

An aerial architectural rendering of a waterfront development. The scene shows a large body of water with a marina containing several boats and a large building complex with multiple structures and green spaces. A road and a park area are visible on the left side. The rendering is done in a sketchy, colored style.

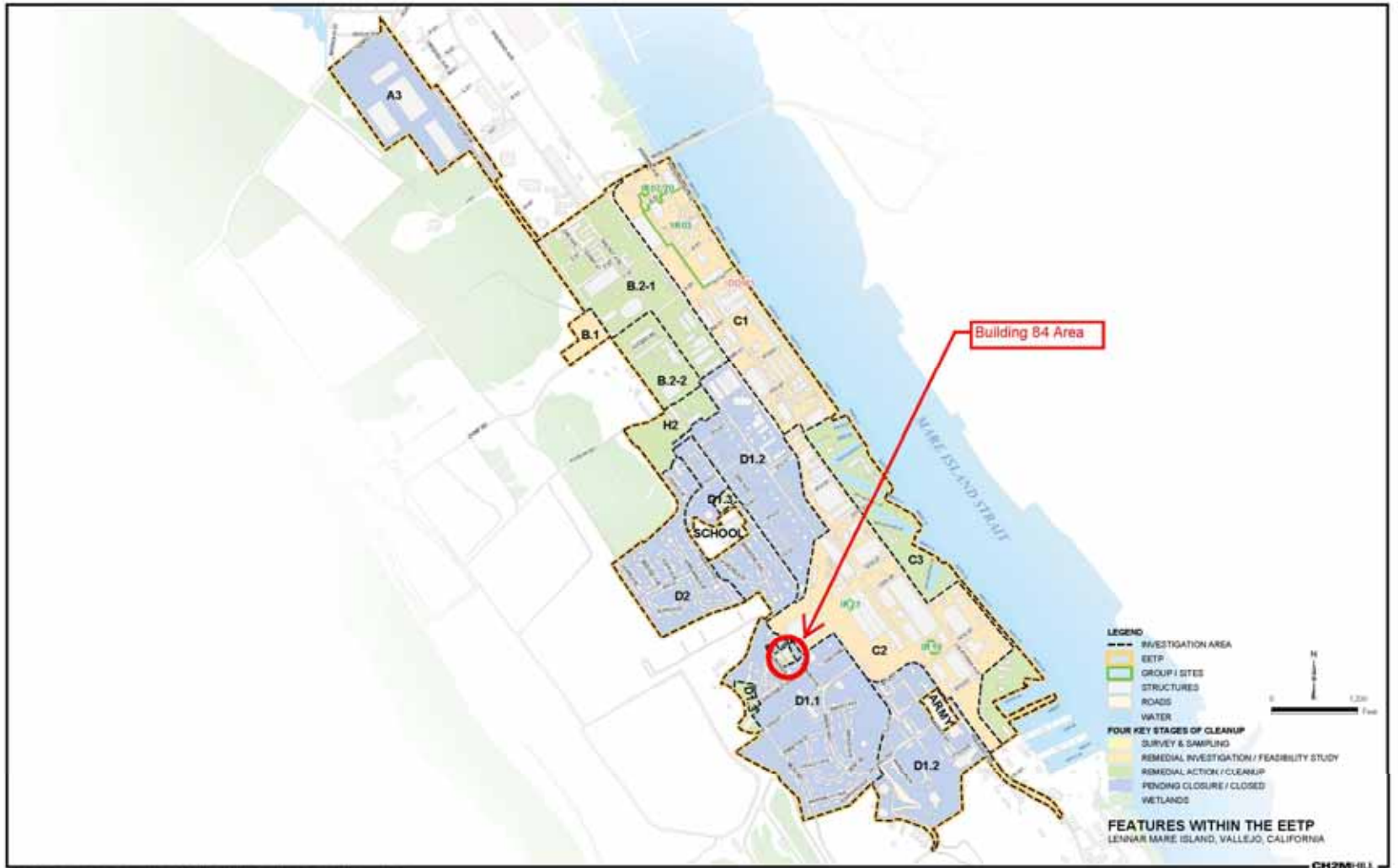
Building 84 Update Investigation Area D1.3

