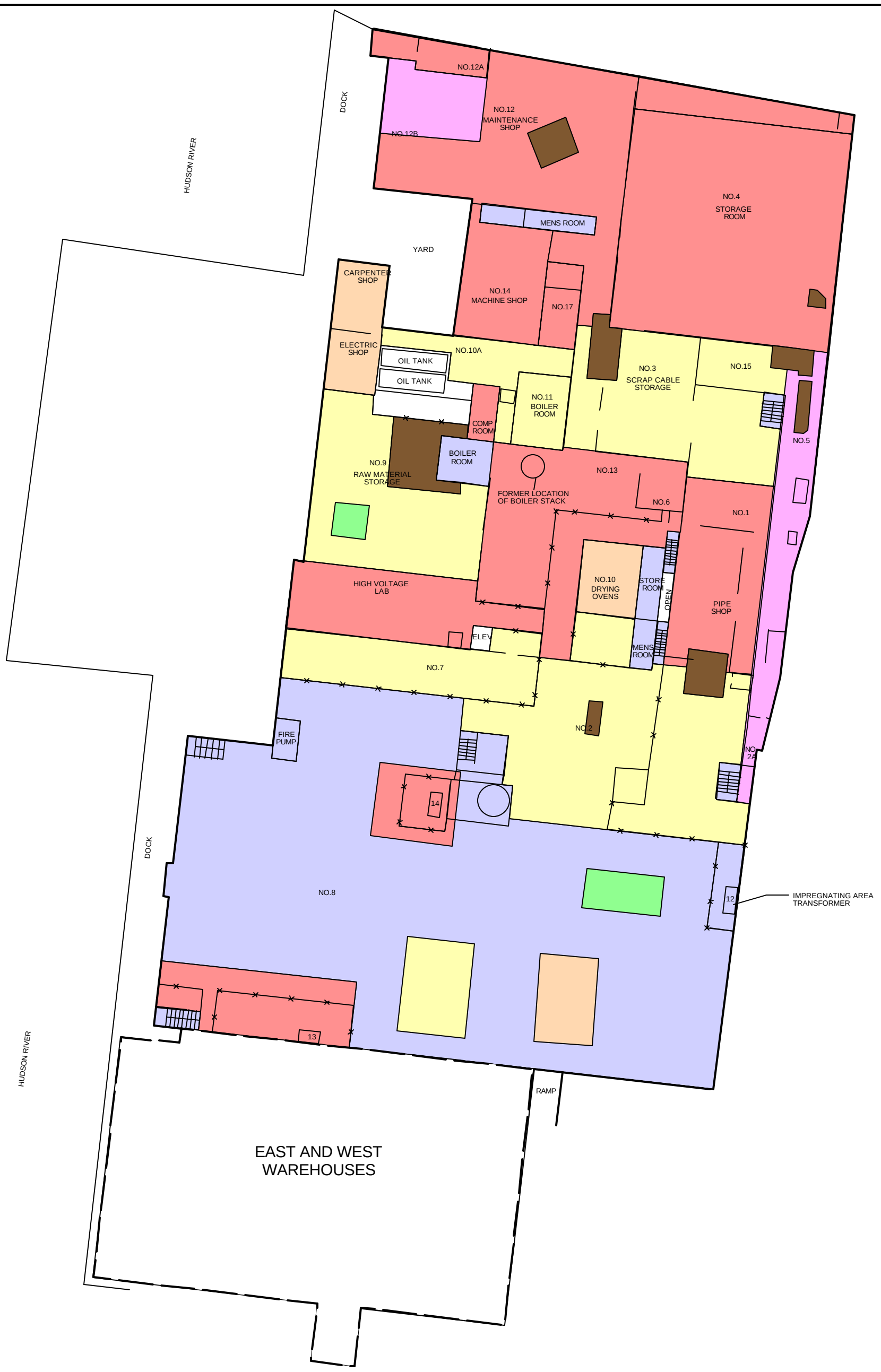
NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

ERM — Environmental Resources Management

CHECKED	DATE	EXTENT OF AREA V SEDIMENT	FIGURE NO. 12
DESIGN ENGINEER			REV. NO.
PROJECT ENGINEER			
PROJECT MANAGER			
APPROVED		DRAWN Y.S./EMF; DATE 11/29/04; REVISED DATE	
APPROVED		SCALE GRAPHIC; JOB NO. 0013804.01; FILE NAME 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)

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

60' 0 60'

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

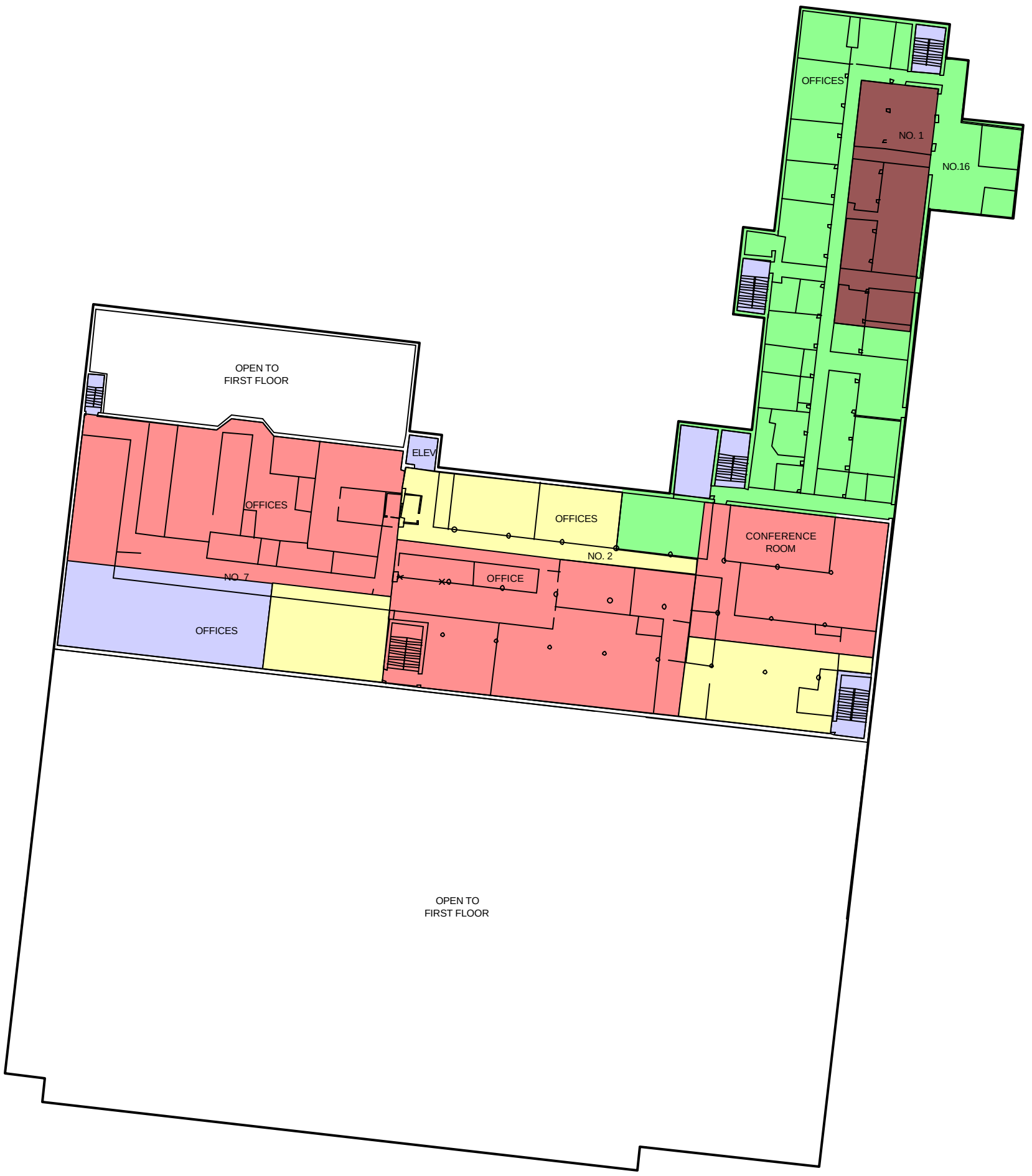
PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX 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

N

40' 0 40'

Title:

EXTENT OF IMPACTED BUILDING MATERIAL ON THE THIRD FLOOR

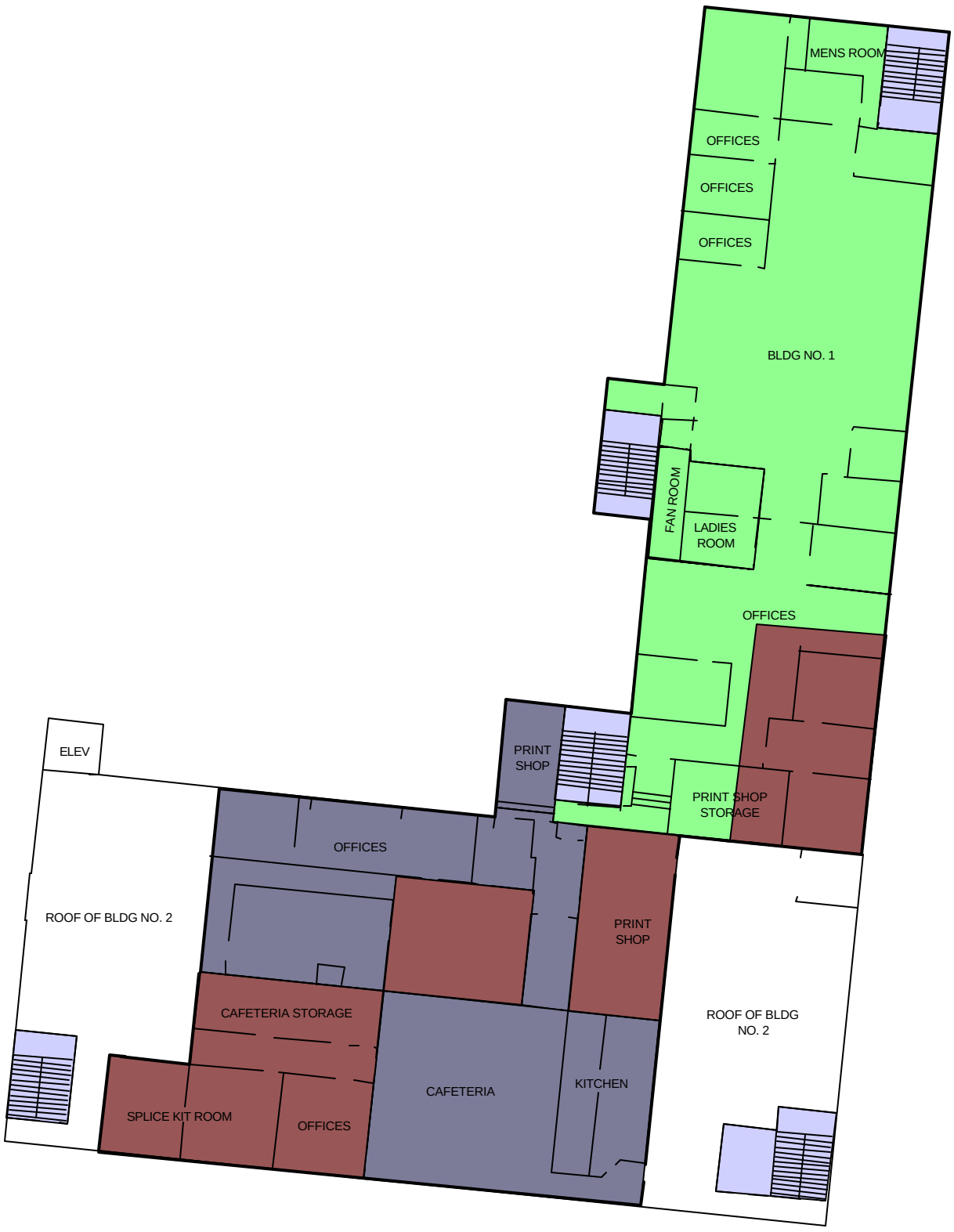
PROPOSED REMEDIAL ACTION PLAN

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	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

