FINAL REPORT
National Oceanic and Atmospheric Administration
Lead Based Paint and Asbestos Hazards Abatement Project
St. Paul, Alaska 2007

1. General Information

NOAA Project Management/Oversight

NOAA's National Ocean Service (NOS), Office of Response and Restoration (ORR) and NOAA's Office of the Chief Administrative Officer, Safety and Environmental Compliance Office (SECO) were responsible to survey for hazards, award and monitor the contract, and all project activities. Greg Gervais, ORR, was assigned as Contracting Officer's Technical Representative (COTR) for the BSE contract. Bernie Denno, SECO, was assigned to coordinate the actual abatement activities, including coordination of SECO staff to provide full-time abatement activities oversight. Due to the timeframe involved in the abatement activities several additional ORR and SECO employees were involved:

- David Winandy, ORR, Seattle, WA
- Mark George, SECO, Boulder, CO
- Andy Poppen, SECO, Kansas City, MO
- Minh Trinh, SECO, Seattle, WA

Contractors

Bering Sea Eccotech (BSE) was contracted as general contractor for the St. Paul asbestos and lead based paint (LBP) abatement activities. BSE subcontracted all of the regulatory related abatement activities to Arrowhead Environmental Services Inc. (Arrowhead), Anchorage, AK. BSE planned to support Arrowhead and perform all of the remaining associated abatement requirements.

Regulatory Requirements

The scope of the NOAA Abatement Project requires compliance with several complicated regulatory mandates. A complete listing of these requirements is found in the attached Project Scope of Work. Examples include:

- All LBP abatement work shall comply with the following Federal regulations:
    - 29 CFR 1910 and 1926 U.S. Occupational Safety and Health Administration (OSHA)
    - 24 CFR 35 U.S. Department of Housing & Urban Development
    - 40 CFR 745 and 261. U.S. Environmental Protection Agency (EPA)

        - 49 CFR 172 and 173. U.S. Department of Transportation
        - Title 29, Code of Federal Regulations, U.S. Department of Labor,

- All asbestos work shall comply with the following Federal regulations:
    - Occupational Safety and Health Administration (OSHA) Standards:
        - Part 1910.20 Access to Employee Exposure and Medical Records
        - Part 1910.95 Occupational Noise Exposure
        - Part 1910.134 Respiratory Protection
        - Part 1910.1001 Asbestos
    - Title 40, Code of Federal Regulations, U.S. Environmental Protection Agency (EPA)Standards:
        - Part 61, Subpart A National Emission Standards for Hazardous Air pollutants - General Provisions
        - Part 61, Subpart M National Emission Standards for Hazardous Air Pollutants- National Standard for Asbestos
    - Title 49, Code of Federal Regulations, U.S. Department of Transportation (DOT) standards:
        - Part 172, Subparts B&C Hazardous Materials Tables and Hazardous Materials Communications Regulations
        - Part 173, Subpart M Shipper-General Requirements for Shipments Packaging
    - All applicable state and local regulations dealing with asbestos inspection, sampling and removal including:
        - Title 8 Alaska Administrative Code Section 61 – Asbestos Abatement Certification.

- All exterior work performed on House 101, House 102, and House 103 shall comply with the following:
    - The National Historic Preservation Act of 1966
        - Public Law 102-575

- All Removal and On-Island Management of Hazardous Material, Waste, and/or Solid Waste work shall comply with the following Federal regulations:
    - Compliance with 40 CFR 261**,** 49 CFR 172 and 173, and all applicable local, state, and federal regulations

<u>Disposal Requirements</u>

NOAA, per the contract, was responsible for the disposal of all hazardous and non-hazardous materials. This required both on-island and off-island shipments and

disposal. NOAA, through verification conversations with Alaska Department of Environmental Conservation, was allowed to dispose the LBP materials from the housing facilities into the former City landfill property. This property is currently owned by NOAA and has capacity to accept the identified materials. LBP removed from non-residential facilities (i.e. Headstart) and all asbestos materials removed during this project are currently being stored in secured containers in St. Paul and are awaiting shipment to permitted disposal sites off-island. The contracts for off-island shipment and disposal of hazardous wastes are currently being procured by NOAA. An integral part of the contract required proper management of all wastes generated as a result of contract activities. These included ACM, LBP, TSCA, general trash and other waste materials. The contractor was responsible for packaging all removed hazardous waste, regulated ACM, and TSCA wastes (PCB ballasts, for example) and readied for transport and disposal. The contractor logged all materials identified for off-island disposal and transferred them to NOAA either in properly prepared conexes, supplied by NOAA, or containers, also supplied by NOAA. The contractor supplied labor ad transportation for proper disposal for all other wastes generated in either NOAA's Tract 42 landfill cell C or at the City's landfill (burnable materials).

Alaska State Historic Preservation Office

NOAA entered into a Memorandum of Agreement (MOA) with the Alaska State Historic Preservation Officer (SHPO) due to the inclusion of the Teacher House as contributing feature of the Pribilof Island National Historic Landmark. Negotiated mitigation actions and efforts are included in the MOA. The replacement of windows, doors, paint, trim, etc., removed or otherwise modified due to abatement activities, were required to be consistent with the elements found in available historical photographs.

