UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

DEC 1 0 2015

Town of Fairfield
c/o Salvatore Morabito, Manager of Construction, Security & Safety
Fairfield Public Schools
501 Kings Highway East
Fairfield, Connecticut 06824

Re: PCB Cleanup and Disposal Approval under 40 CFR § 761.61(c) and § 761.79(h)
Window and Door Replacement
Ludlowe High School, Fairfield, Connecticut

Dear Mr. Morabito:

This is in response to the Notification[1] by the Town of Fairfield (the Town) to abate PCB-contaminated building materials associated with a window/door replacement project at the Ludlowe High School located at 785 Unquowa Road in Fairfield, Connecticut. PCBs have been identified in sealants (e.g., caulk) and building substrates located in the 1961/62 and 1971/72 sections (hereinafter "the Site") at concentrations that exceed the allowable PCB levels under 40 CFR § 761.20(a), § 761.61, and § 761.62.

The Town has proposed a plan under 40 CFR § 761.61(c) and § 761.79(h) to address the identified PCB materials that includes the following:

- Remove all window/door frame caulk and glazing with PCB concentrations greater than or equal to (≥) 50 parts per million (ppm), *non-porous surfaces* (i.e., window/door units, including frames, glass panes, and hardware that are scheduled for replacement in the 1961 and 1971 sections of the building), and adjacent *porous surfaces* (i.e., first course (minimum of 8 inches) of brick/ mortar, including sill and header if brick, on the first floor as shown on construction drawings PCB-1 through PCB-5), and dispose of as a *PCB bulk product waste* in accordance with 40 CFR § 761.62

[1] The notification was prepared by AMC Environmental, LLC and Woodard & Curran on behalf of the Town of Fairfield to satisfy the requirements under 40 CFR § 761.61(c) and § 761.79(h). Information was submitted dated October 22, 2014 (Self-Implementing On-Site Cleanup and Disposal Plan (SIP)); January 16, 2015 (Revised SIP and Response to Comments); July 31, 2015 (Submittal for Window and Door Replacement Project prepared by Woodard & Curran); September 8, 2015 (email responses to EPA questions concerning paint and laboratory results); and September 11, 2015 (email response to request for additional laboratory results and CMU questions). These submittals together shall be referred to as the "Notification".

- Remove PCB-containing window/door frame caulk and glazing with PCBs greater than (>) 1 ppm that are not scheduled for replacement (i.e., newer windows in the 1960s and 1970s sections) and dispose as a ≥ 50 ppm *PCB remediation waste* in accordance with 40 CFR § 761.61 or as a less than (<) 50 ppm PCB waste (i.e., newer windows in the 1950s section) in accordance with applicable state requirements

- Conduct verification sampling of remaining first floor brick surfaces to confirm that the < 1 ppm cleanup standard has been met

- Encapsulate exterior and interior *porous surfaces* with PCBs > 1 ppm formerly in direct contact with PCB caulk (i.e., brick, concrete columns, CMU block, and concrete headers/sills, regardless of location) with an epoxy coating followed by a secondary physical barrier associated with the new window/door construction

- Encapsulate exterior and interior *porous surfaces* with PCBs > 1 ppm not in direct contact with PCB caulk (i.e., brick, concrete columns, CMU block, and concrete headers/sills, regardless of location) with a clear acrylic coating or masonry paint to a minimum of 6 inches and 16 inches from the joint, respectively

- Conduct sampling of encapsulated surfaces to confirm the efficacy of the encapsulation procedure

The Town has determined that certain sealants and paint (i.e., window sealants (with exception of room 266B) and paints in the 1950 and 1971/72 sections), which have PCB concentrations at < 50 ppm, meet the criteria for *Excluded PCB Products* under 40 CFR § 761.3. Under the PCB regulations, *Excluded PCB Products* are authorized for use and thus there is no requirement for removal of the caulk or decontamination of surfaces that are in contact with the < 50 ppm caulk. Management of these identified building products will be in accordance with the Connecticut Department of Energy and Environmental Protection (CTDEEP) regulations.

