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MINUTES AND AGENDA FOR RESTORATION ADVISORY BOARD MEETING HELD 12  
NOVEMBER 2009 NAS SOUTH WEYMOUTH MA  
11/12/2009  
NAVAL AIR STATION SOUTH WEYMOUTH



# Naval Air Station South Weymouth, MA Restoration Advisory Board (RAB) Meeting Minutes November 12, 2009

## 1. INTRODUCTIONS/ APPROVAL OF PRIOR MEETING MINUTES

John Goodrich, RAB facilitator, opened the meeting at approximately 7:00 PM. He requested that all attendees, including RAB members, regulators, and audience members, introduce themselves. He noted that the meeting agenda, handouts, and the sign-in sheet were available on the front table. The sign-in sheet for the meeting is provided as Attachment A to this meeting summary. J. Goodrich asked if everyone had time to read the minutes from the September 2009 RAB meeting and if there were any comments. There were no comments on the minutes.

J. Goodrich reviewed the ground rules for the meeting and reminded the meeting attendees that the focus of the meeting is cleanup issues; redevelopment issues will be placed on the 'parking lot.' He reviewed the guidelines for the meeting and reminded the participants when asking questions to wait to speak until they are acknowledged, to state their names and affiliations, and to speak clearly or into the microphone when they have questions.

J. Goodrich then reviewed the agenda for the meeting. The meeting agenda and the Action Item Tracking List are provided as Attachment B to this meeting summary. In accordance with the agenda, the presentation and discussion would be followed by the Updates and Action Items portion of the meeting.

## 2. PRESENTATION

J. Goodrich introduced Phoebe Call, Tetra Tech, NUS. P. Call stated that the presentation would be on the Hangar 1 area and will address various activities that have been completed at Hangar 1, review background information on the Hangar and the sites associated with the Hangar area, discuss the work that has been performed there and a recently completed risk assessment, and summarize the next steps (Slide 2).

Hangar 1 is located in the central portion of the Base and is just under 4 acres in size. Hangar 1 was original constructed in 1942 for dirigibles and the current Hangar was built in 1966 for storage and maintenance of aircraft. Lean-tos were constructed on the north and south sides of the Hangar. The activities at the Hangar 1 sites included: painting, metal working, machining, engine/hydraulic system repair, photo shop, training, welding, plating, anodizing.

Seven sites are associated with the Hangar area, four of which have been closed out. Slide 3 presents the active and closed sites associated with the Hangar. The active sites include AOC Hangar 1, RIA 10C, RIA 11. The closed sites associated with the Hangar include RIAs 10A and 10B, RIA 12, RIA 99, and MCP RTN 3-18964. Slide 4 is a figure showing the sites associated with Hangar 1.

P. Call reviewed the closed sites associated with Hangar 1 since they have not been discussed with the RAB for some time. RIA 10A was addressed under an MCP limited removal action completed in May 2004. The remaining three sites were closed out as Environmental Baseline Survey (EBS) No Further Action (NFA) Decision Documents. RIA 10B was closed out in December 2002, RIA 12 in November 2003, and RIA 99 in October 2009. The final site, MCP RTN 3-18964, was closed out under an MCP limited removal action in October 2000.

AOC Hangar 1 was first identified in 1995 during the Phase I EBS. Two floor drain systems connected to the sanitary sewer were identified as the potential sources of contamination. In 1999, and 2000 to 2001, work was performed to address these sources of contamination. Two oil-water separators were removed and both floor drain systems were removed. Confirmatory soil samples were collected along the removed drain line trenches. Approximately 105 tons of PCB-contaminated soils were shipped off site for disposal. After the in-place soils tested clean and the contaminated soils were removed, the excavations were backfilled with clean soil. In 2002 monitoring wells were installed downgradient of the Hangar. The monitoring wells were sampled; the groundwater concentrations were below background values.