The MOA also required NOAA to apply a white coating to the Teacher Houses to simulate the white painted concrete of the original design for these facilities. The current siding on Houses 101 and 102 was T-111 material with an old stain application. The stain was no longer providing protection to the wood siding. The material selected to be applied directly over the stain (following high-pressure wash) was an acrylic paint. Acrylic paint is fast-drying paint containing pigment suspended in an acrylic polymer emulsion. Acrylic paint is generally non-removable when it is dry. Water or mild solvents do not resolublize it. It is a very durable material suitable for the conditions found in St. Paul.

All painted surfaces that contain LBP were removed, enclosed, or encapsulated. Encapsulation was achieved with the application of Lead Barrier Compound (L-B-C), manufactured by Fiberlock Technologies. L-B-C is a high-solids, elastomeric-thermoplastic, water-based copolymer that meets or exceeds all federal, state and local standards for lead-based paint encapsulants. Blended specifically to form a durable and flexible encapsulant barrier between lead-based paint and the environment, L-B-C has been independently tested to the ASTM E-1795 requirements for Category III (Type III-Interior/Exterior) encapsulants.

2. Final Safety and Health Report

There were no serious injuries or accidental exposures to environmental hazards reported during the abatement activities.

3. Abatement Activities Performed

Facility: Teacher House 101

The Teacher House 101, located in St. Paul, Alaska was located on Section 25 of T35S-R132W; Lot 1: Block 9; 0.13 Acres; 1976 MOU: Parcel 6b; 1984 Transfer of Property Agreement (TOPA): Site 9. NOAA owns the subject property. However, the Aleut Community of St. Paul Island ("Tribal Government") had previously asserted dominion over the building on the subject property, however NOAA has subsequently re-asserted dominion over this property.

The Teacher House 101 is owned by:

Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
7600 Sand Point Way NE
Seattle, WA 98115-0070

The Tribal Government of St. Paul Island will be the recipient of Teacher House, 101 under the TOPA:

Tribal Government of St. Paul Island
Attn: Patrick Baker, Director
4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

Abatement Issues of Interest:

Teacher House 101 has not been lived in for several years. The facility has missing windows, a leaking roof, and no working HVAC system. These items have caused severe damage to most interior materials.

Interior
The initial inspection of the facility determined that it had several severe interior conditions that required total removal of all materials, down to the structural wooden studs, to allow abatement of all hazards. A concrete slab was poured over the existing painted basement floor as this form of encapsulation was determined to be the best

method to ensure that the abatement measure would meet the requirement of twenty years. Examples of hazards identified and abated include:

- Release of asbestos fibers from damaged asbestos containing building materials (ACBM)
    - Thermal insulation on heating system piping
    - Grout on joints of sheet rock
- Evidence of mold due to roof leaks and broken windows
- Dead animals, specifically birds, due to several openings to the outside
- LBP applied to painted surfaces

Exterior

Most painted surfaces were found with LBP. Arrowhead was responsible for removing either the paint or the wood materials that were painted and properly dispose of the resultant materials.

Arrowhead performed the asbestos and LBP abatement for this facility. Arrowhead was allowed total access to the facility and performed all abatement requirements per the contract Statement of Work (SOW). BSE followed up the abatement by installing exterior trim and applying several coats of acrylic paint to the previously installed T-111 wood sheeting siding. NOAA plans to task BSE to reinstalled missing flashing around the facility chimney to prevent moisture from entering the facility. As of May 10, 2007 this task has not yet been performed. SECO and ORR staff installed plywood sheets to all window openings to ensure a secure and watertight enclosure. Historically correct windows and doors were purchased for this facility. The windows and doors will be transferred to the respective transferee(s) for future installation.

The existing basement entrance (locally known as an “arctic entrance”) structure was in poor, leaking, condition and the project team decided to install a new entrance structure to keep moisture from entering the facility. The concrete walls of stairs leading into the basement are coated with LBP and a L-B-C over coating. Moisture could cause deterioration of the coatings if not protected from moisture.

Abatement Activity Summary:

Asbestos Containing Building Material

Note: Entire interior of the facility, with the exception of the structural timbers, were demolished and removed by the abatement contractor due to the poor condition of the facility. All exterior windows and doors were also removed.

Material	Location	Abatement Action
12” x 12” Floor Tile & Mastic	Mudroom and Main Floor	Removed and disposed of all floor tile
Hard Fitting Pipe Insulation	Basement HVAC Piping	Removed and disposed of all piping insulation.
Cove Base and Mastic	Mudroom and main floor	Removed and disposed of all

		Cove Base and Mastic
White 4” x 4” Backsplash Tile	Main floor bathroom	Removed and disposed of all Backsplash Tile
Dotted Sheet Vinyl Flooring and Mastic	Main floor bathroom	Removed and disposed of all Dotted Sheet Vinyl Flooring and Mastic
Mechanical Gaskets and Packing Materials	Boiler and HW Heater	Removed and Disposed

Lead Based Paint

Note: The entire facility was cleaned by a certified abatement subcontractor using wet methods and analytically tested/cleared for lead contamination prior to project completion.