Based on the EPA's review, the information provided in the Notification meets the requirements under § 761.62 and § 761.79(h) for abatement of PCB caulk and § 761.61(c) for encapsulation of PCB-contaminated building surfaces. EPA finds that the proposed encapsulation should effectively prevent direct exposure of these PCB-contaminated surfaces to building users provided the encapsulated surfaces are maintained. EPA has determined that management in place of PCB-contaminated *porous surfaces* with encapsulation will not pose an unreasonable risk of injury to health or the environment. As such, EPA approves the encapsulation under § 761.61(c).

With respect to the paint on the interior of the 1961/62 section, the Town is not proposing to remove paint with ≥ 50 ppm PCBs at this time as the extent of the PCB contamination has not been defined. Additional investigation will be conducted that will include an evaluation of potential remedial alternatives for the paint with selection of the proposed remedy and implementation schedule by mid- to late 2017. During this interim period, indoor air and surface wipe samples will be collected to identify any potential risks to building users that would need to be addressed sooner. Please be aware that this Approval requires submittal to EPA of an indoor air and surface sampling plan during this interim period (see Attachment 1, Condition 1.b).

The Town may proceed with its cleanup in accordance with 40 CFR § 761.61(c) and 761.79(h); § 761.62; its Notification; and this Approval, subject to the conditions of Attachment 1. This Approval only addresses the PCB-contaminated building materials as identified in the Notification and does not address cleanup of soil with > 1 ppm PCBs or paint with ≥ 50 ppm PCBs, as this work will be addressed under separate plans (see Attachment 1, Conditions 1.a and b).

EPA encourages the compliance with greener cleanup practices for all cleanup projects, and recommends adherence to the ASTM Standard Guide to Greener Cleanups E2893-13 (Guide) for work conducted under this Approval and the Notification. Greener cleanups is the practice of integrating options that minimize the environmental impacts of cleanup actions in order to incorporate practices that maximize environmental and human benefit. Please see Section 6 of the Guide for the Best Management Practices (BMP) Process dated December 19, 2013. (See www.astm.org/Standards/E2893.htm for additional information). EPA encourages you to review the Guide and implement any practices that are feasible. If implemented, the PCB completion report should include a section on BMP Documentation, as described in Section 6.6.5 of the Guide.

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall consider this project complete when it has received all submittals required under this Approval. Please be aware that upon receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

Nancy Barmakian, Acting Director
Office of Site Remediation & Restoration

cc Gary Trombly, CTDEEP
Jeffrey Hamel, Woodard & Curran
File

Attachment 1: PCB Approval Conditions
Attachment 2: Remediation Plan Summary

ATTACHMENT 1:

PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS
LUDLOWE HIGH SCHOOL - 1961/62 AND 1971/72 SECTIONS (the Site)
WINDOW AND DOOR REPLACEMENT PROJECT
785 UNQUOWA ROAD
FAIRFIELD, CONNECTICUT

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and *PCB remediation waste* located at the Site and identified in the Notification.

    a. This Approval does not include cleanup of *PCB remediation waste* (i.e., soil or other ground cover). The Town of Fairfield (the Town) has identified PCBs in soil that are subject to cleanup and disposal under the PCB regulations. Cleanup of PCB-contaminated soil with greater than (>) 1 part per million (ppm) may be addressed under a separate plan or the Town may propose to modify the Notification to incorporate cleanup of the PCBs under this Approval in accordance with Condition 23.

    b. This Approval does not include abatement of paint located on the interior of the 1961/62 section. The Town shall conduct an investigation and evaluate potential remedial alternatives, with submittal to EPA of a selected remedial option and implementation schedule by December 31, 2017.

        i) The Town shall submit an indoor air and surface sampling plan to EPA for review and approval within 30 days of receipt of this Approval. The Town shall make any such changes to this plan as EPA may deem necessary.

        ii) During this interim period, EPA is reserving its rights to require additional investigation or mitigation measures at any time, including circumstances under which monitoring results indicate an unreasonable risk of injury to school users.

2. The Town shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.

3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.

4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.

5. The Town must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, the Town shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.

6. The Town is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time the Town has or receives information indicating that the Town or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by the Town are authorized to conduct the activities set forth in the Notification. The Town is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.

8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release the Town from compliance with any applicable requirements of TSCA or any other federal, state or local law; or 3) release the Town from liability for, or otherwise resolve any violations of TSCA or any other federal, state or local law.