**Presented to
The Mare Island Restoration Advisory Board
July 28, 2011**



Agenda

- **Background**
- **Overview of Activities Since Last RAB Update**
- **Description of Building 84 History and Significance**
- **Status of Building 84 Environmental Issues**
- **Path Forward**





Background

- **Building 84 was the Navy Brig. The brig was first built in 1885 with later additions in 1900 and 1901.**
- **Building 84A was added on to Building 84 in 1909, 1939 and later additions.**
- **Building 84 is brick masonry, with stone sills and lintels. Building 84A is constructed of poured concrete.**
- **Building 84 and the adjoining Building 84A are identified on the Historic Disposition Map as Notable Resources to be retained. Building 84 and Building 84A, and the general area in which they are located, are designated for residential reuse.**
- **Following extensive characterization, testing, analysis and remediation, regulators have indicated that, given existing risk assessments, the building cannot be used for residential purposes.**

An aerial, watercolor-style illustration of a coastal town. The foreground shows a harbor with several boats and a large ship. The middle ground is filled with various buildings, some with red roofs, and a parking lot. The background features rolling green hills under a light sky.

Background

- **On May 21, 2009, LMI and DTSC attended an Architectural Heritage and Landmarks Commission (AHLC) hearing and presented the status of environmental conditions in Buildings 84 and 84A to discuss potential demolition of Buildings 84 and 84A.**
- **As part of the City of Vallejo’s process to consider possible demolition of historic structures on Mare Island, LMI undertook further assessment of the history and architecture of Buildings 84 and 84A.**
- **The City and LMI addressed potential demolition alternatives with the State Historic Preservation Office in July, 2010. As a result, LMI was directed to try to remediate the remaining conditions so the building could approved for occupancy, or perform a full environmental review (EIR) before further consideration of demolition.**
- **Additional remediation has been undertaken by LMI, but regulatory input indicates that regulatory closure of Buildings 84 and 84A will not be approved for its entitled residential use.**



HISTORY AND ARCHITECTURE REVIEW, BUILDINGS 84 & 84A

ORIGINAL DESIGN :

(BRICK) BUILDING 84

- 1885 Building
- 1900 Building Addition
- 1901 Building Addition

LATER ALTERATIONS :

(CONC.) BUILDING 84A

- 1909 Extension
- 1939 Extension
- Later Extensions of Unspecified Date



BUILDING 84 & 84A HISTORY

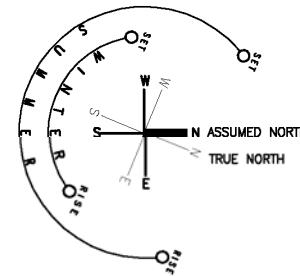
- Used as a prison for more than 50 years between the years 1885 through the 1940s.
- Originally having only basic prison cells and service areas, it was expanded to house a mess hall, galley, auditorium, offices and activity rooms.
- It has been vacant and unoccupied since the decommissioning of the former Mare Island Naval Shipyard in 1996.

EXISTING SITE PLAN



LEGEND

- BUILDING STR. DATING TO 1885 (B-84)
- BUILDING STR. DATING TO 1900 (B-84)
- BUILDING STR. DATING TO 1901 (B-84)
- BUILDING STR. DATING TO 1909 (B-84A)
- BUILDING STR. DATING TO 1939 (B-84A)
- BUILDING STR. DATING TO LATER PERIOD (B-84A)



Historic American Building Survey (HABS) Photos



VIEW AS SEEN FROM THE FLAGSHIP DRIVE (NORTH-EAST)

Building 84 dating to 1900 and 1901 to the right in brick; concrete wing Building 84A to the left