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Action
01 Mudroom	Wood Ceiling	55 SF	Poor	Removed All Materials
01 Mudroom	Walls & Ceiling, gypsum board	90 SF	Poor	Removed All Materials
01 Mudroom	Wood Door	40 SF	Poor	Removed All Materials
02 Bathroom	Wall gypsum board	100 SF	Intact	Removed All Materials
02 Bathroom	Window, wood	10 SF	Intact	Removed All Materials
02 Bathroom	Radiator, assumed positive	40 SF	Fair	Removed All Materials
02 Bathroom	Wood Door	40 SF	Intact	Removed All Materials
03 Bedroom	Radiator, assumed positive	40 SF	Poor	Removed All Materials
03 Bedroom	Wall gypsum board	420 SF	Intact	Removed All Materials
04 Living Room	Wood Door	40 SF	Poor	Removed All Materials
05 Back Mudroom	Wood Door	40 SF	Poor	Removed All Materials
06 Dining Room	Wall gypsum board	500 SF	Fair	Removed All Materials
07 Kitchen	Gypsum board wall	200 SF	Poor	Removed All Materials
07 Kitchen	Wood Cabinet	60 SF	Poor	Removed All Materials
08 Stairs	Baseboard	30 SF	Poor	Removed All Materials

09 Sunroom	Gypsum board wall	600 SF	Fair	Removed All Materials
13, 14 Basement	Walls, concrete	950 SF	Poor	Removed loose L-B-C and encapsulated with L-B-C
13, 14 Basement	Floor, concrete	1000 SF	Poor	Encapsulated with min. 1.5" concrete pour
15 Hall	Gypsum board wall	100 SF	Poor	Removed All Materials
Exterior	Concrete Wall, under wood siding	1,200 SF	Assumed Poor	Removed exposed loose LBP and encapsulated with L-B-C. Remaining LBP enclosed with T-111 siding.
Exterior	Wood Soffit	200 SF	Poor	Encapsulated with new wood trim and soffit

Lead Contamination in Soil

Lead Soil Hazard Description	Abatement Recommendation	Abatement Action
Soil lead levels found by this survey were between 25 to 3,300 ppm, and were found at 567.8 ppm by a previous NOAA survey.	Recommend that 6 inches of soil be removed and replace with clean soil, either as part of the structure demolition or renovation	An estimated 33 yd^3 of contaminated soils removed and disposed *

* Reference the lead soil CAR-CCR for more details

<u>Facility: Teacher House 102</u>

Description: The Teacher House 102, located in St. Paul Island, Alaska was located on Section 25 of T35SR132W; Lot 2: Block 9; 0.13 Acres; 1976 MOU: Parcel 6b; 1984 Transfer of Property Agreement (TOPA): Site 9. NOAA currently owns the subject property. However, the Aleut Community of St. Paul Island ("Tribal Government") has asserted/assumed dominion over the building on the subject property, and apparently has leased it to the Tanadgusix Corporation ("TDX"). NOAA has not seen any documentation regarding any lease arrangements with the Tribal Government and TDX.

The Teacher House 102 is owned by:

> Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
> Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
> 7600 Sand Point Way NE
> Seattle, WA 98115-0070

The Tribal Government of St. Paul Island is scheduled to receive Teacher House 102 under the TOPA:

Tribal Government of St. Paul Island
Attn: Patrick Baker, Director
4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

The Tanadgusix Corporation of St. Paul Island will purportedly receive Teacher House 102 from the Tribal Government through a sub conveyance after TOPA transfer occurs:

Attn: Ron Philemonoff, CEO
4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

Abatement Issues of Interest:

House 102 was occupied prior to the abatement activities. Elements of the facility were found to be in poor to good condition. NOAA provided relocation and temporary rental cost assistance to the tenants to reduce the impact on the project.

Interior
The interior prior to the abatement was in fair condition. LBP was the main focus with small amounts of ACBM that also required abatement in the basement. A concrete floor was poured over the existing painted basement floor as this was determined to be the best method to ensure that the abatement measure would meet the requirement of twenty years. Additional ACBM was identified for removal, above the SOW requirements, in the basement crawlspace. It was decided that the ACBM materials be removed and a protective 45-mil thick EPDM (Ethylene Propylene Diene Monomer) liner be installed on the dirt floor of the crawlspace. The general consensus was that there was a potential for asbestos particles to be embedded into the soil and that the EPDM would provide a sufficient exposure barrier. A contract modification was made to perform this task.

A major issue regarding this facility was the identification by BSE and NOAA field managers of serious electrical system deficiencies. Most of the wiring in the facility, with the exception of the wiring for the heating system boiler and hot water tank, appears to be the original materials installed when it was constructed in the 1920s. The age of the wiring does not necessarily constitute a hazard, however, when the sheetrock was removed during the LBP abatement activities the wiring was found to be in a very poor condition. BSE management contacted the NOAA CO and COTR (phone and email) and explained that their company was compelled to not install replacement materials following the LBP abatement activities until the facility wiring was replaced and the facility was made compliant according to current electrical codes. Due to a review of this issue by NOAA management, CAO, GC, and NOS, it was determined that electrical deficiencies were not within NOAA's mandates thus the facility's electrical

deficiencies were not addressed. Therefore, based upon the above reasons, the restoration of the interior of this facility could not be completed as originally planned.