A Human Health Risk Assessment (HHRA) was completed for Hangar 1 using the confirmatory soil sample data from the floor drain removal action to ensure there was no risk associated with the remaining soils in the Hangar (Slide 5). The HHRA evaluated the most conservative exposure, residential, to subsurface soil and also evaluated potential exposure to soil via ingestion and dermal absorption (touching). Exposure to air via inhalation was not evaluated because there were no identified contaminants of potential concern (COPCs). COPCs for direct contact with soil included carcinogenic polycyclic aromatic hydrocarbons (PAHs) and Aroclor 1254 (a PCB). The migration of chemicals in soil to groundwater was also evaluated.

The HHRA concluded that the non-cancer risk was less than EPA target Hazard Index (HI) of 1, meaning there was no non-cancer risk. The cancer risk was within the EPA's target range. There was no identified negative impact due to chemicals in the soil infiltrating into the groundwater (Slide 6).

The RIA 10C site includes the north and south lean-tos. They are long narrow 2-story structures along both sides of the Hangar. They were constructed in the 1940's and their uses included: metal, machine,

dope (glue), paint, hydraulic, and welding shops; a photo lab; plating/anodizing area; parachute packing area. Historic construction plans were used to compile the list of former uses and the locations of sinks, floor drains, or any possible routes of contamination.

A video inspection of the stormwater drain line system was performed in March 2003. This showed that the piping was in good condition, but since the joints were compromised they could not be cleaned out via jet spraying. A removal action was performed instead and 1,455 linear feet of piping was removed. Confirmation samples were collected and excavated areas were backfilled (Slide 7). The removal action was completed in October 2003.

The RIA 10C removal action was performed as a maintenance action and was not an environmental investigation. Following completion of the removal action, soil and groundwater investigations were completed at RIA 10C consistent with the EBS process (Slide 8). In 2003, four soil borings were completed downgradient of the lean-tos, and monitoring wells were installed. Soil and groundwater samples were collected for full suite analysis. In 2004, subsurface soil samples were collected below two former degreaser locations. The data were screened against human health benchmarks and Base background values (no ecological receptors in the lean-tos). The draft EBS Decision Document concluded that the soil and groundwater concentrations were representative of background conditions.

RIA 11 is the third active site in the Hangar 1 area. This site was identified during the Phase I EBS process to address releases of aqueous film-forming foams (AFFF) in Hangar 1 (Slide 9). AFFF spills were managed in accordance with the Base SPCC Plan (spill control plan). EPA and MassDEP have indicated concerns about the components of AFFF and the potential impact of spills on human health and the environment. The Navy completed research concerning the AFFF used at the Base, including what products were available at the time, what constituents were in those products, and available information on potential hazards/toxicity. The Base Cleanup Team is evaluating the next steps to address any risk associated with AFFF components.

The next steps for the Hangar 1 area are summarized on Slide 10. The Final Human Health Risk Assessment for Hangar 1 will be submitted in January 2010. The Hangar 1 Draft Final Proposed Plan will be completed in January 2010 and the ROD is planned to be completed in July 2010. For RIA 10C, a Draft Final Decision Document was issued in November 2009 and, after comments, hopefully around February 2010, RIA 10C can be closed out with a NFA decision. For RIA 11, a consensus on a plan to address this site will hopefully be developed and implemented in December 2009. One additional Hangar 1 item being completed is resolution of regulator concerns from a June 2005 site walkover of the Hangar that are not related to the sites discussed tonight. Navy is addressing these issues so that when the three active sites are completed, a FOST can be completed for this area.

A RAB participant noted that at RIA 10C, the samples taken were found to be at background conditions. Were these the background conditions that exist today, or background conditions if the Navy had never been on the Base? P. Call responded that when the EBS program was started, a background dataset was developed. Data were collected in areas that were never developed (no Navy activity) to represent conditions to compare against data from areas where sites were identified. In accordance with the EBS process, if any site sample results exceed the human health or ecological benchmarks they are then compared to the background values to see if they are within background.

Question: Is there a concern that the background conditions surrounding the Base are abnormally high due to Base activities? How are background conditions determined? In response to the questions it was noted that a lot of time was spent reviewing and choosing appropriate background locations and the data was approved by both EPA and MassDEP.