HABS Survey Photos



NORTH-EAST VIEW



SOUTH VIEW OF EAST WING

HABS Survey Photos



NORTH VIEW OF NORTH WING



NORTH-WEST VIEW

HABS Survey Photos



NORTH-WEST VIEW



SOUTH-WEST VIEW

HABS Survey Photos



SOUTH-EAST VIEW



GABLED EAST WING DATED 1900

HABS Survey Photos



CANOPY



SASH WINDOW W/ CAST STONE
SILLS & LINTELS

Building 84 Today – View is to the Southwest

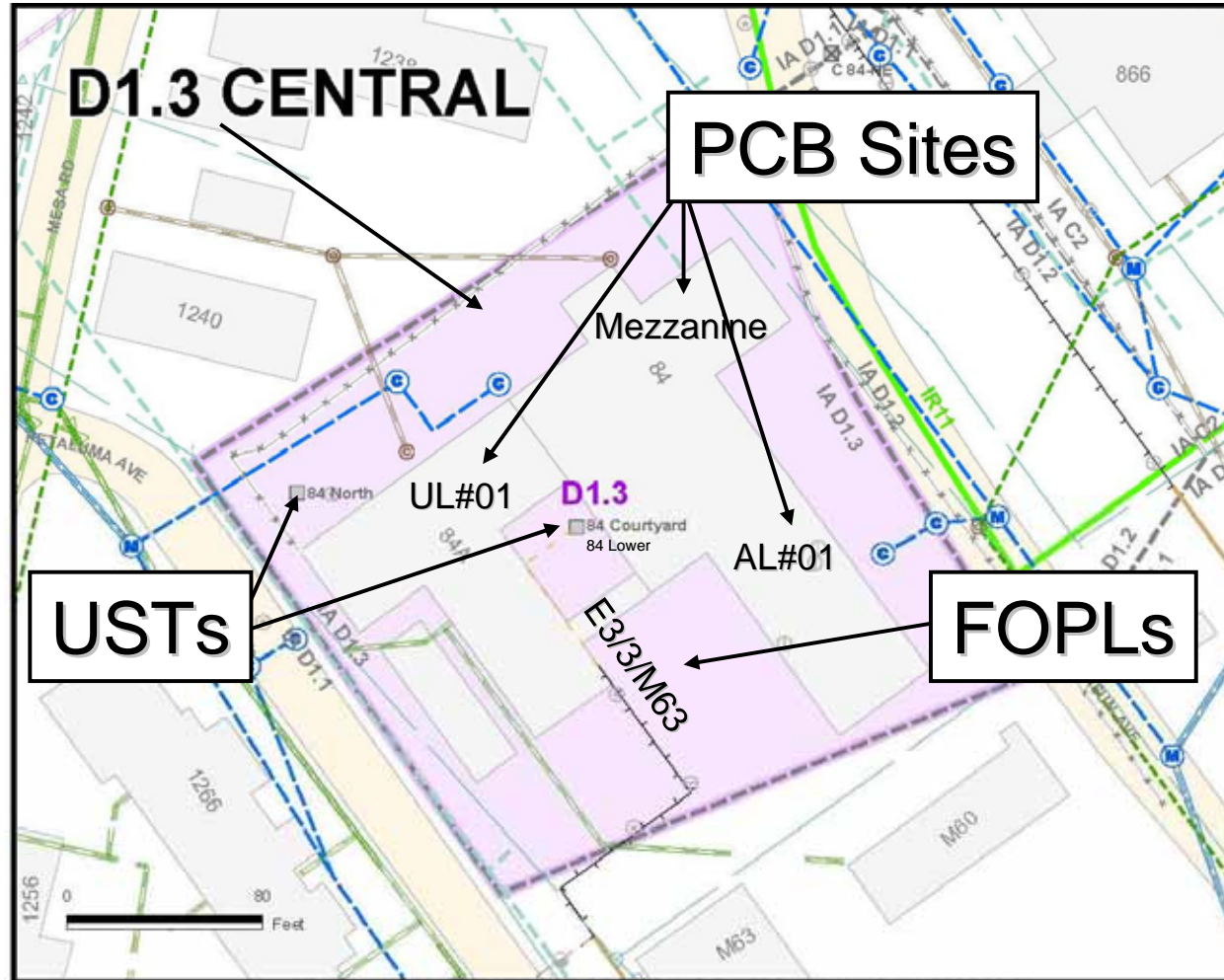




Overview of Building 84 Environmental Conditions

- **Since May 2009, LMI and its contractors have been working to to remediate the environmental conditions in Building 84.**
 - Building 84 includes three Polychlorinated Biphenyl (PCB) sites: the solid media meet residential standards. However, the indoor air samples for PCBs do not meet residential standards
 - The Building 84 and 84A Area included three Underground Storage Tank Sites. All USTs have been removed.
 - One Fuel Oil Pipeline segment has been closed by regulatory agencies.
 - Physical Remediation of Black Granular Material (BGM) is complete. The proposed final report describing the remediation was submitted to DTSC on July 22, 2011.
 - Chlorinated Pesticides: pesticides in soil investigation is complete. No pesticides above regulatory criteria were found.
 - Lead-based Paint in Soil at Building 84A : Removal Action completed in June 2004, NFA request was submitted to DTSC in March, 2011.

Main Features and Environmental Sites at Building 84 Area





Current Status of PCB Site Building 84 AL#01

PCB Site B84 AL#01, defined as the floor of Building 84

- Navy and CH2M HILL removed concrete floor and underlying soil.
- PCB concentrations in verification samples collected from the soil beneath the floor meet residential cleanup goals for solid media.
- USEPA approved closure on September 8, 2004.
- DTSC has not closed this site.



Current Status of the PCB Site Building 84A UL#01

- PCB Site Building 84A UL#01 defined as PCB concentrations in concrete in Building 84A.
- Notification / Cleanup Plan for PCB Building 84A was submitted to DTSC and USEPA on July 19, 2004.
- Localized removal of concrete floor was performed in September 2004, remaining PCB concentrations in solid floor media less than 0.22 mg/kg residential cleanup goal.