Exterior

Due to the requirements of the Memorandum of Agreement with the Alaska State Historic Preservation Office NOAA was required to restore the facility to as close to historically correct attributes as was possible. Accordingly, NOAA specified windows and doors for the project to match the elements of a photograph taken of the Government House in 1960. All windows and doors were installed and indeed refreshed the facility to closely replicate the 1960 look with the distinct advantages of improved modern materials and energy efficiencies. BSE followed up the abatement by installing exterior trim and applying several coats of acrylic paint to the previously installed T-111 wood sheeting siding.

The existing basement entrance (locally known as an “arctic entrance”) structure was in poor, leaking, condition and the project team decided to install a new entrance structure to keep moisture from entering the facility. The concrete walls of stairs leading into the basement are coated with LBP and a L-B-C over coating. Moisture could cause deterioration of the coatings if not protected from moisture.

Abatement Activity Summary:

Asbestos Containing Building Material

Material	Location	Abatement Action
12” x 12” Floor Tile & Mastic	Mudroom, kitchen and Main Floor	Removed exposed tile, remaining tile is enclosed with carpeting or other covering.
Hard Fitting Pipe Insulation	Basement and master bedroom closet HVAC Piping	Removed disposed of all exposed piping insulation.
Hard Fitting Pipe Insulation	Basement crawlspace on HVAC Piping	Removed disposed of all exposed piping insulation. EPDM Barrier placed on dirt floor.

Lead Based Paint

Note: The entire facility was cleaned by a certified abatement subcontractor using wet methods and analytically tested/cleared for lead contamination prior to restoration activities proceeding.

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Action
01 Mudroom	Walls & Ceiling, gypsum board	90 SF	Fair	Removed and Disposed

01 Mudroom	Wood Door	40 SF	Fair	Removed and Disposed
01 Mudroom	Wood Door Frame, Trim	15 SF	Intact	Removed and Disposed
02 Bathroom	Wall gypsum board	100 SF	Intact	Encapsulated w/ L-B-C
02 Bathroom	Window, wood	10 SF	Intact	Removed and Disposed
02 Bathroom	Radiator	40 SF	Fair	Encapsulated w/ L-B-C
03 Bedroom	Radiator	40 SF	Poor	Encapsulated w/ L-B-C
03 Bedroom	Wall gypsum board	420 SF	Intact	Encapsulated w/ L-B-C
04 Living Room	Wall gypsum board	600 SF	Intact	Encapsulated w/ L-B-C
06 Dining Room	Wall gypsum board	500 SF	Fair	Encapsulated w/ L-B-C
07 Kitchen	Gypsum board wall	200 SF	Fair	Removed and Disposed
08 Stairs	Gypsum board wall	160 SF	Intact	Encapsulated w/ L-B-C
07 Hall	Gypsum board wall above chair rail	100 SF	Intact	Encapsulated w/ L-B-C
08, 10 & 11 Sunroom & upstairs bedrooms	Gypsum board wall	1600 SF	Fair	Encapsulated w/ L-B-C
13, 14 Basement	Wood cabinets	50 SF	Fair	Removed and Disposed
13, 14 Basement	Wood column	50 SF	Fair	Encapsulated w/ L-B-C
13, 14 Basement	Walls, concrete	750 SF	Poor	Encapsulated w/ L-B-C
13, 14 Basement	Floor, concrete	800 SF	Fair	Covered with Min. 1.5” concrete pour
Exterior	Wood Window	100 SF	Poor	Removed and Disposed
Exterior	Concrete Walls/Stairs	10 SF	Poor	Encapsulated w/ L-B-C
Exterior	Concrete Wall Under Wood Siding	1,200 SF	Assumed Poor	Not Required/Performed
Exterior	Wood Soffit/Fascia	200 SF	Poor	Enclosed w/ New Wood

Facility: Teacher House 103

The Teacher House 103, located in St. Paul, Alaska was located on Section 25 of T35SR132W; Lot 3: Block 9; 0.17 Acres; 1976 MOU: Parcel 6b; 1984 Transfer of Property Agreement (TOPA): Site 9). NOAA owns the subject property. However, the Aleut Community of St. Paul Island ("Tribal Government") has asserted dominion over the building on the subject property.