M. Parsons asked about the machines used at RIA 10C. D. Barney stated that it was a machine shop. She asked if there would be solvents. D. Barney responded, yes, there would be solvents present. She asked what dope is. D. Barney explained that dope dates back to early aircraft that had fabric wings, and dope was an aerometric adhesive.

Question: How long was the photo shop in existence and where did the chemicals go? D. Barney stated that the photo shop was probably in existence since WWII and chances are the chemicals went to the storm system, but he would have to verify that. Later on there was a recovery system in place, but he is unsure how long the recovery system was in operation.

Question: Why was there no air quality evaluation as part of the risk assessment? In response it was noted that there were no compounds detected that would be present in the air and be a route of exposure through inhalation.

Question: When the subsurface soil samples were collected below the two degreaser locations were they only tested for TCL/TAL, PAH, EPH/VPH? P. Call stated that this is a full suite analysis and includes PCBs, metals, SVOCs, VOCs, PAHs, VPH/EPH (DEP method to measure volatile and extractable petroleum hydrocarbons). It is the most complete list of analytes that would have been run on samples to characterize them under the EBS program.

Question: Were the samples combined or run individually? In response it was stated that individual samples were analyzed for all of these compounds. These results were then used for comparison, and the human health benchmarks are established for each compound individually. The evaluation process does not combine results to compare to human health benchmarks.

Question: Couldn't there be a risk associated with the combined effects of the chemical compounds, rather than just individually? A. Malewicz responded that the science just isn't advanced enough to determine the impact of combined compounds. When a risk assessment is performed the benchmarks are very conservative. The conservative models are used to try and factor in additional risk that may be associated with combined compounds or other factors.

Question: When the data were evaluated against baseline data, is this data from just around the Hangar area or is it against untouched areas? D. Barney responded that the Base background dataset represents areas all over the Base that were never impacted by Navy activities. These areas were identified early on in the EBS process based on the research of Base activities. When used with statistics, it was designed to represent an average, or mean, background concentration to be used to compare against data from individual sites.

Question: What is the total number of sample sites used to develop the basewide background data? P. Call noted that the Basewide Assessment, which had a number of different components and has been presented at RAB meetings, is different than the Base background concentrations.

Question: Concern was expressed about the Base background concentrations; since there was sometimes no record of what happened where, how do you know that there were truly no activities in the locations chosen for the Base Background concentrations? Where on the Base is the background information for Hangar 1 located? P. Call clarified that the Base background dataset is used for all sites on the Base and is meant to be a general background data set applicable across the Base. It is not unique to any one site. D. Barney clarified that 15 to 20 discrete individual locations were chosen by using all available information to choose locations that were probably not impacted by Navy activities. The locations were mutually decided upon with input from EPA and DEP and the data from individual points were utilized with the 15 to 20 other discrete sample locations. A rigorous statistical analysis was performed on the concentrations from these discrete sample locations to determine the background value for each compound.

B. Olsen stated that this same process was performed at other sites in EPA Region I. If the data doesn't look right (high values) then the area tested is expanded to determine if these values are accurate or if different locations need to be chosen. There can be background conditions that aren't naturally there, like automotive exhaust. A couple of sites on the Base actually were identified based on the Base background data set study, e.g., the Solvent Release Area. Samples were collected at these sites originally for use as in the Base background dataset but it was determined they did not represent Base background concentrations. The only concentrations that are deemed acceptable as background

concentrations are ones that are found at the same levels in any urban area. There are not background values for every analyte because some compounds are not naturally found in the environment.

Question: Were any areas outside the Base checked to see if it is different? P. Call stated she didn't think so, because it was literally a Base background dataset. If necessary they would have gone outside the Base if the results did not seem accurate, but that was not necessary.

Question: When will the Hangar 1 site be closed and when will it be FOST'd? P. Call responded that hopefully the site will be closed in the summer of 2010, but it will not be transferred until the clean up is complete.

Question: Is this the first time that AFFF has been found on the Base? D. Barney stated that the AFFF is not a new consideration, it was identified as part of the 1995 EBS program as associated with the storage tanks in the hangar. One of the known releases occurred down through French Stream into Rockland. D. Barney actually reported a release to DEP in 1996. There are constituents in the AFFF that are extremely volatile and disperse into the atmosphere. The other constituents are virgin contaminants that don't have any clean up levels associated with them, but work is being done to try to determine such levels.