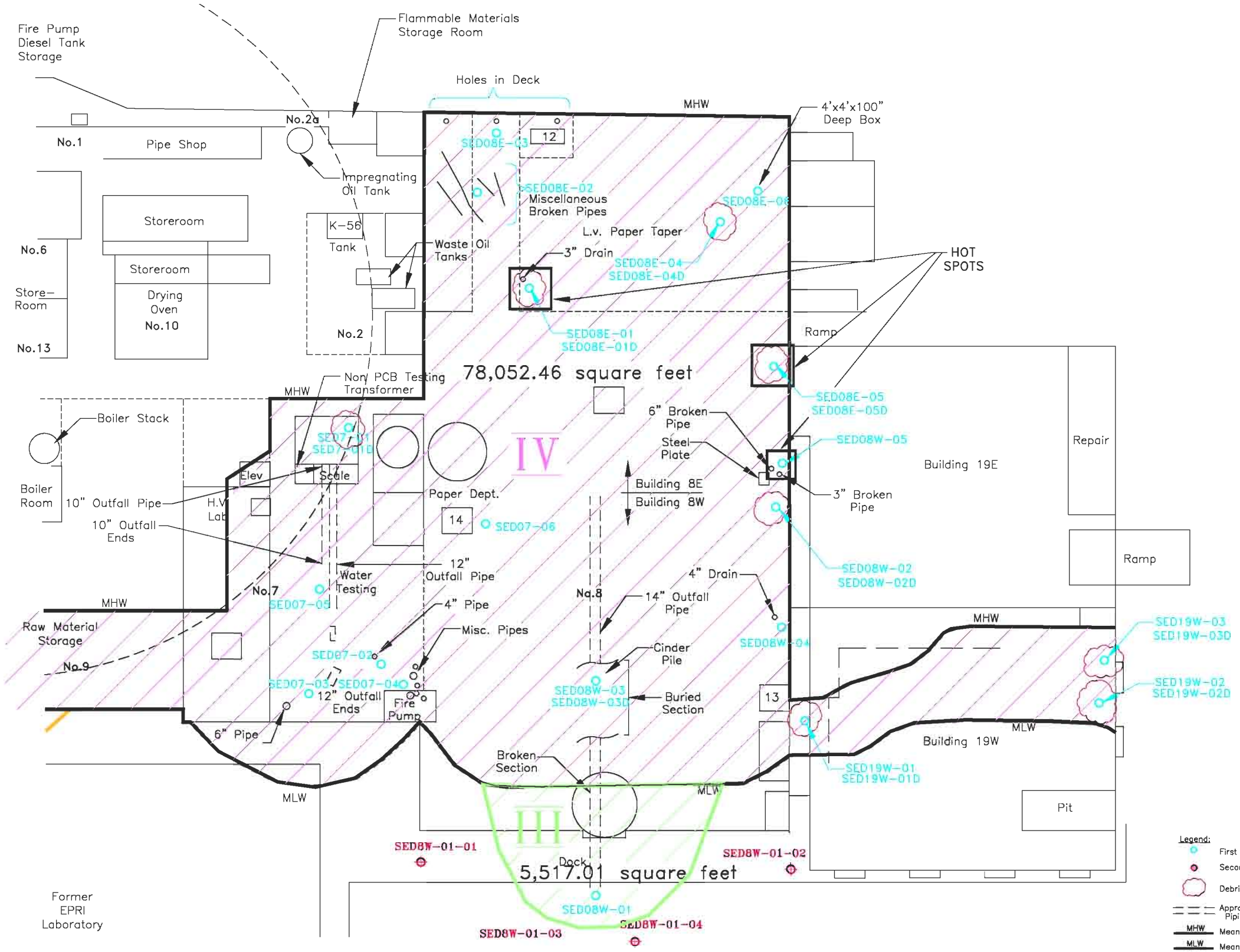
PROPOSED REMEDIAL ACTION PLAN

Prepared For:

BICC CABLES CORPORATION
YONKERS, NEW YORK

ROUX 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 CPI 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.

80 40 0 40
SCALE

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

BICC YONKERS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

BICC CABLES CORPORATION

Environmental Resources Management

ERM

CHECKED		DATE
DESIGN ENGINEER		
PROJECT ENGINEER		
PROJECT MANAGER		
APPROVED		
APPROVED		

LOCATION OF HOT SPOTS AND DEBRIS PILES BENEATH THE SITE BUILDING

FIGURE NO. 17 REV. NO.

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

SHEET OF

NORTHERN SOIL/FILL BOUNDARY LINE

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

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

EAST AND WEST WAREHOUSES

N

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	

Exhibit C

Index of Resolutions Opposing the Proposed Anchorages Passed by Westchester and Rockland Counties and Their Municipalities

Municipality	Date Resolution Passed
Town of Bedford	October 5, 2016
Village of Buchanan	August 2, 2016
Town of Cortlandt	July 29, 2016
Village of Dobbs Ferry	June 28, 2016
Village of Hastings-on-Hudson	August 23, 2016
Town of Haverstraw	August 8, 2016
Village of Irvington	No Date
Town of Lewisboro	October 25, 2016
Town of Mamaroneck	No Date
Town of Ossining	August 23, 2016
Village of Ossining	No Date
City of Peekskill	October 3, 2016
Village of Tarrytown	August 15, 2016
City of Yonkers	September 18, 2016
County	**Date Resolution Passed**
Westchester County	September 12, 2016
Rockland County	October 13, 2016

RESOLUTION

WHEREAS, The United States Coast Guard (USCG) is considering establishing new anchorage grounds in the Hudson River from Yonkers, New York to Kingston, New York through the expansion and establishment of additional new commercial anchorage grounds throughout the Hudson River Valley, pursuant to its proposed rule 2016-0132; and

WHEREAS, the proposed rule would directly impact several Westchester communities and could have devastating economic and environmental impact on the entire county at a time when significant investments have been made to develop the Hudson River waterfront and provide greater economic vitality to the river communities as well as the entire region; and

WHEREAS, Westchester County over the last fifteen (15) years in cooperation with various municipal and community partners, has made significant investments to restore, increase access, and enhance the Hudson River shoreline through the River Walk project which provides public access to over 37 miles of contiguous shoreline from the county's New York City to Putnam County borders for the enjoyment of all residents and visitors alike; and

WHEREAS, this action will significantly impact Local Waterfront Revitalization Plans filed by numerous local governments with New York State; and

WHEREAS, the proposed rule will put at risk many billions of dollars of public and private investment in housing, commercial enterprises and supporting infrastructure that have transformed Hudson River waterfronts into multi-use developments suitable for the postindustrial era; and

WHEREAS, numerous additional impacts exist, including the potential harm to river bottom habitat, the harm to protected species, the adverse impact to property values, the placement of volatile cargos adjacent to populated areas, potential security risks, and the impact on Westchester's $1.8 billion tourist industry; and

WHEREAS, the proposed rule is a repudiation of several decades of environmental efforts to restore and revitalize the Hudson River, its habitats and the significant progress, investment and sacrifice made by all levels of government, non-government organizations and individual citizens; and

WHEREAS, neither Westchester County nor any municipality within the County was formally notified of the proposed rule, as required by Federal Coastal Zone Management requirements, and

WHEREAS, for the reasons cited above, the people or the Town of Bedford would be adversely impacted by the proposed rule.

THEREFORE, BE IT RESOLVED that the Town Board of the Town of Bedford strongly opposes the adoption of proposed United States Coast Guard Rule 2016-0132; and

AND BE IT FURTHER RESOLVED, that this resolution be distributed to Senator Charles Schumer, Senator Kirsten Gillibrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Governor Andrew Cuomo, Secretary of State Rossana Rosado, State Senator Andrea Stewart-Cousins, State Assemblyman Thomas Abinanti, County Executive Robert Astorino, and Westchester County Board of Legislators.

STATE OF NEW YORK
COUNTY OF WESTCHESTER } *ss.*
TOWN OF BEDFORD

I hereby certify that I have compared the foregoing Resolution with the original on file in my office and that the same is a correct transcript therefrom and the whole of the said original Resolution, which was duly adopted by the Town Board of the Town of Bedford on October 4, 2016.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Corporate Seal of said Town of Bedford.

Dated: October 5, 2016

Town Clerk,
Town of Bedford

Village of Buchanan
Mayor & Board of Trustees
Regular Board Meeting
August 2, 2016

PRESENT:
Mayor Theresa Knickerbocker
Trustees Richard A. Funchion, Duane M. Jackson, Cesare Pasquale and Nicolas Zachary,
Village Administrator Kevin Hay
Village Board Secretary Susan Matthews

ABSENT:
Village Attorney Stephanie V. Porteus who is ill.

1. **PLEDGE OF ALLEGIANCE:**

Mayor Knickerbocker opened the meeting at 7:30 PM, welcomed everyone, informed them of the fire regulations and led the Pledge of Allegiance.

2. **APPROVE MINUTES:**

April 6, 2016 Budget Workshop: A MOTION to approve these minutes as read was made by Trustee Funchion, seconded by Trustee Zachary with all in favor.