The Teacher House 103 is owned by:

> Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
> Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
> 7600 Sand Point Way NE
> Seattle, WA 98115-0070

The Tribal Government of St. Paul Island currently occupies/asserts dominion over Teacher House 103, and is scheduled to receive the property under the TOPA:

> Tribal Government of St. Paul Island
> Attn: Patrick Baker, Director
> 4300 B Street, Suite 402
> Anchorage, Alaska 99503
> 907 278-2311

Abatement Issues of Interest:

<u>Interior</u>
The interior prior to the abatement was in very good condition. Recent renovations were performed by the Tribal Government and new materials replaced many formally LBP surfaces. There were still several LBP issues and a small amount of ACBM that also required abatement in the basement. A concrete floor was poured over the existing painted basement floor as this was determined to be the best method to ensure that the abatement measure would meet the requirement of twenty years. Additional ACBM was identified for removal, above the SOW requirements, in the basement crawlspace. It was decided that the ACBM materials on the heating supply/return pipes be removed and a protective 45-mil thick EPDM liner be installed on the dirt floor of the crawlspace. The general consensus was that there was a potential for asbestos particles to be embedded into the soil and that the EPDM would provide a sufficient exposure barrier. A contract modification was made to perform this task. All painted surfaces received a coating of L-B-C per requirements.

<u>Exterior</u>
House 103 does not have T-111/insulation applied to the exterior walls. L-B-C was applied to the painted wall surfaces after loose LBP was removed.

The existing basement entrance (locally known as an "arctic entrance") structure was in poor, leaking, condition and the project team decided to install a new entrance structure

to keep moisture from entering the facility. The concrete walls of stairs leading into the basement are coated with LBP and a L-B-C over coating. Moisture could cause deterioration of the coatings if not protected from moisture.

Abatement Activity Summary:

Asbestos Containing Building Material

Material	Location	Abatement Action
12” x 12” Floor Tile & Mastic	Mudroom and Main Floor	Removed exposed tile, remaining tile is enclosed with carpeting or other covering.
Hard Fitting Pipe Insulation	Basement crawlspace on HVAC Piping	Removed disposed of all exposed piping insulation. EPDM Barrier placed on dirt floor.
Exterior Buried Debris	North side of House 103	Removed for disposal

Lead Based Paint

Note: The entire facility was cleaned by a certified abatement subcontractor using wet methods and analytically tested/cleared for lead contamination prior to restoration activities proceeding.

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Action
01 Mudroom	Walls & Ceiling, gypsum board	90 SF	Fair	Painted with L-B-C
01 Mudroom	Wood Door leading to basement	40 SF	Intact	Removed and Disposed of all Materials
06 Kitchen	Gypsum board wall	200 SF	Intact	Removed and Disposed of all Materials
06 Kitchen	Pantry cabinets, wood	20 SF	Intact	Removed and Disposed of all Materials
06 Kitchen	Pantry trim wood	10 SF	Intact	Removed and Disposed of all Materials
07 Hall	Gypsum board wall above chair rail	100 SF	Intact	Removed and Disposed of all Materials
08 Sunroom	Gypsum board wall	800 SF	Intact	Removed and Disposed of all Materials
11 Bedroom	Walls & Ceiling, gypsum board	300 SF	Intact	Removed and Disposed of all Materials
12, 13 Basement	Walls, concrete	SF	Poor	Removed and Disposed of all Materials

12, 13 Basement	Walls, gypsum board	200 SF	Intact	Removed and Disposed of all Materials
12,13 Basement	Floor, concrete	SF	Fair	Covered with Min. 1.5" concrete pour
12, 13 Handrail	At steps	10 SF	Intact	Replaced with New
Exterior	White Concrete Walls	1,200 SF	Intact	Encapsulated w/ L-B-C
Exterior	Wood Soffit	200 SF	Poor	Enclosed w/ New Wood

Lead Contamination in Soil

Lead Soil Hazard Description	Interim Control and Abatement Recommendation	Abatement Actions
Soil lead levels found by this survey were between 1,200 to 3,800 ppm, and were found at 460.5 ppm by a previous NOAA survey.	Teacher House 103 had the exterior siding removed, and had visible paint chips in the soil, as well as asbestos-containing debris. Recommend that the soil surrounding the building be removed to a dept of approximately 6 inches and replace with clean soil	An estimated 22 yd^3 of contaminated soils removed and disposed *

* Reference the lead soil CAR-CCR for more details

<u>Facility: E-Shop/Headstart Building</u>

The Headstart Building, located in St. Paul, Alaska was located on Section 25 of T35S-R132W; Lot 5: Block 20, U.S. Survey No. 4943, Alaska, Tract "A," St. Paul Townsite, accepted by the Bureau of Land Management August 2, 1968; 0.26 Acres; 1976 MOU: Parcel 6F; 1984 Transfer of Property Agreement (TOPA): Site 9. NOAA owns the subject property. However, the Aleut Community of St. Paul Island ("Tribal Government") has asserted dominion over the building on the subject property and until September 2005 leased the building to the Aleutian-Pribilof Islands Association (A-PIA). A-PIA has operated an early childhood development ("Headstart") program from the building, making it a "Child-Occupied Facility."

The Headstart Building is owned by:

Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
7600 Sand Point Way NE
Seattle, WA 98115-0070

The Tribal Government of St. Paul Island occupies/asserts dominion over the Headstart Building, and is scheduled to receive this building under the TOPA:

Tribal Government of St. Paul Island
Attn: Patrick Baker, Director

4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

Abatement Issues of Interest:

This facility, a former Navy Radio Communications support building, was being used by the St. Paul community as a Headstart Program facility. The facility dimensions and layout make it a suitable choice for such an operation. However, several hazards were found to exist which caused NOAA to close the Headstart operations immediately until the abatement of the hazards were performed.