9. Failure to comply with the Approval conditions specified herein shall constitute a violation of the requirement in 40 CFR § 761.50(a) to store or dispose of PCB waste in accordance with 40 CFR Part 761 Subpart D.

NOTIFICATION AND CERTIFICATION CONDITIONS

10. This Approval may be revoked if the EPA does not receive written notification from the Town of its acceptance of the conditions of this Approval within 10 business days of receipt.

11. The Town shall notify EPA in writing of the scheduled date of commencement of on-site activities at least 1 business day prior to conducting any work under this Approval.

12. Prior to initiation of work authorized under this Approval, the Town shall submit the following information for EPA review and/or approval:

    a. a certification signed by its selected abatement/demolition contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;

    b. a contractor work plan, prepared and submitted by the selected demolition or abatement contractor(s) describing the containment and air monitoring that will be employed during abatement activities. This work plan should also include information on how and where wastes will be stored, marked, and disposed of, and on how field equipment will be decontaminated; and,

    c. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the extraction and analytical method requirements and quality assurance requirements specified in the Notification and in this Approval.

CLEANUP AND DISPOSAL CONDITIONS

13. The Town shall conduct outreach activities for the school community, including students, parents, and school employees on the PCB remediation work. The Town shall submit a final plan for its outreach activities to EPA within 30 days of receipt of this Approval.

14. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.

15. PCB-contaminated building materials described in the Notification shall be decontaminated and verification sampling and analysis shall be conducted as described below (see Attachment 2):

    a. All visible residues of PCB caulk and associated *non-porous surfaces* (e.g., glass panes, window/door frames) and *porous surfaces* (i.e., first course (8 inches) of brick/mortar on the first floor) with > 1 ppm shall be removed and disposed of as a *PCB bulk product waste* in accordance with 40 CFR § 761.62 as described in the Notification.

    b. The decontamination standard for the ground floor building *porous surfaces* (i.e., brick/mortar) shall be less than or equal to (≤) 1 ppm.

i) Sampling for *porous surfaces* shall be performed on a bulk basis (i.e., mg/kg) and reported on a dry weight analysis. Sampling for *porous surfaces* shall be conducted in accordance with the EPA Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4, May 5, 2011*, at a maximum depth interval of 0.5 inches. Verification samples shall be collected in accordance with the Notification, and as shown in Attachment 2 to the Approval.

ii) Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction and/or analytical method(s) is validated according to Subpart Q.

iii) *Porous surfaces* with PCB concentrations > 1 ppm that will remain in-place shall be encapsulated as described in the Notification.

16. Following encapsulation of PCB-contaminated *porous surfaces* (i.e., concrete column, headers and sills that will remain in-place, and interior concrete masonry units (CMU)) with an epoxy/acrylic coating, sampling shall be conducted to determine the effectiveness of the encapsulation.

a. Wipe sampling of encapsulated *porous surfaces* shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. µg/100 cm^2). Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.

b. In the event that the PCB concentration of any wipe sample is > 1 µg/100 cm^2, and if this standard cannot be achieved with the application of additional encapsulant, the Town shall contact EPA for further discussion and direction on alternatives.

17. Post-abatement indoor surface sampling and indoor air sampling shall be conducted to document the effectiveness of the PCB caulk abatement work.

a. Wipe sampling of unencapsulated indoor surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. µg/100 cm^2). Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction and/or analytical method(s) is validated according to Subpart Q. The laboratory reporting limit shall be ≤ 1 µg/100 cm^2.

b. Indoor air sampling shall be conducted in accordance with EPA Method TO-10A or EPA Method TO-4A. Sufficient sample volumes shall be collected to provide a laboratory reporting limit of ≤ 0.050 $\mu g/m^3$ for total PCBs. PCB analysis shall be conducted for PCB homologues and/or PCB congeners.