May 3, 2016 Regular Board Meeting: Trustee Zachary amended by page 11, paragraph 4, line 8, add "% demolished" after "50". A MOTION to approve these minutes as amended was made by Trustee Zachary, seconded by Trustee Pasquale with all in favor.

June 7, 2016 Regular Board Meeting: A MOTION to approve these minutes as read was made by Trustee Funchion, seconded by Trustee Zachary with all in favor.

3. COMMENTS FROM THE FLOOR: (agenda items only)
None

4. NEW BUSINESS:

a) 16-35 RESOLUTION ACCEPTING A BID FOR THE 2016 ROADWAY PAVING PROJECT.

A MOTION to adopt this Resolution as presented was made by Trustee Funchion, seconded by Trustee Zachary with all in favor.

e) 16-39 RESOLUTION IN OPPOSITION OF THE PLAN TO ANCHOR BARGES ALONG THE SHORE OF THE HUDSON RIVER.

Trustee Zachary read the Resolution *(copy attached)*.

Mayor Knickerbocker advised that this is something that just came up recently. The comment period is until September 7. She commented that she was fortunate today to be with State Senator Murphy and other officials. They had a press conference and rally in Verplanck at the boat launch. The Coast Guard has suggested that there be different anchorages from Yonkers to Kingston. The Mayor commented that unfortunately for the Town of Cortlandt they are planning on doing one in Montrose and one in Verplanck by Tompkins Cove. She commented that it is another thing. We have a sheet rock gypsum plant. We have the Entergy plant and you have a resource recovery plant. We have all this industrial on the river. We have just gone through the Spectra pipeline. She commented it makes you say "What next?" At the turn of the century, you had a lot of industry on the river. But things have changed over the years. You still have the commerce with the oil and tankers going up and down the river. But what has happened is the trend now is that people and municipalities have realized the beauty of the river. In Tarrytown they are re-developing the former GM site. All along the river we can talk about what is going on. The Town of Cortlandt has put money into doing the river front and making it beautiful. Down by Steamboat Dock they purchased for over $2 million to do the river front all along there. You can look at the City of Peekskill. She commented that all along the river municipalities are refurbishing and making everything nice so that everyone can enjoy the river. We all enjoy the river. The Mayor sees a lot of Village residents down at Steamboat Dock. Everybody is doing this going all the way up to Kingston. We are still trying to get grants to help us do work at Lent's Cove. She commented that you have to shake your head because this is something else we have to fight. All the elected officials are banding together. They feel that September 7 is too short a time to make all comments heard. There will be different places where you can make your public comment including on-line. The Mayor commented that this is not a benefit to our area. It is an ugly thing. We are not even completely sure when they anchor these barges what exactly will be in them. The Mayor has heard different things like oil and hazardous materials. She commented that it is crazy and remarked who thinks this stuff up? She is not sure how many acres it would be in Montrose. She believes that it is 97 acres in Verplanck. As you are sitting on the river front what you would see instead of the other shore would be these big barges. Mayor Knickerbocker urges everyone to come out when these Public Hearings are held. The Village Board is doing this Resolution tonight so that we can send it to the Coast Guard. She commented that once again we are dealing with the Federal government. We will do our best to try to fight this. She commented that it seems like every year there are a couple of things that we

are fighting. As Mayor Knickerbocker gets more information, she will let everyone know. We will put it on Facebook.

Trustee Pasquale commented that he saw today that if you go to State Senator Terrance Murphy's web site on NewYorkState.gov, he has a petition. You can do it right on-line. They will deliver it to the Coast Guard. The Mayor advised that the Senator spearheaded this effort today.

Trustee Funchion asked if the Coast Guard gave any reason for this. He wanted to know if it has anything to do with the Tappan Zee Bridge. Is it temporary or permanent? The Mayor advised that it would be permanent. Trustee Funchion wanted to know if they said what the reason is for it. He commented that we have not had any barge sites up and down the river before. He wanted to know if there are a massive amount of barges coming in. The Mayor advised that what she understands from what she heard today is that there is such a jam in the Albany area so instead of a bottle neck there they are trying to stack it up.

Trustee Jackson wanted to know if there has been any kind of environmental impact assessment done. The Mayor commented that we are dealing with the Federal government and we saw how that worked with the Spectra pipeline. She commented that environmentally if there is a problem with the barges, some people are saying that if the barges leak it is a problem in the river. These are the same barges that go up and down the river every day. Somebody talked today about security. What is in these barges? It is close to Entergy and close to people. These barges are coming in from the Atlantic. Who is monitoring it? Are they going to be secure? Who is going to monitor them? Is there going to be security? There are a lot of questions.

Trustee Zachary commented that as a kid he remembers the "mothball fleet" of WWII vessels stored in the Hudson for more than 20. It was kind of a novelty. As a kid, he thought that was enjoyable. But he does not think there is anything enjoyable about having these barges stored here. He remarked that we should suggest a couple of "beautiful" sites to put those barges like Dobbs Ferry and Irvington. He commented that they did not attempt to put anything across from those municipalities. The Mayor commented that up here we seem to be the melting pot for everything. It is not a good thing.

A MOTION to adopt this Resolution was made by Trustee Zachary, seconded by Trustee Jackson with all in favor.

f) 16-40 RESOLUTION AUTHORIZING THE USE OF A VILLAGE FACILITY.

Trustee Jackson read the Resolution *(copy attached)*.

RESOLUTION

NO. 203-16

(IN OPPOSITION TO THE PLAN TO ANCHOR BARGES ALONG THE SHORES OF VERPLANCK, MONTROSE IN THE TOWN OF CORTLANDT)

WHEREAS, the Town has been recently notified that the United States Coast Guard is taking public comment with respect to its plan to allow the anchorage of barge along the shorelines of Verplanck, Montrose and other parts of the Town of Cortlandt in the Hudson River; and

WHEREAS, the anchoring of these facilities would cause an eyesore obstruction and a congregation of dangerous material immediately adjacent to the shoreline; and

WHEREAS, the Town Board feels that the public should be heard and all views and comments of the Town should be considered;

NOW, THEREFORE, BE IT RESOLVED, that the Town Board does hereby endorse a letter previously filed by the Town Supervisor with the Coast Guard requesting that a Public Meeting for information and to receive public comments be held within the Town of Cortlandt prior to the enactment of any regulations pertaining to this; and

BE IT FURTHER RESOLVED, that the Town Board does hereby direct that a copy of this Resolution be forwarded to the members of the United States Congress representing the Town of Cortlandt.

BY ORDER OF THE TOWN BOARD
OF THE TOWN OF CORTLANDT
JO-ANN DYCKMAN, TOWN CLERK

Adopted July 19, 2016
At a Regular Meeting
Held at Town Hall

RESOLUTION OF THE VILLAGE OF DOBBS FERRY BOARD OF TRUSTEES OPPOSITION TO PROPOSED RULE 2016-13701

WHEREAS, The Coast Guard is considering establishing new anchorage grounds in the Hudson River from Yonkers, NY, to Kingston, NY; and

WHEREAS, the Coast Guard proposed a rule establishing new anchorage grounds in the Hudson River from Yonkers, NY to Kingston, NY; and

WHEREAS, the contemplated Yonkers Extension Anchorage Ground would cover 715 acres for up to 16 vessels with a draft of less than 35 feet for long term usage; and

WHEREAS, the Yonkers anchorage is the largest of the proposed sites effecting Yonkers, the Village of Hastings and the Village of Dobbs Ferry; and

WHEREAS, Scenic Hudson, Riverkeeper, the City of Yonkers and many others have voiced their concern and opposition to the establishing new anchorage grounds; and

WHEREAS, Village of Dobbs Ferry Local Waterfront Revitalization Program, passed by the Village of Dobbs Ferry Board of Trustees on August 9, 2005, approved by New York Secretary of State on November 1, 2006 and concurred by the US Office of Ocean and Coastal Resource Management on November 19,2007 includes the Federal Coastal Zone Management Act (CZMA) requirements; and

WHEREAS, one of the requirements of the CZMA mandates that each Federal agency activity within or outside the coastal zone that affects any; and or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent, to the maximum extent as practicable, with the enforceable policies of approved LWRP's Procedures for LWRP consistency review and determination of direct actions and permit/license actions of federal agencies are coordinated by the New York Department of State (DOS); and

WHEREAS, all documentation from federal agencies regarding consistency determination of a federal action will be received and forwarded by the DOS and the municipality for review and recommendation regarding consistency will be received and forwarded by the DOS to the local municipality; and

WHEREAS, the only notification that has been made by the Coast Guard is through the publication in the Federal Register allowing a 35 day comment period; and

WHEREAS, the Village of Dobbs Ferry, DOS and all other municipalities affected from Yonkers to Kingston have not be not been individually notified; and

WHEREAS, views of the Hudson will be disturbed for the City of Yonkers, the Village of Hastings and the Village of Dobbs Ferry; and

WHEREAS, the proposed anchorage site abuts the main shipping channel of the river, which will increase congestion and may lead to collisions; and

WHEREAS, recreational boaters will be required be required to navigate either in the main channel used by large commercial vessels or bypass the anchorage to the west in shallow waters; and

WHEREAS, large anchoring equipment used by commercial vessels disturbs bottom sediments and can damage wildlife habitats, including those of endangered species residing in the river; and

WHERAS, the value of property in the Village of Dobbs Ferry, as with other river municipalities, relates directly to the views of the Hudson River; and

WHEREAS, the Village of Dobbs Ferry in conjunction with the County of Westchester and residents of Dobbs Ferry have rebuilt an underutilized waterfront park to what is now a vibrant, active and beautiful location for jazz festivals, July 4th celebrations, picnics and various active and passive recreational activites; and

WHEREAS, the anchoring of unmanned, unlit barges potentially carrying large amounts of fuel is a health, safety and welfare concern with the possibilities of spillage, home land security issues and aesthetic concerns; and

WHEREAS, the Village of Dobbs Ferry lacks the marine resources to adequately patrol and protect our waterfront from the additional threats to our health, safety and welfare caused by these new anchorage grounds; and

WHEREAS, the foregoing impacts of the new anchorage grounds have not been adequately studied; indeed, not all impacts have been identified; now therefor be it

RESOLVED that the Board of Trustees of the Village of Dobbs Ferry notes that proposed rule 2016-13701 was not promulgated in accordance with proper Federal, State and Local regulations and is therefore should be considered null and void; and

BE IT FURTHER RESOLVED that the Board of Trustees of the Village of Dobbs Ferry does hereby register its strongest possible opposition to proposed rule USCG 2016-13701 and urge its disapproval; and

BE IT FURTHER RESOLVED that the Board of Trustees of the Village of Dobbs Ferry urge residents to voice their concerns on the proposed new anchorage locations identified as USCG-2016-0132 at http://www.regulations.gov. by September 7, 2016.