- Cleanup summary report submitted to USEPA and DTSC on October 28, 2004.
- USEPA granted closure on November 17, 2004.
- DTSC October 22, 2009 letter indicated remaining total PCBs in soil were below the 0.22 mg/kg residential cleanup goal, however recommended collecting indoor air samples for PCBs
- Indoor air samples were collected at DTSC approved locations February 2011.



Current Status of PCB Site Building 84 Mezzanine

- PCB Site Building 84 Mezzanine was discovered during remediation of Building 84 AL#01
- The mezzanine, located in same building as PCB Site Building 84 AL#01, was considered a potential contributor to PCBs in indoor air.
- Remedy Engineering remediated the mezzanine site in January 2010.
- Solid media were remediated and confirmation sampling showed solid media meet the residential cleanup goal (0.22 mg/kg)
- Indoor air results were over two times lower than the June 2007 results but still did not meet residential reuse criteria.
- LMI submitted a cleanup summary report to USEPA and DTSC on October 11, 2010.
- DTSC provided closure for PCB Site Building 84 Mezzanine solid media on November 3, 2010. DTSC's letter indicates that indoor air exceeds USEPA's residential regional screening level for PCBs.
- USEPA granted closure on October 1, 2011.

Summary of Building 84/84A Indoor Air Sampling Events



Event	Sampling Date	Number of Samples	Results (Total PCBs)	Notes
1	05/11/2004	6	Indoor samples: 21 to 69 ng/m ³ Outdoor samples: <0.3 ng/m ³	Sampling occurred following remediation of floor to <0.22 mg/kg; four interior samples and two outdoor background samples.
2	05/23/2004	2	108 ng/m ³	Sampling occurred following removal of light ballasts and cleaning of horizontal surfaces.
3	12/13/2006	4	91 to 139 ng/m ³	Sampling occurred following additional removal of concrete and soil in far northern and southern portions of building floor.
4	06/06/2007	4	124 to 135 ng/m ³	Sampling occurred following removal of remaining portions of building floor.
5	01/11/2010	4	47 to 52 ng/m ³	Sampling occurred following remedial actions at mezzanine site (LMI).
6	2/1/2011	3	Indoor samples: 52 to 151 ng/m ³ Outdoor sample: 1 ng/m ³	Sampling occurred after all identified PCB sites in Buildings 84 and 84A were remediated.