18. PCB waste (at any concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with CFR 40 CFR § 761.40; stored in a manner consistent with 40 CFR § 761.65; and, disposed of in accordance with 40 CFR § 761.61 or § 761.62, unless otherwise specified below.

a. Non-liquid cleaning materials, PPE and similar materials resulting from decontamination may be disposed of in accordance with 40 CFR § 761.79(g)(6).

b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).

c. PCB-contaminated water generated during decontamination shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

DEED RESTRICTION AND USE CONDITIONS

19. Within thirty (30) days of completing the activities described in the Notification and in the Approval, the Town shall submit for EPA review and approval, a draft deed restriction for the Site where PCBs > 1 ppm remain. The deed restriction shall include: a description of the extent and levels of contamination at the Site following abatement; a description of the actions taken at the Site; a description of the use restrictions for the Site, if any; and, the long-term monitoring and maintenance requirements on the Site. Within seven (7) days of receipt of EPA's approval of the draft deed restriction, the Town shall record the deed restriction and a copy of this Approval shall be attached to the deed restriction.

20. The Town shall submit a copy of the executed deed restriction to EPA within 14 days of the recording date.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

21. Within 60 days of completion of the work authorized under this Approval, the Town shall submit for EPA's review and approval, a detailed monitoring and maintenance implementation plan (MMIP) for the epoxy/acrylic coating and/or other barriers and for indoor air. The Town shall incorporate any changes to the MMIP required by EPA.

a. The MMIP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and, reporting requirements, as applicable.

b. The MMIP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including teachers, parents, student, other on-site workers, and interested stakeholders.

c. The MMIP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the coating(s) or other barriers encapsulating the PCB-contaminated *porous surfaces*.

d. The Town shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMIP is necessary in order to monitor and/or evaluate the long-term effectiveness of the coatings.

e. Activities required under the MMIP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.

22. The Town shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by the Town to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.

23. Any proposed modification(s) in the plan, specifications, or information in the Notification must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR § 761.61(a)(3)(ii).

24. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

RECORDKEEPING AND REPORTING CONDITIONS

25. The Town shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the cleanup and disposal and the analytical sampling shall be established and maintained by the Town in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.

26. The Town shall submit a PCB completion report in both electronic format (CD-ROM) and hard copy, to the EPA within 60 days of completion of the window/door replacement activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the project activities with photographic documentation and Greener Cleanups BMP documentation, if implemented; characterization and confirmation sampling analytical results; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of; copies of manifests and bills of lading; and, copies of certificates of disposal or similar certifications issued by the disposer. The Report shall also include a certification signed by a Town official verifying that the authorized activities have been implemented in accordance with this Approval and the Notification.

27. Required submittals shall be mailed to:

    Kimberly N. Tisa, PCB Coordinator
    United States Environmental Protection Agency
    5 Post Office Square, Suite 100 - (OSRR07-2)
    Boston, Massachusetts 02109-3912
    Telephone: (617) 918-1527
    Facsimile: (617) 918-0527

28. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

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END OF ATTACHMENT 1

Table 3 - Remediation Plan Summary
> 50 ppm PCB Bulk Product Waste Areas

Building Elevation and Drawing	Window Location	Building Portion	Drawing Detail No.	Window/Room Number/ Masonry Surround	Remedial Plan		Verification Plan			
					Exterior Conditions	Interior Conditions	Existing Data	Proposed Frequency		
								Bulk Samples to verify extent for removal or encapsulation	Wipe Samples following Encapsulation	
									Epoxy (Direct contact)	Away from the Joint
South, PCB-1	Ground level windows	1971-1972	Detail 1	142 brick	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate brick and/or concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate brick a minimum of one row (8 inches) and concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	8 brick samples; PCBs ND to < 1 ppm beyond 1st course	None	1	N/A (ext) 1 (int)
		1961-1962	Detail 2	024 and 030 concrete and brick			9 brick and 7 concrete samples collected from two windows; PCBs ND to < 1 ppm beyond 1st course (5 inches) and 2 inches of concrete	None	1 from 1 of the 2 windows	1 (ext concrete)
	Upper level windows	1971-1972	Detail 1	243, 342 brick	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate brick and/or concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate brick a minimum of one row (8 inches)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	None	2 brick samples (1 vertical and 1 horizontal)	1 from 1 of the 2 windows	1 (ext brick) 1 (int)
		1961-1962	Detail 1	223, 224, 225, 226, 227, 228, 230, 232, 233, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327 brick			70 CMU samples collected form interior locations at 6 separate windows; no exterior samples	13 bays of 2 windows per bay; collect 1 brick sample from each bay alternating between 2nd and 3rd floor and vertical and horizontal joints (13 samples)	13 bays of 2 windows per bay; collect 1 sample from every 3rd bay alternating between 2nd and 3rd floor (5 samples)	13 bays of 2 windows per bay; collect 1 sample from exterior brick every 3rd bay alternating between 2nd and 3rd floor (5 samples)
		1961-1962	Detail 2	121, 122, 211, 213, 214, 215, 216, 219, 220, 312, 313, 314 brick						
North, PCB-2	Ground level windows	1961-1962	Detail 1	015 and single door concrete	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	2 concrete samples in former direct contact and within 2 inches; PCBs > 1 ppm	4 samples (2 verticals and top and bottom), includes door	1	1 (ext)
	Upper level windows	1961-1962	Detail 1	201, 202, 203, 204, 301, 302, Cor 327 brick	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate brick and/or concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate brick a minimum of one row (8 inches) and concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	4 exterior concrete samples within 2 inches and 4 interior CMU samples; PCBs > 1 ppm	Similar windows in 7 bays (sample every other bay alternating between vertical and horizontal joints - 4 samples); 2 sets of unique windows (2 samples from each set, vertical and horizontal - 4 samples)	2	2 (ext)