Attic – The attic is the same dimensions as of the facility. It was found to be completely full of hazardous, non-hazardous, and flammable materials including:

- PCB filled ballasts and transformers
- Solvents and oils (possibly PCBs) in one gallon containers
- Cardboard containers
- Electrical parts, wires, and equipment
- Wooden shelving

Approximately 40 cubic yards of debris material was removed from the attic and disposed of in the landfill or characterized and containerized for off-island transportation and disposal at a permitted facility. It was a dangerous situation that has now been abated. Fiberglass insulation was installed directly over the entire attic floor as part of weatherizing the facility's envelope. Ventilation vents were installed on the North and South ends to provide sufficient air flow and prevent the build up of moisture.

Exterior – The entire exterior surface is coated with several layers of lead-based paint. The paint condition was found to vary from very good to poor. Evidence of paint chips is visible on the surrounding ground surfaces. The lead based paint was enclosed through the installation of Hardiplank® siding on to all exterior wall surfaces. Additionally, the concrete window sills were removed using pneumatic tools to facilitate the installation of the siding. New doors and double paned windows were installed throughout (with the exception of the metal west side exit door, which was not replaced).

An asbestos containing pipe was penetrating the west wall and the piping that extended beyond the concrete footing was removed by Arrowhead. During an inspection during the week of March 4, 2007 NOAA inspectors found that the abatement operation was not performed according to requirements and notified the CO immediately. The CO contacted BSE and Arrowhead to determine cause and calculate remedy. BSE subsequently completed the abatement consistent with the contract.

Interior – The main floor was purportedly improved in the 1980s (by others) through the installation of insulation, sheet rock, suspended ceiling, lights, and paint on all of the walls to a height of 10', with the sheet rock serving to enclose LBP on the original concrete interior walls. Above 10' however, the LBP that remained exposed (not enclosed) was in good to poor condition. Arrowhead removed all of the loose LBP and a coating of L-B-C was applied to the walls and ceiling by BSE. All penetrations in the concrete floor were sealed using grout/concrete.

Electrical System/HVAC/Hot Water - During the abatement activities it was found that the facility's support systems were non-working or did not meet electrical codes for a Headstart/commercial operation. NOAA's management, CAO, GC and NOS, it was determined that electrical deficiencies were not within NOAA's mandates thus the electrical deficiencies were not addressed. Bernie Denno of NOAA coordinated a meeting with the Tribe, BSE, and Aleutian Pribilof Islands Association (APIA), operators of the Headstart Program, to discuss potential options to provide upgrades to the electrical system. Funds were identified by the Tribal Government and APIA, and BSE was contracted to perform many of the required upgrades and the Tribe provided the remaining support.

ACBM in Crawlspace - Similar to the crawlspaces in Teacher Houses 102 and 103, hard fitting ACBM pipe insulation was present on the water pipes and ground surface of the Headstart Building's crawlspace. It was decided that the ACBM materials on the pipes be removed and a protective 45-mil EPDM liner be installed on the dirt floor of the crawlspace. The general consensus was that there was a potential for asbestos particles to be embedded into the soil and that the EPDM would provide a sufficient exposure barrier. During abatement activities, Arrowhead determined that the Headstart Building crawlspace was divided into two or more separate crawlspaces separated by mostly contiguous concrete footing oriented east-west. Access to the crawlspaces was limited to an exterior portal at the southern end of the building for entering the southernmost crawlspace. The remaining crawlspace areas were found inaccessible, with limited penetrations in the concrete footing for water pipe access. Another small penetration was found through the concrete floor beneath the wooden subfloor in the main classroom, adjacent the electrical circuit breaker panel. BSE punched another penetration through the concrete floor in the kitchen to provide access for Arrowhead to draw air into the crawlspace abatement work area for maintaining negative pressure, consistent with its abatement plan. Arrowhead abated the ACBM in the southern crawlspace and installed an EPDM liner in this area, prior to clearing the air in this crawlspace for asbestos fibers. Upon air space clearance, BSE enclosed the northern crawlspaces by substantially closing the pipe penetrations using lumber. BSE also closed the floor penetrations using concrete.

Abatement Activity Summary:

Asbestos Containing Building Material

Material	Location	Abatement Action
Friable Asbestos Thermal Pipe	South end of facility crawlspace	Remove all asbestos materials.

Insulation		Install continuous EPDM layer on entire floor surface and mechanically fasten min 3” of EPDM on concrete walls for entire perimeter.
Added Abatement Action Activity	Crawlspace	Installation of permanent enclosure of the penetrations through the E-W support footings separating the southern crawlspace from the rest of the crawlspace.
Approx. 6” red Cement Asbestos Pipe Conduit Protruding from foundation	West exterior concrete foundation wall	Removed all exposed red cement pipe material and filled in void with permanent material (grout or equal)

Lead Based Paint

Note: The entire facility was cleaned by a certified abatement subcontractor using wet methods and analytically tested/cleared for lead contamination prior to restoration activities proceeding.