Conclusions Regarding Building 84 PCBs

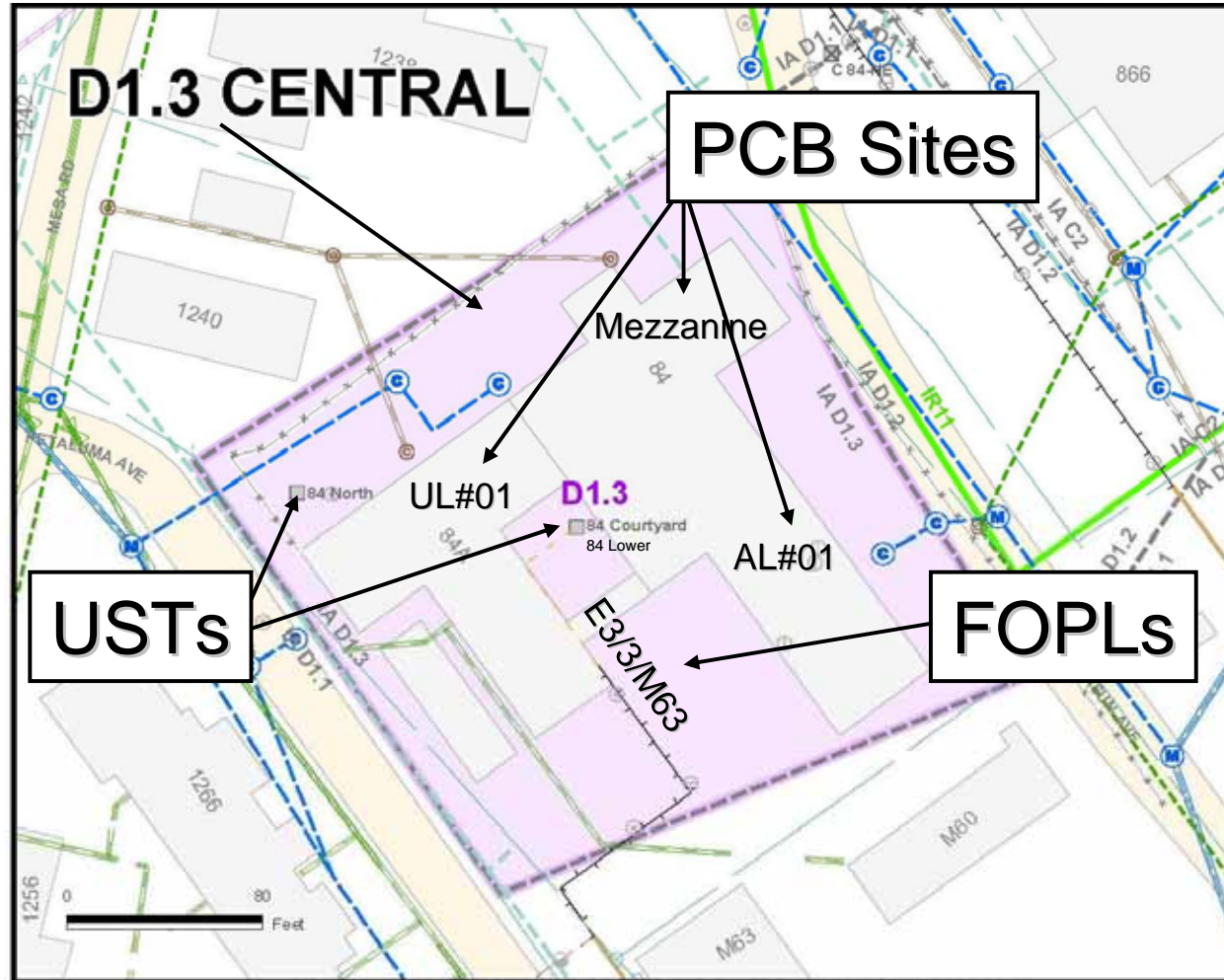
- Residual PCB concentrations in solid media at the PCB Site Building 84 AL#01, Building 84 Mezzanine, and PCB Site Building 84A UL#01 are below residential and commercial/industrial screening levels.
- Current calculated risk for PCBs in indoor air for a residential scenario ranges from 1×10^{-5} to 4×10^{-5} .
- Current calculated risk for PCBs in indoor air for a commercial/industrial scenario ranges from 2×10^{-6} to 7×10^{-6} .
- Results for both scenarios are within the risk-management range of 1×10^{-4} to 1×10^{-6} .