BE IT FURTHER RESOLVED that this resolution be distributed to Senator Chuck Schumer, Senator Kristen Gillebrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Governor Cuomo, Secretary of State Rossana Rosado Senator Andrea Stewart –Cousins, Assemblyman Thomas Abinanti

Motion By: Seconded by:

Vote:

Mayor Hartley Connett	Y	N	A	Absent
Deputy Mayor Victor Golio, Jr.	Y	N	A	Absent
Trustee Larry Taylor	Y	N	A	Absent
Trustee Vincent Rossillo	Y	N	A	Absent
Trustee Jeffrey O'Donnell	Y	N	A	Absent
Trustee William Flynn	Y	N	A	Absent
Trustee Donna Cassell	Y	N	A	Absent

I hereby attest that the above Resolution was approved by the Board of Trustees at their June 28, 2016 meeting and that I have been authorized to sign this Resolution.

_____

_____

Village Clerk Date

RESOLUTIONS - BOARD OF TRUSTEES REGULAR MEETING OF AUG. 23, 2016

48:16 OPPOSITION TO PROPOSED ANCHORAGES IN HUDSON RIVER

WHEREAS, The Coast Guard is considering establishing new anchorage grounds in the Hudson River from Yonkers, NY, to Kingston, NY and has proposed a rule establishing new anchorage grounds in the Hudson River from Yonkers, NY to Kingston, NY; and

WHEREAS, the contemplated Yonkers Extension Anchorage Ground would cover 715 acres for up to 16 vessels with a draft of less than 35 feet for long term usage; and

WHEREAS, the Yonkers anchorage is the largest of the proposed sites affecting Yonkers, the Village of Hastings-on-Hudson and the Village of Dobbs Ferry, with eight of these anchorage sites located directly to the west of Hastings-on-Hudson; and

WHEREAS, Scenic Hudson, Riverkeeper, the City of Yonkers, Dobbs Ferry and many others have voiced their concern and opposition to the establishing new anchorage grounds; and

WHEREAS, the Village of Hastings-on-Hudson has completed a Comprehensive Plan in 2011 that repeatedly acknowledges the importance of the Hudson River to Hastings-on-Hudson, including the views, passive recreational uses, active boating uses, and view corridors enjoyed by thousands; and

WHEREAS, the Village of Hastings-on-Hudson is engaged in a restoration of its waterfront, working with the Riverkeeper and BP Arco to ensure that the heavily contaminated waterfront is restored to full use and to the highest standards, including the remediation of the waterfront river bottom directly in front of the former industrial lands referred to by the NY State Department of Environmental Conservation in the Consent Order governing the cleanup of PCBs in this area as Operating Unit 2; and

WHEREAS, the clean-up of these offshore, underwater areas will involve a substantial industrial-scale effort with deployment of barges, dredges, test platforms, boats and the other equipment and facilities necessary to effectuate such a clean-up for several years commencing in 2017 and would be in direct conflict with the mooring uses proposed along the river and the section designated as Operating Unit 2; and

WHEREAS, The presence of parked barges directly adjacent to the remediation will pose unacceptable risks to the clean-up crews needing to navigate this section as they carry out remediation activities and also pose the risk of collisions with said barges, resulting in potential releases of fuel oils and other contaminants in the midst of a major remediation effort; and

WHEREAS, Those seeking to navigate the Hudson River in this scenario would be facing parked barges and a major industrial remediation occupying a significant portion of the Hudson River at this point making such navigation potentially treacherous; and

WHEREAS, this clean-up effort is intended to remediate the site so it can be enjoyed by thousands as parkland and for the passive and active waterfront uses which would be restricted and otherwise deleteriously affected by the many barges that would be parked in front of the restored waterfront; and

WHEREAS, the Village of Hastings-on-Hudson has paid a steep price for the industrial use of its waterfront and waterways, seeing the direct results that pollution has had on its enjoyment of that said waterfront and believes that parking barges, including those containing oil and oil by-products risks further contamination of an area that the Village is seeking to see remediated after a century of abuse; and

WHEREAS, the proposed anchorage site abuts the main shipping channel of the river, which will increase congestion and may lead to collisions; and

WHEREAS, recreational boaters will be required be required to navigate either in the main channel used by large commercial vessels or bypass the anchorage to the west in shallow waters; and

WHEREAS, large anchoring equipment used by commercial vessels disturbs bottom sediments and can damage wildlife habitats, including those of endangered species residing in the river; and

WHEREAS, views of the Hudson will be disturbed for the City of Yonkers, the Village of Hastings and the Village of Dobbs Ferry, and the value of property in the Village of Hastings, as with other river municipalities, relates directly to the views of the Hudson River, especially as this portion of the Hudson River has views preserved into perpetuity by the creation of the Palisades Park on the western shore, creating a unique environment prized by many; and

WHEREAS, the anchoring of unmanned, unlit barges potentially carrying large amounts of fuel is a health, safety and welfare concern with the possibilities of spillage, home land security issues and aesthetic concerns; and

WHEREAS, The Village of Hastings-on-Hudson lacks the marine resources to adequately patrol and protect our waterfront from the additional threats to our health, safety and welfare caused by these new anchorage grounds; and

WHEREAS, all documentation from federal agencies regarding consistency determination of a federal action will be received and forwarded by the Department of State and the municipality for review and recommendation; and

WHEREAS, the only notification that has been made by the Coast Guard is through in the Federal Register allowing a 35 day comment period; and

WHEREAS, the Village of Hastings-on-Hudson and all other municipalities affected from Yonkers to Kingston have not been so contacted and so we believe that proposed rule 2016-13701 was not promulgated in accordance with proper Federal, State and Local regulations and is therefore should be considered null and void; and

WHEREAS, the foregoing impacts of the new anchorage grounds have not been adequately studied and therefore not all impacts have been identified, especially the impact on the waterfront remediation process the Village will face; now therefore be it

RESOLVED: that the Board of Trustees of the Village of Hastings-on-Hudson does hereby register its strongest possible opposition to proposed rule USCG 2016-13701 and urges its disapproval; and that this resolution be distributed to Senator Charles Schumer, Senator Kirsten Gillibrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Governor Andrew Cuomo, Secretary of State Rossana Rosado, State Senator Andrea Stewart-Cousins, and Assemblyman Thomas Abinanti.

ROLL CALL VOTE **AYE** **NAY**

Trustee Meg Walker
Trustee Nicola Armacost
Trustee Daniel Lemons
Trustee Walter Stugis
Mayor Peter Swiderski

49:16 APPROVAL OF CHANGE ORDER FOR MUNICIPAL BUILDING COLUMNS

RESOLVED: that the Mayor and Board of Trustees approve the change order from Pacific Transglobal Construction Corp., Hastings-on-Hudson, for added scope to the Municipal Building entrance column project, in the amount of $31,400.00, to be paid from the Capital Projects Fund.

ROLL CALL VOTE **AYE** **NAY**

Trustee Meg Walker
Trustee Nicola Armacost
Trustee Daniel Lemons
Trustee Walter Stugis
Mayor Peter Swiderski

50:16 ADOPTION OF LOCAL LAW NO. 2 of 2016 AMENDING CHAPTER 282 VEHICLES AND TRAFFIC OF THE CODE OF THE VILLAGE OF HASTINGS-ON-HUDSON TO ADD A HANDICAPPED PARKING SPACE IN FRONT OF RIVERVIEW PARK

RESOLVED: that the Mayor and Board of Trustees hereby adopt Local Law No. 2 of 2016 amending Chapter 282 Vehicles and Traffic of the Code of the Village of Hastings-on-Hudson, Section 282-27 Handicapped Parking to add new subsection N. for a handicapped parking space in front of Riverview Park, 337 Warburton Avenue.

Be it enacted by the Board of Trustees of the Village of Hastings-on-Hudson as follows:

SECTION 1. Section 282-27 of the Code of the Village of Hastings-on-Hudson is hereby amended to add new subsection N as follows:

TOWN BOARD
GARNERVILLE, NY
AUGUST 8, 2016

RESOLUTION IN OPPOSITION TO THE PLAN TO ANCHOR BARGES ALONG THE SHORES OF HAVERSTRAW IN THE TOWNOF HAVERSTRAW

The following resolution was offered and unanimously adopted by all of the Town Board.

350-16 WHEREAS, THE TOWN HAS BEEN RECENTLY NOTIFIED THAT THE UNITED STATES COAST GUARD IS TAKING PUBLIC COMMENT WITH RESPECT TO ITS PLAN TO ALLOW THE ANCHORAGE OF BARGES ALONG THE SHORELINES OF HAVERSTRAW, NEW YORK; AND

WHEREAS, THE ANCHORING OF THESE FACILITIES WOULD CAUSE AN EYESORE OBSTRUCTION AND A CONGREATION OF DANGEROUS MATERIAL IMMEDIATELY ADJACENT TO THE SHORELINE; AND

WHEREAS, THE TOWN BOARD FEELS THAT THE PUBLIC SHOULD BE HEARD AND ALL VIEWS AND COMMENTS OF THE TOWN SHOULD BE CONSIDERED;

NOW, THEREFORE, BE IT RESOLVED, THAT THE TOWN BOARD HEREBY DIRECTS THE TOWN SUPERVISOR TO SEND A LETTER TO THE COAST GUARD REQUESTING THAT A PUBLIC MEETING FOR INFORMATION AND TO RECEIVE PUBLIC COMMENTS BE HELD WITHIN THE TOWN OF HAVERSTRAW PRIOR TO THE ENACTMENT OF ANY REGULATIONS PERTAINING TO THIS;AND

BE IT FURTHER RESOLVED, THAT THE TOWN BOARD DOES HEREBY DIRECT THAT A COPY OF THIS RESOLUTION BE FORWARDED TO THE MEMBERS OF THE UNITED STATES CONGRESS REPRESENTING THE TOWN OF HAVERSTRAW.

PUBLIC PARTICIPATION

Mary Ann Bleecker, Broad Street, Haverstraw, NY expressed concern for the youth who ride bicycles on the roads in the Village of Haverstraw and do not abide by the traffic laws, creating a dangerous situation for themselves and others.

Charles Miller, Chief of Police, stated that by law the youth are allowed to ride their bicycles on the road; however the Town Police cannot issue violation summons to the youth. Chief Miller also stated that he will do some research to see if there's something that can be done about this situation.

ANNOUNCEMENTS

The United Latin Parade and Festival was held in on Sunday, August 7th in the Village of Haverstraw. Thousands attended and had a great time. Congratulations to the committee members for putting together this amazing event.