Table 3 - Remediation Plan Summary
> 50 ppm PCB Bulk Product Waste Areas

Remedial Plan							Verification Plan		
								Proposed Frequency	
Building Elevation and Drawing	Window Location	Building Portion	Drawing Detail No.	Window/Room Number/ Masonry Surround	Exterior Conditions	Interior Conditions	Existing Data	Bulk Samples to verify extent for removal or encapsulation	Wipe Samples following Encapsulation: Epoxy (Direct contact)	Wipe Samples following Encapsulation: Away from the Joint
West, PCB-3	Ground level windows	1971-1972	Detail 6	142, 143, 144, 145, 146, 147, 148, 149 Brick	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; remove one row of bricks around window (assumed 8 inches); encapsulate concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	22 exterior brick samples from three separate windows; PCBs ND to < 1 ppm beyond 1st course	17 similar windows; sample 1/2 the windows; collect 8 samples (4 verticals and 4 horizontals)	collect samples every 3rd bay (17 bays) = 5 samples	collect samples every 3rd bay (17 bays) = 5 samples (ext) and 5 samples (int)
	Upper level windows	1971-1972	Detail 6	244, 245, 245B, 246, 247, 248, 249, 250, 251, 252, 253, 254, 342, 343, 344, 345, 347, 348, 349	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate brick and/or concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate brick a minimum of one row (8 inches) and concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	26 interior CMU samples from 6 separate windows; PCBs < 1ppm beyond 1st course (1 exception at 1.2 ppm)	27 similar windows; sample 1/2 the windows; collect 14 samples (7 verticals and 7 horizontals); 2 sets of 2 unique windows (2 samples per set for 4 samples; 2 horizontal and 2 vertical)	collect samples every 3rd bay (17 bays) = 5 samples; collect 1 sample from unique set of windows	collect samples every 3rd bay (17 bays) = 5 samples; collect 1 sample from unique set of windows (interior an exterior (12 samples)
West Courtyard, PCB-4	Ground level windows	1961-1962	Detail 1	Cor 136, 132, 133, 138A-J, 139, stair 8 doors	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; remove one row of bricks around window (assumed 8 inches); encapsulate concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	12 exterior concrete samples; PCBs < 1 ppm after 3 inches from joint; 8 brick samples; PCBs < 1 ppm after first course	18 similar windows set into concrete with brick headers; collect samples form every 3rd window for samples from 7 windows (alternating between verticals and horizontal); collect 1 sample from the door and one sample form room 139 (unique window)	collect samples every 3rd window -7 samples; collect 1 sample from door and room 139	collect samples every 3rd window -7 samples; collect 1 sample from door and room 139
		1971-1972	Detail 3	Stair 9 doors			none	1 from door	1 from door	2 from door (int and ext)
		1950	Detail 3 (north)	Room 266B			9 masonry samples; PCBs < 1 ppm beyond 1st course	None	1	1 (ext) and 1 (int)
		1971-1972	Detail 5	255, 256, 262, 263,			8 masonry samples; PCBs < 1 ppm after 1st course	6 window bays; collect samples from 1/2 the bays; 3 samples;	6 window bays; collect samples from 1/2 the bays; 3 samples;	6 window bays; collect samples from 1/2 the bays; 3 samples; int and ext (6 samples total)