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Recommendations	Abatement Actions
02 Classroom	Concrete wall above suspended ceiling	375 SF	Poor	Will continue to peel unless insulated. Install furring, vapor barrier insulation & GWB to cover	Removed loose LBP and applied L-B-C to surfaces. Installed insulation and vapor barrier in attic to limit condensation on L-B-C.
02 Classroom	Concrete wall behind GWB	1870 SF	Covered, assumed poor	Maintain GWB	No further action required
02 Classroom	Concrete ceiling above suspended ceiling	1850 SF	Poor	Install furring, insulation& GWB to cover	Applied L-B-C to surfaces. Installed insulation and vapor barrier in attic to limit condensation on L-B-C.
Attic	Red Roof Trusses	1000 SF	Fair	Encapsulate	Removed loose LBP, applied L-B-C to surfaces and access to area restricted

Attic	Gray floor, assumed positive	1865 SF	Fair	Encapsulate	Covered with fiberglass insulation and vapor barrier; access to area restricted
Floor	"Concrete", under sheet vinyl or carpeting (note flooring substrate likely to be either wood or concrete)	1840 SF	Covered, assumed poor	Maintain flooring	Installed wood sheeting and new carpet or vinyl. Note that concrete was unpainted and required no abatement
Floor	Wood T & G flooring, furnace Rm	10 SF	Poor	Only place the substrate and paint is exposed is in the furnace room, cover with sheet vinyl or vinyl tile.	Floor cleaned with HEPA vacuum
Exterior	White paint on concrete	1530 SF	Fair	Maintain to avoid peeling, and avoid disturbance	Loose LBP removed; New siding material installed atop vapor barrier and foam board insulation on entire building

Lead Contamination in Soil

Lead Soil Hazard Description	Interim Control Recommendation	Abatement Recommendation	Abatement Actions
Soil lead levels were all below 400 ppm, by this survey, but were found at 588 ppm by a previous NOAA survey.	Headstart Building is adjacent to the Duplex which had large concentrations of LBP chips on the ground. Cleanup of any visible paint chips in the vicinity of the Headstart Building is recommended. Paint chips are likely related to the elevated lead-dust concentrations found on the entryway floor. Cover bare soils with 3 inches of clean soil	Recommend removal of 6 inches of soil within 6 feet of building, replace with clean soil	None. *

* Soil sampling conducted in September 2005 indicated no contamination exceeded the ADEC residential cleanup levels.

Duplex Units 108 and 109

1) Facility: Duplex 108

The Duplex 108, located in St. Paul, Alaska was located on Section 25 of T35S-R132W; Lot 4: Block 20; 0.32 Acres; 1976 MOU: Parcel 6f; 1984 Transfer of Property Agreement (TOPA): Site 9). NOAA owns the subject property. However, the Tanadgusix Corporation of St. Paul Island ("TDX") has asserted dominion over the building on the subject property.

The Duplex 108 is owned by:

Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
7600 Sand Point Way NE
Seattle, WA 98115-0070

The Tanadgusix Corporation of St. Paul Island occupies/asserts dominion over Duplex 108 and is scheduled to receive this building under the TOPA:

Attn: Ron Philemonoff, CEO
4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

Abatement Issues of Interest for Duplex 108 & 109:

The facility has two units with a shared basement area. Each unit is identical in size and similar floor plan; however, they are a mirror image of each other. Both were originally built using asbestos containing flooring tiles that were found to be in excellent to fair condition. The project provided the installation of plywood sheeting on 100% of the tile surface as an enclosure method of hazard abatement. Throughout the history of this facility lead based paint was used on most exterior painted surfaces, including window and door frames and the exterior siding and associated trim. No LBP was found on interior painted surfaces, however lead dust was found inside that required HEPA vacuuming followed by wet wiping for hazard abatement. Following the HUD regulations all windows, doors, frames, and trim in poor condition were removed from the facility and properly disposed of in the NOAA-owned landfill in Tract 42. Historically accurate double pane energy efficient and low maintenance windows and doors were installed in all exterior openings. Hardiplank® siding and trim painted in "Government white and green," respectively, was installed on the exterior walls. Final floor coverings were subsequently installed in only one unit of the duplex.

Abatement Activity Summary:

Asbestos Containing Building Material

Material	Location	Abatement Action
9" x 9" Black Floor Tile & Mastic	Throughout Main Floor	Tile is enclosed with plywood

		sheeting and finished flooring (finished flooring material provided by NOAA – not installed)

Lead Based Paint

Note: The entire facility was cleaned by a certified abatement subcontractor using wet methods and analytically tested/cleared for lead contamination prior to restoration activities proceeding.