On Saturday, August 6th The Cal Ripken, Sr. Foundation hosted a baseball & softball clinic to celebrate the first season of the Badges for Baseball program in the Town of Haverstraw. Nearly 100 youth participated and enjoyed the different baseball/softball stations along with interactive stations with law enforcement officers. Thank you to the Cal Ripken, Sr. Foundation, Suez Water, Haverstraw Police Athletic League (HPAL), Town of Haverstraw, Town of Haverstraw Police Department, US Marshals, Rockland County Sheriff's Dept. Bomb Squad, Rockland County Helicopter, Haverstraw Ambulance Corps., Rockland Mobile Care, Saint Thomas Aquinas College Baseball Team, the Rockland Boulders, and the Village of West Haverstraw for allowing us to use their field.

RESOLUTION 2016-XXX

RESOLUTION IN OPPOSITION TO U.S. COAST GUARD PROPOSED RULE 2016-0132

Mayor Smith offered the following resolution, which was seconded by Trustee Gilliland and adopted:

WHEREAS, the U.S. Coast Guard is considering establishing new anchorage grounds in the Hudson River from Yonkers, NY, to Kingston, NY pursuant to proposed rule 2016-0132; and

WHEREAS, such rule would extend significantly the Hudson River Anchorage Ground adjacent to the City of Yonkers, Village of Hastings-on-Hudson, Village of Dobbs Ferry, and other locations in order to allow for increased shipping and on-river storage activities; and

WHEREAS, numerous identified impacts exist, including the potential for harm to river bottom habitat, harm to protected species, impact on the value of waterfront property, reduction of business activity from tourism, loss of tax revenues, hazards to recreational boaters, the presence of volatile cargo, and the placement of a potential terrorist target adjacent to significant populations; and

WHEREAS, the proposal is in direct conflict with 50 years of significant effort to clean up the Hudson River and restore its natural habitats by all levels of government and numerous regional and community-based organizations; and

WHEREAS, there was no direct notification of the proposed rule made to the Village of Irvington nor any of the affected communities along the length of the Hudson River as required by Federal Coastal Zone Management requirements; now therefore be it

RESOLVED, that the Board of Trustees of the Village of Irvington strongly opposes the adoption of U.S. Coast Guard proposed rule 2016-0132 for the reasons cited above; and

FURTHER RESOLVED, to urge a comprehensive briefing of elected and public safety officials from all affected river communities in Westchester, such briefing to include additional technical details of the proposal, timelines, and the status of the environmental review under NEPA; and

FURTHER RESOLVED, that this resolution be distributed to Senator Charles Schumer, Senator Kirsten Gillibrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Governor Andrew Cuomo, Secretary of State Rossana Rosado, State Senator Andrea Stewart-Cousins, State Assemblyman Thomas Abinanti, County Executive Robert Astorino, and County Legislator Mary Jane Shimsky.

OIL BARGES ON HUDSON – Resolution

On motion by Mr. DeLucia, seconded by Mr. Parsons, the Board voted as follows:

THE VOTE:	Yes	- DeLucia, Pappalardo, Parsons, Welsh	(4)
	No	- None	(0)
	Abstain	- Kelly	(1)

RESOLUTION – 2016

RESOLUTION OF THE TOWN BOARD OF THE TOWN OF LEWISBORO URGING THE UNITED STATES COAST GUARD TO REJECT PROPOSED RULE USCG-2016-0132 IN RELATION TO ESTABLISHING NEW LONG-TERM ANCHORAGE GROUNDS IN THE HUDSON RIVER ESTUARY

WHEREAS, Congress designated the Hudson River Valley National Heritage Area in Title IX of Public Law 104-333 (1996), as amended by Section 324 of Public Law 105-83; and

WHEREAS, in proposed rule USCG-2016-0132, the United States Coast Guard is considering establishing new long-term anchorage grounds in the Hudson River estuary in the Hudson River Valley National Heritage Area; and

WHEREAS, this proposed rule is irreconcilable with the adopted Hudson River Valley National Heritage Area Management Plan approved by the United States Secretary of the Interior; and

WHEREAS, the Coast Guard is contemplating an Extension Anchorage Ground that would cover approximately 715 acres for up to 16 vessels with a draft of less than 35 feet for long term usage which commercial tankers would use as rest stops; and

WHEREAS, such rule would extend significantly the Hudson River Anchorage Ground adjacent to the City of Yonkers, Village of Hastings-on-Hudson, Village of Dobbs Ferry, and other locations in order to allow for increased shipping and on-river storage activities; and

WHEREAS, although the Town of Lewisboro is not located along the coastal areas of the Hudson River, as Westchester municipality, the inland municipalities of Westchester County would also be negatively impacted as a result of the establishment of new long-term anchorage grounds in the Hudson River estuary in the Hudson River Valley National Heritage Area; and

WHEREAS, the proposal is in direct conflict with 50 years of significant effort to clean up the Hudson River estuary and restore its natural habitats by all levels of government and numerous regional and community-based organizations; and

WHEREAS, Clearwater, the League of Conservation Voters, Scenic Hudson, Riverkeeper, the Village of Irvington, the Village of Dobbs Ferry, and many others have voiced their concern and opposition to the establishing new anchorage grounds; and

WHEREAS, these anchorage sites pose a navigational hazard to recreational and commercial boaters who will be forced to navigate around the anchorages, creating the risk of collision; and

WHEREAS, scientific research shows that the habitats of some fish have been affected by previous anchorage sites; and

WHEREAS, the pile moorings used to create long-term anchorages pose an environmental risk by disturbing sediment along the riverbed as well as to the natural habitat of two Hudson River endangered species, the shortnose and Atlantic sturgeon; and

WHEREAS, vessels containing volatile crude oil and petroleum products pose a serious health risk whereby an anchored boat containing these hazardous materials could catch fire or spill toxic oil in the river; and

WHEREAS, owing to its location in the largest major metropolitan area in the United States, these anchorages would present an opportune target for terrorists and the proposal under consideration provides no additional mechanism or funding for policing our waterfront; and

WHEREAS, the proposed anchorage sites would also take a toll on the scenic beauty of the Hudson River and waterfront revitalization and tourism; and

WHEREAS, many in our community are concerned about the impact of constant noise, light and smoke from anchored boats, as many of the proposed sites are nearby homes and businesses; and

WHEREAS, to our knowledge, there was no direct notification of the proposed rule made to any of the affected communities along the length of the Hudson River as required by Federal Coastal Zone Management requirements; and

WHEREAS, the said proposal would create navigational, health, environmental, homeland security, economic and quality-of-life problems for the affected areas; and

NOW, THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Lewisboro pause in its deliberations to urge the United States Coast Guard to reject proposed rule USCG-2016-0132 in relation to establishing new long-term anchorage grounds in the Hudson River estuary;

AND BE IT FURTHER RESOLVED, that the Town Board of the Town of Lewisboro further pauses in its deliberations to urge a comprehensive briefing of elected and public safety officials from all affected river communities in Westchester, such briefing to include additional technical details of the proposal, timelines, and the status of the environmental review under NEPA;

AND BE IT FURTHER RESOLVED, that the Town Board of the Town of Lewisboro urges the Coast Guard to extend the public comment period for the proposed extension of the Hudson River anchorage grounds for an additional ninety (90) days so that our economic, environmental, and public safety and health concerns can be articulated;

AND BE IT FURTHER RESOLVED, that the Town Clerk is hereby authorized and directed to submit a copy of this resolution to the docket at https://www.regulations.gov/docket?D=USCG-2016-0132 on or before the 24 day of October, 2016;

AND BE IT FURTHER RESOLVED, that copies of this resolution, suitably engrossed, be transmitted to Governor Andrew Cuomo; NY State Senator 40 S.D. Terrence Murphy, NY State Assemblyman 93rd Assembly District David Buchwald, and Congressman 18th District Sean Patrick Maloney.

I, JANET L. DONOHUE, Town Clerk of the Town of Lewisboro, County of Westchester, State of New York, do hereby certify that I have compared the preceding copy of a Resolution adopted by the Town Board of the Town of Lewisboro at a meeting held on the 24th day of October, 2016, to the original thereof, and that the same is a true and exact copy of said original and of the whole thereof.

Janet L. Donohue
Town Clerk

Dated at South Salem, New York
this 25th day of October, 2016

Resolution of the Town Council of the Town of Mamaroneck urging the United States Coast Guard to reject proposed rule USCG-2016-0132 in relation to establishing new long-term anchorage grounds in the Hudson River Estuary in the County of Westchester

WHEREAS, Congress designated the Hudson River Valley National Heritage Area in Title IX of Public Law 104-333 (1996), as amended by Section 324 of Public Law 105-83; and

WHEREAS, in proposed rule USCG-2016-0132, the United States Coast Guard is considering establishing new long-term anchorage grounds in the Hudson River estuary in the Hudson River Valley National Heritage Area; and

WHEREAS, this proposed rule is in conflict with the adopted Hudson River Valley National Heritage Area Management Plan approved by the United States Secretary of the Interior; and

WHEREAS, such rule would extend significantly the Hudson River Anchorage Ground adjacent to the City of Yonkers, Village of Hastings-on-Hudson, Village of Dobbs Ferry, and other locations in order to allow for increased shipping and on-river storage activities; and

WHEREAS, the proposal is in direct conflict with 50 years of significant effort to clean up the Hudson River estuary and restore its natural habitats by all levels of government and numerous regional and community-based organizations; and

WHEREAS, these anchorage sites pose a navigational hazard to recreational and commercial boaters who will be forced to navigate around the anchorages; and

WHEREAS, scientific research shows that the habitats of some fish have been affected by previous anchorage sites; and

WHEREAS, vessels containing volatile crude oil and petroleum products pose a serious health risk whereby an anchored boat containing these hazardous materials could catch fire or spill toxic oil in the river; and

WHEREAS, the proposed anchorage sites would also take a toll on the scenic beauty of the County and waterfront revitalization and tourism; and

WHEREAS, there was no direct notification of the proposed rule made to any of the affected communities along the length of the Hudson River as mandated by Federal Coastal Zone Management requirements; and

WHEREAS, the said proposal would create navigational, health, environmental, economic and quality-of-life problems for the Hudson River waterfront communities of Westchester County; and

NOW, THEREFORE, BE IT RESOLVED, that the Town Council of the Town of Mamaroneck urges the United States Coast Guard to reject proposed rule USCG-2016-0132 in relation to establishing new long-term anchorage grounds in the Hudson River estuary in Westchester County;

AND BE IT FURTHER RESOLVED, that the Town Board of the Town of Mamaroneck urges a comprehensive briefing of elected and public safety officials from all affected river communities in Westchester, such briefing to include additional technical details of the proposal, timelines, and the status of the environmental review under NEPA.