Table 3 - Remediation Plan Summary
> 50 ppm PCB Bulk Product Waste Areas

Building Elevation and Drawing	Window Location	Building Portion	Drawing Detail No.	Window/Room Number/ Masonry Surround	Remedial Plan		Verification Plan		
					Exterior Conditions	Interior Conditions	Existing Data	Proposed Frequency	
								Bulk Samples to verify extent for removal or encapsulation	Wipe Samples following Encapsulation
									Epoxy (Direct contact) / Away from the Joint
West Courtyard, PCB-4	Upper level windows	1961-1962	Detail 1	Cor 258, 241, 238, 237, 236, 235, 234, 242, Cor 351, 337, 334, 333, 332, 331, 329, 328, stair 8,	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; encapsulate brick and/or concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate brick a minimum of one row (8 inches) and concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	1 interior painted CMU (1.3 ppm)	30 similar windows (14 on 2nd floor and 16 on 3rd floor); sample 1/2 the windows; collect 15 samples (alternating between verticals and horizontals)	collect 13 samples, alternating locations / collect 13 samples from exterior, alternating locations; no interior samples
		1961-1962	Detail 2	Cor 266			3 exterior and 2 interior masonry samples at caulked joints ; PCBs > 1 ppm	3 banks of windows; collect two samples (1 horizontal and one vertical)	collect 2 samples (1 horizontal and 1 vertical) / collect 2 samples (1 horizontal and 1 vertical); no interior samples
		1961-1962	Detail 6	not identified window and door			none	collect 2 samples (one from the window and one from the door)	collect 2 samples (one from the window and one from the door) / collect 2 samples (one from the window and one from the door); exterior and interior
		1971-1972	Detail 3	Stair 9 windows			none	1	1 / 1 (ext) and 1 (int)
		1971-1972	Detail 5	Cor 266, Cor 378, Cor 352,			None	4 window banks; collect 4 samples; alternating from vertical and horizontal	2 samples (1 per set of unique windows) / 2 samples (1 per set of unique windows); int and ext (4 samples total)
East Courtyard, PCB-5	Ground level windows	1961-1962	Detail 1	117, 118	Remove all window components in entirety, including interior and exterior caulking and glazing sealants, metal window components, and glass pane; remove one row of bricks around window (assumed 8 inches); encapsulate concrete in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate concrete a minimum of 6 "away from joint with clear acrylic coating (to be exposed to the elements)	Encapsulate CMU in direct contact with former caulking with an epoxy to be covered by new window installation; encapsulate CMU a minimum of 16 " (one CMU block) away from joint with an interior masonry paint (not to be covered by the new window components); additional assessment to be performed in 1961-1962 portion of the building with regard to paint on CMU	None	2 windows; collect 1 sample	2 windows; collect 1 sample / 2 windows; collect 1 sample; no int
		1961-1962	Detail 2	Cor 149, 114			2 interior CMU samples; PCBs < 1ppm at first course	4 windows; collect 2 samples; alternating from vertical and horizontal	4 windows; collect 2 samples; / 4 windows; collect 2 samples;
	Upper level windows	1961-1962	Detail 1	205, 206, 206D-F, stair 5, 303, 305, 306			None	8 windows; collect samples from 5 windows alternating between styles and horizontal and vertical joints.	8 windows; collect samples form 4 windows / collect samples from 4 windows; no interior
		1961-1962	Detail 2	Cor 252, Cor 327, 291, 292, 293C, 293, 293A, 370, 368, 366			None	10 similar windows and 2 unique windows; sample 6 windows (of 10) and 1 of the 2 unique windows (7 samples)	7 samples / collect samples from 7 windows; no interior
		1961-1962	Detail 4	Cor 230, Cor 319			None	2 window banks; collect 4 samples	2 samples (1 per floor) / 2 samples (1 per floor); no interior