Current Status of Building 84 Fuel Oil Pipeline and Underground Storage Tanks

- Fuel Oil Pipeline Segment E3/3/M63 Closed by Water Board (September 2004) & DTSC (October 2004)
- UST 84 North Closed by Water Board (November 2004)
- UST Courtyard Site Tanks and associated contamination were successfully removed in 2008 and 2011. Report documenting the results of the removals will be submitted for regulatory review in August.

Main Features and Environmental Sites at Building 84 Area



UST 84-L Removal in 2011



UST 84-L Removal in 2011



UST 84-L Removal in 2011



UST Site 84 Courtyard Confirmation Sample Results Following Remediation

Constituent of Concern	Depth Interval of Tier 2 Screening Level (feet below ground surface (bgs))	Tier 2 Screening Level (mg/kg)	Maximum Detected Remaining Concentrations (mg/kg)	Sample Identification of Maximum Observed Concentration (depth in feet bgs)
TPH-diesel	Less than 10	100	37	UST84CHA0100 (7)
	Greater than 10	5000	2200	UST84CS0206 (12)
TPH-motor-oil	Less than 10	500	1J (estimated result)	UST84CS0203 (7)
	Greater than 10	5000	1400	UST84CS0206 (12)
Benzo(a)pyrene	Less than 10	0.038	Not detected	Not applicable
	Greater than 10	1.5	0.0075	UST84LGB0206 (11.8)



Building 84 Remediation of Black Granular Material/Lead in Soil

- **Black granular material (BGM) was discovered in the interior of Building 84 during excavations related to PCB site AL#01. In addition, the laboratory reported interferences that could have been related to organochlorine pesticides (OCPs).**
- **BGM was removed from the interior of B84 and additional investigation related to BGM and OCPs were undertaken.**
- **BGM was found in exterior areas to a depth of 3.5 feet, but no OCPs were detected.**



Building 84 Remediation of BGM/Lead in Soil

- During 2010 and 2011, Treadwell&Rollo remediated BGM in the exterior B84 areas.
- Following excavations, final confirmation sample results showed that the contaminants of concern in soil (lead and polynuclear aromatic hydrocarbons (PAHs)) met cleanup goals.
- Maximum remaining lead in soil is 260 mg/kg. Remaining soil meets the cleanup goals: an average concentration of lead that is less than 210 mg/kg, and no single sample exceeds 400 mg/kg.
- Maximum remaining PAHs, represented by benzo(a)pyrene, had an average remaining concentration of 0.15 mg/kg, which equates to a 1×10^{-6} risk.
- Report documenting the remediation results is in regulatory review.

BGM Remediation at B84



BGM Remediation at B84



BGM Remediation at B84





Summary of Current Status of Building 84 Environmental Issues

- Numerous actions have been undertaken by LMI and its contractors since 2003 to make Building 84 safe for residential occupancy, related to various contamination issues.
- As a result of PCB-related remedial actions, all solid media meet residential cleanup requirements for PCBs.
- Indoor air quality related to PCBs remains unacceptable to allow Building 84 to be safely occupied for residential purposes
- Additional remedial actions for USTs at the Building 84 Courtyard site have been completed, and meet residential cleanup requirements. Draft report documenting these results will be delivered to regulators in August.
- Additional remedial actions to remove BGM and related lead and PAH contamination have been completed, and soil meets residential cleanup requirements. Proposed final report has been delivered to DTSC.



Path Forward

- **Finalize reports related to lead based paint (LBP) in soil, removal of Building 84 Courtyard USTs, and remediation of BGM in the Building 84 area.**
- **Determine path forward related to reuse of the Building 84 area, considering PCBs in indoor air appear to preclude its use for the residential purposes for which it has been entitled.**



Questions?