WHEREAS, the grant application requires the applicant municipality to obtain the approval/endorsement of the governing body of the municipality or municipalities in which the project will be located;

NOW, THEREFORE, be it resolved that the governing board of the Town of Ossining hereby does approve and endorse the application for a grant under the 2016 Greenway Conservancy Small Grant Program, for a project known as Planning for Open Space/Bike Lane/Commerce Connectivity Corridor and located within this community.

Supervisor Levenberg stated that as you know, we have applied through the CFA process for grant money to help with planning of the Bike/Pedestrian/Open Space Corridor to help connect our communities and our parks to one another to make them more bikeable and more friendly to ecotourism. The Hudson Valley Greenway Grant is another opportunity for us to seek grant funding. We have reached out to the Town of New Castle and the Village of Ossining to partner with us on this grant, and so far have heard back and New Castle is on board. The Greenway requires we pass a resolution to identify the board's approval of the Town applying for this grant.

Motion Carried: Unanimously

D. <u>Resolution of the Town Board of the Town of Ossining in Opposition to Proposed Rule 2016-13701</u>

Councilmember D'Attore moved and it was seconded by Councilmember Wilcher that the following be approved:

WHEREAS, the U.S. Coast Guard is considering designating 2,400 acres of Hudson River Estuary as new anchorage areas for commercial barges along the Hudson River shoreline from Yonkers to Kingston and has proposed a rule establishing such new anchorage grounds; and

WHEREAS, there are three proposed anchorage grounds in the Hudson River adjacent to the Hudson River shoreline in Westchester County and Rockland County and those locations are known as Yonkers Extension, Montrose Point and Tompkins Cove; and

WHEREAS, the only notification that has been provided by the Coast Guard regarding the proposed anchorage grounds is through the publication in the Federal Register; and

WHEREAS, despite requests from several public interest organizations and local, state and federal elected officials, including U.S. Senators Charles Schumer and Kirsten Gillibrand, to hold public hearings on the new proposed anchorage grounds, to date the Coast Guard has declined to schedule any public hearings and will only be accepting written comments until September 7, 2016; and

WHEREAS, Scenic Hudson and Riverkeeper, as well as many municipalities, have voiced their concern and opposition to establishing these new anchorage grounds; and

WHEREAS, the designation of these new anchorage grounds, which would become water-based parking areas for commercial barges on the way to and from the ever-busier Port of Albany, portends an increase in barge traffic on the Hudson River; and

WHEREAS, the proposed anchorage sites abut the main shipping channel of the river, which will increase congestion on the river, and may lead to collisions and create additional homeland security issues along the riverfronts; and

WHEREAS, such efforts by the Coast Guard would serve to re-industrialize the Hudson River in areas undergoing transformation, coastal revitalization and adaptive reuse away from commercial and industrial uses and toward residential and recreational uses, and which re-industrialization would be inconsistent with the local long-term waterfront goals and regional initiatives toward Hudson Valley tourism; and

WHEREAS, the establishment of these anchorages will cause noise and light pollution, produce river bed scarring of delicate river bottom habitat through the use of heavy ground tackle and congregate dangerous material, such as crude oil, directly adjacent to the shoreline; and

WHEREAS, large anchoring equipment used by commercial vessels disturbs bottom sediment and can damage wildlife habitats, including those of endangered species that live in and abut the river; and

WHEREAS, the anchoring of ships and barges poses health, safety and welfare concerns from possible oil and fuel spills; and

WHEREAS, the Town of Ossining, along with many other municipalities within Westchester County, is a participating community under the Hudson River Valley Greenway Act, part of the intent of which is to establish a cooperative effort to advance the State's commitment to preserve, enhance and develop the world-renowned scenic, natural, historic, cultural and recreational resources of the Hudson River Valley; and

WHEREAS, the Town of Ossining has a high population of recreational boaters, who will be required to bypass the nearby proposed anchorage sites and navigate the increased commercial traffic on the Hudson River, which may create health, safety and welfare issues; and

WHEREAS, the Town of Ossining has already expended large sums of taxpayer money to clean up contaminated areas within the Town and is concerned about the increased likelihood of such future contamination from the increased commercial traffic and risk of spills from the ships that would utilize the proposed anchorage sites; and

WHEREAS, the Town of Ossining has a population of fisherman who utilize the river as a source of sustenance and who may be harmed by the increased contamination caused by the proposed anchorage sites; and

WHEREAS, the Town of Ossining is in the process of evaluating the potential of opening up its shoreline and beaches to the public in certain locations, and the impacts that may result from the proposed anchorage sites may cause the Town of Ossining to have to reevaluate this plan, to the detriment of its residents and the public; and

WHEREAS, the foregoing potential impacts of the new anchorage grounds have not been adequately studied or addressed, including identifying all impacts from the proposed anchorage grounds; and

WHEREAS, the Coast Guard's proposal does not indicate which agency(ies) will be responsible for overseeing and/or maintaining the proposed anchorage sites and the anticipated impacts that will result from such; and

NOW THEREFORE, BE IT RESOLVED that the Town Board of the Town of Ossining does hereby register its opposition to the proposed rule and urges its disapproval; and

BE IT FURTHER RESOLVED that the Board calls upon the Coast Guard to increase the ability for public comment by scheduling and actively promoting

additional public forums that are easily accessible throughout the affected area so that the community concerns over this complex proposal can be heard and integrated into the rulemaking process as early as possible; and extend the public comment period no shorter than 90 additional days.

BE IT FURTHER RESOLVED that the Town Board of the Town of Ossining urges residents to voice their concerns on the proposed new anchorage locations identified as Docket ID USCG-2016-0132 at http://www.regulations.gov by September 7, 2016; and

BE IT FURTHER RESOLVED that this resolution be distributed to U.S. Senator Charles Schumer, U.S. Senator Kristen Gillibrand, U.S. Congresswoman Nita Lowey, U.S. Congressman Eliot Engel, Governor Andrew Cuomo, N.Y.S. Secretary of State Rossana Rosado, N.Y.S. Senator David Carlucci and N.Y.S. Assemblywoman Sandy Galef; and

BE IT FURTHER RESOLVED, the Town Board authorizes the Town Supervisor to execute any and all correspondence conveying the Town's concerns as set forth herein or as may become known in the future based upon further review of the proposal.

Supervisor Levenberg stated as mentioned, there is a proposal before the US Coast Guard to consider setting up anchorages for barges along the Hudson River, specifically off Yonkers and Montrose Point. I attended a meeting in Yonkers yesterday with other municipal elected officials and staff to identify how we can work together to oppose what many of us believe will be working at odds with what the rivertowns have worked so hard to achieve—i.e. to get away from industrialization of the river and steer towards tourism, recreation, and natural beauty.

Motion Carried: Unanimously

E. Proposal: Cleaning Services at the Town Court

Councilmember D'Attore moved and it was seconded by Councilmember Wilcher that the following be approved:

Resolved, that the Town Board of the Town of Ossining hereby accepts the proposal dated August 16th, 2016 from Arco Cleaning, Mt. Kisco, for bi-weekly cleaning services of the Town Court Offices at a rate of $500 per month.

Supervisor Levenberg stated as you know, the Town court acts as a consolidated court serving both the Village and Town of Ossining. As such, we have an intermunicipal agreement with the Village that outlines services provided. In the appendix to the IMA, there is a lease agreement for the Town Court offices. We were made aware, recently, by the Village that the agreement does not include cleaning services. Although the Village staff has been cleaning the Town Court since it was consolidated, this arrangement is not longer acceptable to the Village and they have asked the Town to contract separately. As such, we are asking you to approve a contract with Arco cleaning to clean the court offices twice a week.

Motion Carried: Unanimously

F. Stipulation of Agreement: Denise Awerdick

Councilmember Jeffrey moved and it was seconded by Councilmember Wilcher that the following be approved:

BE IT SO RESOLVED, that the Town Board of the Town of Ossining hereby ratifies and approves the Stipulation of Agreement between the Town of Ossining and Denise Awerdick; and

RESOLUTION IN OPPOSITION TO DESIGNATION OF 2,400 ACRES OF HUDSON RIVER ESTUARY AS ANCHORAGE AREAS FOR COMMERICAL BARGES

WHEREAS, the Village has recently been notified that the United States Coast Guard, in an effort to inform its own internal review, is taking public comment with respect to a proposal to designate 2,400 acres of Hudson River Estuary as anchorage areas for commercial barges along the Hudson shoreline from Yonkers to Kingston; and

WHEREAS, the designation of these new anchorage grounds, which would become water-based parking areas for commercial barges on the way to and from the ever-busier Port of Albany, portends an increase in barge traffic on the Hudson River, with the potential to affect the ecological health of the river and the quality of life of its riverfront communities, including the Village of Ossining; and

WHEREAS, such efforts by the Coast Guard would serve to re-industrialize the Hudson River in areas undergoing transformation, coastal revitalization and adaptive reuse more in keeping with stated local long-term waterfront goals and regional initiatives toward Hudson Valley tourism; and

WHEREAS, the establishment of these anchorages will cause noise and light pollution, produce river bed scarring of delicate river bottom habitat through the use of heavy ground tackle and congregate dangerous material, such as crude oil, directly adjacent to the shoreline; and

WHEREAS, this proposed action appears to be adverse to the policy set forth in the Village of Ossining Local Waterfront Revitalization Plan (LWRP), adopted on July 2, 1991 and amended on March 16, 2011, and has the potential to adversely affect residents' quality of life, chill revitalization efforts and tourism, which, among other things, are dependent on protection and enhancement of the views along the waterfront area; and

WHEREAS, the Village Board of Trustees feels that all perspectives should be accounted for and public comments and community concerns should be considered during this initial phase of consideration by the U.S, Coast Guard and prior to the taking of formal action.

NOW, THEREFORE, BE IT RESOLVED, that the Village Board of Trustees hereby voices its opposition to the proposal by the U.S Coast Guard to designate 2,400 acres of Hudson River Estuary as anchorage areas for commercial barges along the Hudson shoreline from Yonkers to Kingston; and

BE IT FURTHER RESOLVED that the Board calls upon the U.S. Coast Guard to increase the ability for public comment through the scheduling and active promotion of additional public forums that are easily accessible throughout the affected area so that the community concerns over this complex proposal can be heard and integrated into the rulemaking process as early as possible; and

BE IT FURTHER RESOLVED, that the Village Board of Trustees does hereby direct that a copy of this Resolution be forwarded to the members of the United States Congress representing

the Village of Ossining and authorizes the Mayor to sign any and all correspondence on this topic to communicate the Village's concerns.