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Recommendations	Abatement Actions
Exterior	Wood Window	90 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials, replaced with new materials
Exterior	Wood and Tin Siding Materials	1008 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials, replaced with new materials
Exterior	Wood Gutter	60 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials (new gutters supplied by NOAA to be installed by others)
Exterior	Concrete exterior stairs and foundation walls	300 SF	Intact	Encapsulate or Enclose	Removed loose LBP and encapsulated w/ L-B-C

Lead Contamination in Soil

Lead Soil Hazard Description	Interim Control Recommendation	Abatement Recommendation	Abatement Actions
Soil lead levels found by this survey were between 72 to 3,900 ppm, and were found at 502.5 ppm by a previous NOAA survey.	Recommend that visible paint chips in the soil and grassy areas be removed, and bare soil areas covered with clean gravel	Recommend that top 6 inches of bare soil be removed, and replaced with clean soil	Soils removed and disposed as required

2) Facility: Duplex Unit 109

Duplex Unit 109, located in St. Paul, Alaska was located on Section 25 of T35S-R132W; Lot 4: Block 20; 0.32 Acres; 1976 MOU: Parcel 6f; 1984 Transfer of Property Agreement (TOPA): Site 9). NOAA owns the subject property. However, the Tanadgusix Corporation of St. Paul Island ("Tribal Government") has asserted dominion over the building on the subject property.

Duplex Unit 109 is owned by:

Attn: James Barrows, Real Estate Specialist Facilities and Logistics Division
Building 1, National Oceanic and Atmospheric Administration, Western Regional Center
7600 Sand Point Way NE
Seattle, WA 98115-0070

The Tanadgusix Corporation of St. Paul Island occupies/asserts dominion over Duplex Unit 109 and is scheduled to receive this building under the TOPA:

Attn: Ron Philemonoff, CEO
4300 B Street, Suite 402
Anchorage, Alaska 99503
907 278-2311

Asbestos Containing Building Material

Material	Location	Abatement Action
9” x 9” Black Floor Tile & Mastic	Throughout Main Floor	Tile is enclosed with plywood sheeting and finished flooring (finished flooring material provided by NOAA to be installed by others)

Lead Based Paint

Room Equivalent	Description	Estimated size	Paint Condition	Abatement Recommendations	Abatement Actions
Exterior	Wood Window	90 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials, replaced with new materials
Exterior	Wood Siding	1008 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials, replaced with new materials
Exterior	Wood Gutter	60 SF	Intact	Encapsulate or Enclose	Removed and Disposed of all Materials
Exterior	Concrete exterior stairs	12 SF	Intact	Encapsulate or Enclose	Encapsulated w/ L-B-C

Lead Contamination in Soil

Lead Soil Hazard Description	Interim Control Recommendation	Abatement Recommendation	Abatement Actions

Soil lead levels found by this survey were between 72 to 3,900 ppm, and were found at 502.5 ppm by a previous NOAA survey.	Recommend that visible paint chips in the soil and grassy areas be removed, and bare soil areas covered with clean gravel	Recommend that top 6 inches of bare soil be removed, and replaced with clean soil	An estimated 29 yd^3 of contaminated soils removed and disposed *

* Reference the lead soil CAR-CCR for more details

<u>Facility: 5-Car Garage</u>

Asbestos Containing Building Material Abatement (ACBM): Removal and disposal of all homogeneous ACBM materials - Drywall and associated materials - located:

- Boiler Room
- Dressing Room (Office)
- Closet areas.

Estimated amount of surface area is 833 $ft^{2.}$ The material was found to be in a friable condition due to apparent water damage, which necessitated the abatement of all of the material and disposed off-island along with materials from the other abatement activities. Note that drywall lacking any tape or joint compound is present throughout the rest of this building's interior and was found to be asbestos-free; this drywall was not subject to abatement.

Abatement Activity Summary:

Asbestos Containing Building Material

Material	Locations	Abatement Action
Homogeneous Material - Drywall – Friable Condition	Garage 1, Boiler Room, Dressing Room (Office), and Closet areas. Estimated to be 833 ft^2, in friable condition	Removal and disposal of all homogeneous materials – drywall with joint compound from this facility.

4. Hazardous Material Waste Disposal Activities

Collection and disposal of PCB Ballasts from E-Shop/Headstart facility

a) More than 75 PCB containing ballasts were identified, collected, containerized, and disposed off of St. Paul Island through a NOAA contract mechanism. Many of these items were found in the E-Shop/Headstart attic attached to inoperable or otherwise unusable lighting fixtures.

b) Two drums of liquid solvents were inventoried, labeled, and prepared for shipment off St. Paul Island for proper disposal in a certified landfill to be determined.

c) Two (2) conex containers containing ACBM for disposal were properly prepared, labeled, and readied for shipment off St. Paul Island for proper disposal in a certified off island landfill. Final site to be determined.

d) Materials from Houses 101, 102, 103, 108, & 109 with lead based painted surfaces removed during this project were disposed as a household waste in an ADEC-permitted solid waste landfill located at NOAA Tract 42, consistent with EPA lead disposal regulations. AK DEC was consulted and agreed that this disposal option is valid for these materials.

e) Materials with LBP surfaces removed during this project from all other facilities (i.e. 5-car Garage, Headstart) required disposal at permitted off island facilities. Note: These materials have been containerized, characterized, and secured pending transportation and disposal.

Attachments

NOAA Final Puchlist
NOAA Final Abatement SOW
NOS lead soil CAR-CCR
Photologger Database