CITY OF PEEKSKILL COMMON COUNCIL
PEEKSKILL, NEW YORK

AGENDA BILL

SUBJECT:
OPPOSITION TO HUDSON RIVER ANCHORAGE PROPOSAL

FOR AGENDA OF:	10/17/16	AGENDA #
DEPT. OF ORIGIN:		
DATE SUBMITTED:	10/3/16	
DEPARTMENT HEAD:	CITY MANAGER	
EXHIBITS:		

APPROVED BY COMPTROLLER	
APPROVED AS TO FORM BY CORPORATION COUNSEL	
APPROVED BY CITY MANAGER FOR SUBMISSION	

EXPENDITURE REQUIRED $		AMOUNT BUDGETED $		APPROPRIATION REQUIRED $	

SUMMARY STATEMENT

THIS RESOLUTION OPPOSES THE U.S. COAST GUARD'S PLAN TO ESTABLISH NUMEROUS ANCHORAGE GROUNDS FOR COMMERCIAL VESSELS TO USE AS REST STOPS AND URGES THE U.S. COAST GUARD TO CONDUCT PUBLIC MEETINGS AND INCLUDE THIS RESOLUTION AS A STATEMENT.

RECOMMENDED ACTION

STAFF RECOMMENDS APPROVAL

MOVED BY:	SECONDED BY:

ROLL CALL VOTE				
MAYOR CATALINA			COUNCILMAN TORRES	
DEPUTY MAYOR CLAXTON			COUNCILMAN VESCE	
COUNCILWOMAN TALBOT			COUNCILMAN RAINEY	
COUNCILWOMAN McKENZIE				

RESOLUTION OF THE COMMON COUNCIL
IN OPPOSITION TO THE PLAN TO
ANCHOR BARGES ALONG THE SHORES OF THE HUDSON RIVER

WHEREAS, in June 2016, the U.S. Coast Guard announced that it was soliciting comments and concerns from the public on a proposal to establish a large number of anchorage grounds for commercial vessels in the Hudson River that commercial tankers would use as rest stops; and

WHEREAS, vessels containing volatile crude oil and petroleum products pose a serious risk to the Hudson River. An anchored boat containing these hazardous materials could catch fire or spill toxic oil in the River. The health of communities that use and depend upon the Hudson River for recreation and drinking water will be threatened. The sites would also take a toll on the scenic beauty of our region; at least three locations would block the view and otherwise adversely affect popular tourist attractions and new economic development projects; and

WHEREAS, the said proposal would create health, safety environmental and economic problems for Peekskill and other Hudson River communities; and

NOW, THEREFORE, BE IT

RESOLVED, that the City of Peekskill hereby states its firm and unequivocal and bipartisan opposition to the proposed anchorages and urges the U.S. Coast Guard to conduct public meetings and include this document as a statement of our position, and ultimately, to abandon this proposal.

Board of Trustees
Village of Tarrytown
Regular Meeting No. 13
August 15, 2016
8:00 p.m.

PRESENT: Mayor Fixell presiding; Trustees: Butler, Hoyt, McGee, McGovern and Zollo; Village Administrator Blau; Village Treasurer Hart; Village Attorney Zalantis and Village Clerk Booth

ABSENT: Trustee Brown

****

RESOLUTION OF THE BOARD OF TRUSTEES OF THE VILLAGE OF TARRYTOWN IN OPPOSITION TO PROPOSED RULE 2016-13701

Trustee Hoyt moved, seconded by Trustee McGovern, and unanimously carried, that the following resolution be approved: Approved: 6-0

WHEREAS, the Coast Guard is considering establishing new anchorage grounds in the Hudson River from Yonkers to Kingston have proposed a rule establishing such new anchorage grounds; and

WHEREAS, there are three proposed anchorage grounds in the Hudson River adjacent to the Hudson River shoreline in Westchester County and Rockland County and those locations are known at Yonkers Extension, Montrose Point and Tompkins Cove; and

WHEREAS, Scenic Hudson and Riverkeeper, as well as many municipalities have voiced their concern and opposition to the establishing new anchorage grounds; and

WHEREAS, the only notification that has been provided by the Coast Guard regarding the proposed anchorage grounds is through the publication in the Federal Register allowing a 35 day comment period: and

WHERAS, the Village, in collaboration with other funding agencies, including the New York State Department of State, the New York State Office of Parks, Recreation and

Historic Preservation, the US Department of Agriculture National Resources and Conservation Service, Westchester County and Scenic Hudson have invested considerable funds to create new parks along the Hudson River to increase public access, both direct and visual, as well as provide for expanded recreational opportunities for residents and non-residents alike and the anchorages will impact upon Hudson River views throughout the riverfront, including light pollution from the anchored ships and barges; and

WHEREAS, in addition to the riverfront improvements constructed by the Village and its funding partners, there has been significant private residential development on the Tarrytown riverfront; and

WHEREAS, the proposed anchorage site abuts the main shipping channel of the river, which will increase congestion on the river and may lead to collisions; and

WHEREAS, recreational boaters will be required bypass the anchorages which may create a safety issue for such recreational boaters; and

WHEREAS, large anchoring equipment used by commercial vessels disturb bottom sediment and can damage wildlife habitat, including those of endangered species that live in and about the river; and

WHEREAS, the anchoring of ships and barges pose health, safety and welfare concerns from possible oil and fuel spills, as well as homeland security issues along the riverfronts; and

WHEREAS, the Board of Trustees accepted the Local Waterfront Revitalization Program document for the Village of Tarrytown, by resolution adopted on August 17, 2015, and submitted the document to the New York State Department of State for review, comment and approval and that accepted document includes the Federal Coastal Zone Management Act (CZMA) requirements; and

WHEREAS, one of the requirements of the CZMA mandates that each Federal agency activity within or outside the coastal zone that affects any; and or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent, to the maximum extent as practicable, with the enforceable policies of approved LWRP's Procedures for LWRP consistency review and determination of direct actions and permit/license actions of federal agencies are coordinated by the New York Department of State (DOS); and

WHEREAS, that consistency analysis has not been completed for the anchorage grounds; and

WHEREAS, the foregoing impacts of the new anchorage grounds have not been adequately studied, including the identification of all impacts from the proposed anchorage grounds.

NOW THEREFORE, BE IT RESOLVED that the Board of Trustees of the Village of Tarrytown notes that proposed rule 2016-13701 was not promulgated in accordance with proper Federal, State and Local regulations and is therefore should be considered null and void; and

BE IT FURTHER RESOLVED that the Board of Trustees of the Village of Tarrytown does hereby register its opposition to proposed rule USCG 2016-13701 and urge its disapproval; and

BE IT FURTHER RESOLVED that the Board of Trustees of the Village of Tarrytown urge residents to voice their concerns on the proposed new anchorage locations identified as USCG-2016-0132 at http://www.regulations.gov. by September 7, 2016.

BE IT FURTHER RESOLVED that this resolution be distributed to Senator Charles Schumer, Senator Kristen Gillebrand, Congressperson Nita Lowey, Congressperson Eliot Engel, Governor Andrew Cuomo, Secretary of State Rossana Rosado, Senator Andrea Stewart-Cousins and Assemblyperson Thomas Abinanti.

****

I, Carol A. Booth, the undersigned Village Clerk, do hereby certify that the above is a true and correct excerpt of the minutes of the August 15, 2016 of the Board of Trustees Organizational Meeting.

Carol A. Booth, Village Clerk
Dated: August 17, 2016

Official Seal

RESOLUTION NO.108-2016

BY COUNCIL PRESIDENT MCLAUGHLIN, MAJORITY LEADER LARKIN, MINORITY LEADER SABATINO, COUNCILMEMBERS JOHNSON, PINEDA-ISAAC, SHEPHERD AND BREEN:

RESOLUTION OF THE CITY OF YONKERS IN OPPOSITION TO PROPOSED RULE 2016-13701RELATING TO NEW ANCHORAGE GROUNDS IN THE HUDSON RIVER FROM YONKERS, NY TO KINGSTON, NY.

WHEREAS, the Coast Guard has proposed the creation of new anchorage sites in the Hudson River for vessels carrying oil to refineries south of Westchester County (the "Proposal"); and

WHEREAS, the Proposal would create 10 anchorage sites for up to 43 oil vessels between Yonkers and Ulster County; and

WHEREAS, under the Proposal, nearly 1,000 acres of the Hudson River would be used as anchorage sites off the shores of Westchester County alone; and

WHEREAS, Congress designated the Hudson River Valley National Heritage Area in Title IX of Public Law 104-333 (1996), as amended by Section 324 of Public Law 105-83; and

WHEREAS, this proposed rule is irreconcilable with the adopted Hudson River Valley National Heritage Area Management Plan approved by the United States Secretary of the Interior; and

WHEREAS, numerous identified impacts exist, including the potential for harm to the Hudson River bottom habitat, harm to protected species, impact on the value of waterfront property, reduction of business activity from tourism, loss of tax revenues, hazards to recreational boaters, the presence of volatile cargo, and the placement of a potential terrorist targets adjacent to significant populations; and

WHEREAS, the proposal is in direct conflict with 50 years of significant effort to clean up the Hudson River and restore its natural habitats by all levels of government and numerous regional and community-based organizations; and

WHEREAS, environmental and civic groups like Clearwater, the League of Conservation Voters, River keeper, Scenic Hudson, and municipalities like the Village of Irvington, the Village of Dobbs Ferry, and many others have voiced their concern and opposition to the establishing new anchorage grounds; and

RESOLVED, that the City Council of the City of Yonkers strongly opposes the adoption of U.S. Coast Guard proposed rule 2016-0132 for the reasons cited above; and be it

FURTHER RESOLVED, that the City Clerk is hereby authorized and directed to submit a copy of this resolution to the docket at https://www.regulations.gov/docket?D=USCG-2016-132 on or before the 6th of December,2016;

FURTHER RESOLVED, that the City Council of the City of Yonkers urges a comprehensive briefing of elected and public safety officials from all affected river communities in Westchester, such briefing to include additional technical details of the proposal, timelines, and the status of the environmental review under NEPA; and be it

FURTHER RESOLVED, that a certified copy of this resolution be delivered to Governor Andrew Cuomo, Senator Chuck Schumer, Senator Kirsten Gillibrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Rear Admiral Steven D. Poulin, Commander, First Coast Guard District; Secretary of State Rossana Rosado, Senator Andrea Stewart –Cousins, Senator George Latimer, Assemblywoman Shelley Mayer, Assemblyman Gary Pretlow.

THIS RESOLUTION WAS ADOPTED BY THE CITY COUNCIL AT A STATED MEETING HELD ON TUESDAY, SEPTEMBER 27, 2016 BY A VOTE OF 7-0.

COUNCIL PRESIDENT — DATE 9/28/16

SENT TO MAYOR 9/29/2016
DATE

MAYOR — APPROVED 9/30/16
DATE

ATTEST:

DEPUTY CITY CLERK — DATE 9/30/16

RESOLUTION NO. 104 - 2016 (As Amended)

WESTCHESTER COUNTY BOARD OF LEGISLATORS RESOLUTION IN OPPOSITION TO COAST GUARD PROPOSED RULE 2016-0132

WHEREAS, Westchester County's unique place in New York State's proud history has been inextricably bound to the Hudson River for more than four centuries; and

WHEREAS, the United States Coast Guard is considering the expansion and establishment of additional new commercial anchorage grounds throughout the Hudson River Valley, pursuant to proposed rule 2016-0132; said rule will directly impact the Westchester communities of Yonkers, Hastings-on-Hudson, Dobbs Ferry, Cortlandt, Buchanan, Peekskill, Croton-on-Hudson, the Village of Ossining, Town of Ossining, New Castle, Mount Pleasant, Irvington, Tarrytown and the Village of Sleepy Hollow, and could have devastating economic and environmental impacts on the entire County; and

WHEREAS, Westchester County over the last 15 years in cooperation with various municipal and community partners, has made significant investments to restore, increase access, and enhance the Hudson River shoreline through the RiverWalk project which provides public access to over 37 miles of contiguous shoreline from the county's New York City to Putnam County borders; and

WHEREAS, numerous additional impacts exist, including the potential harm to river bottom habitat, the harm to protected species, the adverse impact to property values, the placement of volatile cargos adjacent to populated areas, potential security risks, and the impact on Westchester's $1.8 billion tourist industry; and

WHEREAS, proposed rule 2016-0132 is a repudiation of over 50 years of environmental efforts to restore and revitalize the Hudson River, its habitats and the significant progress, investment and sacrifice made by all levels of government, non-government organizations and individual citizens; and

WHEREAS, proposed rule 2016-0132 will put at risk many billions of dollars of public and private investment in housing, commercial enterprises and supporting infrastructure that have transformed Hudson River waterfronts into multi-use developments suitable for the post-industrial era; and

WHEREAS, neither Westchester County nor any municipality within the County was formally notified of proposed rule 2016-0132, as required by Federal Coastal Zone Management requirements, and this action will significantly impact Local Waterfront Revitalization Plans filed by numerous local governments with New York State; and

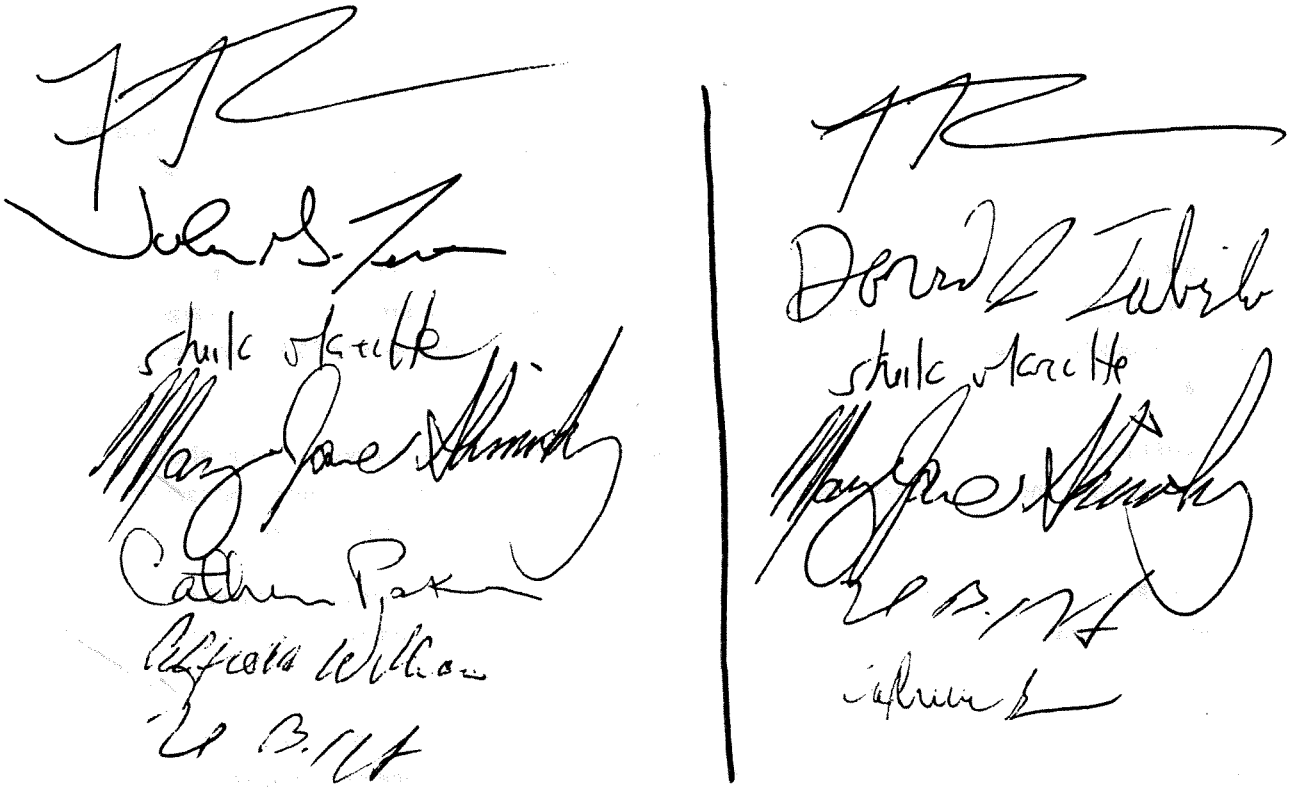
THEREFORE, BE IT RESOLVED that the Westchester County Board of Legislators strongly opposes the adoption of proposed United States Coast Guard Rule 2016-0132; and

BE IT FURTHER RESOLVED, that the Westchester County Board of Legislators urges the immediate scheduling of public hearings throughout the Hudson River Valley, to include comprehensive briefings of elected, public safety, and environmental officials, as well as interested members of the public; and that such hearings include all additional technical details, timelines, and impacts as required by Federal NEPA regulations; and

BE IT FURTHER RESOLVED, that this Westchester County Board of Legislators resolution be distributed to Steven D. Poulin, First District Commander, United States Coast Guard; and to Senator Charles Schumer, Senator Kirsten Gillibrand, Congresswoman Nita Lowey, Congressman Eliot Engel, Governor

Andrew Cuomo, Secretary of State Rossana Rosado, State Senator Andrea Stewart-Cousins, State Senator Terrence Murphy, State Assemblywoman Sandra Galef, State Assemblyman Thomas Abinanti, State Assemblywoman Shelley Mayer, State Assemblyman David Carlucci, and County Executive Robert Astorino.

Date: September 12, 2016



Committee on Environment & Health

Infrastructure

STATE OF NEW YORK)
) ss.
COUNTY OF WESTCHESTER)

I HEREBY CERTIFY that I have compared the foregoing Resolution, Resolution No. 104 - 2016 (as amended), with the original on file in my office, and that the same is a correct transcript therefrom, and of the whole, of said original Resolution, which was duly adopted by the Westchester County Board of Legislators, of said County on September 12, 2016.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of said County Board of Legislators on this 13th day of September, 2016.

Malika Vanderberg

The Clerk of the Westchester County
Board of Legislators

County of Westchester, New York

COUNTY BOARD OF LEGISLATORS * WESTCHESTER COUNTY, N.Y. * COUNTY 1683 ORGANIZED

The Legislature of Rockland County

HARRIET D. CORNELL
Legislator – District 10
Chair, Environmental Committee

MINUTES
ENVIRONMENTAL COMMITTEE
THURSDAY, October 13, 2016
5:30 PM

Members Present:	**Members Absent:**	**Others Present:**	
Leg. H. Cornell, Chair	Leg. J. Hood, Jr.	Leg. C. Falciglia	A. Silva-Exias, Esq.
Leg. A. Wolfe		L. Incalcaterra	
Leg. N. Low-Hogan, Vice-Chair			
Leg. T. Earl			
Leg. C. Carey			
Leg. L. Santulli			

CHAIR CORNELL CALLED THE MEETING TO ORDER AT 5:33 PM

ADOPTION OF MINUTES FOR 6/28/16 MEETING

MOTION TO ADOPT:
CAREY/LOW-HOGAN **UNAN**

1. REF. #9137 - OPPOSING THE PROPOSAL BY THE UNITED STATES COAST GUARD TO DESIGNATE 2,400 ACRES OF THE HUDSON RIVER AS ANCHORAGE SITES FOR COMMERCIAL VESSELS ALONG THE HUDSON SHORELINE FROM YONKERS TO KINGSTON, NEW YORK **(HONS. HARRIET CORNELL, ALDEN WOLFE, JAY HOOD, JR., LEGISLATURE)**

MOTION TO APPROVE: **UNAN**
CORNELL/WOLFE

ADDED CO-SPONSORS: HONS. LOW-HOGAN, EARL, CAREY, SANTULLI, JOBSON, FALCIGLIA

Chair Cornell said that she hadn't realized how much acreage had been involved for these barges along the Hudson River. The U.S. Coast Guard is seeking public comments and hadn't anticipated the great outcry from communities along the Hudson River. There are a lot of safety concerns and an increased chance for accidents and potential crude oil spill hazards, which threaten the delicate ecological systems along the Hudson River. There have been concerns about crude oil transport for several years, by barge, by rail, or by pipeline. She said that the county's rivertowns, like Haverstraw, are trying to revitalize their waterfronts for tourism. Nyack has done a lot for their waterfront for tourism and this barge proposal would jeopardize that. Chairman Wolfe stated that the barges would reverse all the hard work that has been done to protect the Hudson River.

2. REF. #5337 - APPROVING AN AGREEMENT BETWEEN ROCKLAND COMMUNITY COLLEGE AND ROCKLAND FARM ALLIANCE, INC. FOR GREENHOUSE PROJECT (ROCKLAND COMMUNITY COLLEGE) ($10,000) **(CLIFF L. WOOD., PRESIDENT, RCC)**

MOTION TO AMEND: TRANSFER TO B&F
LOW-HOGAN/EARL UNAN

ADDED SPONSORS: HONS. CORNELL. WOLFE, LOW-HOGAN, EARL, CAREY, SANTULLI, JOBSON

ACTION: Counsel will clarify who is funding the project and amend caption, as needed.

MOTION TO ADJOURN 5:50 PM UNAN
EARL/WOLFE