Question: Are there any other areas on the Base where this type of material is found? D. Barney responded that there were two 10,000 gallon storage tanks in the hangar, crash trucks and foam trucks, and AFFF was used at the Fire Fighting Training Area (FFTA). A significant removal action was conducted on the soils at the FFTA but the AFFF specific components were not targeted for analysis. The foam was used to suppress a live fire. Other releases included inadvertent discharges from pieces of equipment inside the Hangar, in the event an aircraft caught on fire. The spilled AFFF would then be swept to the floor drains and drain to the sewage treatment system or storm drain system.

Question: Will the areas that could be affected by the AFFF be tested for the constituents? D. Barney responded that not all the areas will be tested but areas with the highest probability, like the FFTA, will be tested.

Question: Is there any material in the Small Landfill that this foam might have been used for? Is there a process in Superfund that allows sites to be reopened based on emerging contaminants, like the AFFF? D. Barney responded that he does not see the landfills as areas of concern for AFFF. The five-year review is the vehicle in the CERCLA process to evaluate emerging contaminants at closed sites. The current monitoring at sites does not include emerging contaminants, but during the five-year review it can be recommended that samples be collected and analyzed for these emerging contaminants.

Question: Concentrations at monitoring wells at Hangar 1 were below background values, were these samples recently collected or is it previous data (2002)? D. Barney responded that the data are from 2002 and only one round of samples was collected. Based on the results of the sampling round it was concluded that no further sampling was necessary. The monitoring wells are still accessible and available.

Question: Can you explain the anodizing and plating associated with RIA 11? D. Barney responded that there is a cleaning process to the sheet metal and plating, and anodizing is part of this process. He was unsure of the agents used to bond the cleaning material to the metal, but the samples were analyzed for a comprehensive list. Historical information, including drawings, to determine what areas needed to be investigated at Hangar 1 was compiled as part of the Hangar 1 work.

### **3. UPDATES AND ACTION ITEMS**

Action Items: J. Cunningham stated there were no new efforts as of yet to attract new RAB members. A CD with the requested wetlands report was provided to P. Scannell.

RAB Administrative Actions: D. Barney stated he would appreciate feedback about the venue and if they would like to continue to use this location. The next RAB meeting will also be held at the New England Wildlife Center.

MassDEP Update: D. Chaffin stated there was nothing to report (no active sites).

IR/EBS Program Site Update: D. Barney stated that field activities are on going. At Building 81 there are wells being installed, borehole geophysics, groundwater sampling and drilling. There is additional work being conducted at Building 82 in response to comments on the RI. Additional work and data collection is also being performed at SRA. All this work will be used to evaluate potential remedial alternatives. In addition there is a Navy contractor out at the STP doing additional excavation. Excavations have been expanded based on confirmatory samples which did not meet the cleanup levels.

Invasive species control has been completed at the RDA and AOC 8 restored wetlands.

Upcoming work includes a removal action work plan for AOC55C which will be submitted soon. A revised draft final plan for the capping of the Small Landfill and preliminary design information for the capping of the WGL are also pending. These three projects are being handled by Shaw Environment and Infrastructure.

M. Bromberg asked for elaboration on what was found at the STP. D. Barney stated that there are three distinct areas that are now OK. The ditch is OK, but there is more impacted soil at remediation area A2 where the STP units were located. A series of 25 exploratory test pits have been excavated to try and determine the extent of the impacted soil.

M. Smart asked what method was used for collection of soil samples. D. Barney responded that there are a lot of different techniques. K. Jalkut stated that hollow stem augers (HSA) and drive and wash (D&W) are conventional drilling methods, while direct push (DPT) is a much smaller machine that has a plastic liner inside of a rod, which is driven down with a pneumatic hammer. HSA and D&W use water and a drive hammer. The type of machine used is dependent on what your objectives are. With the conventional drill methods you can usually get deeper and go into rock. The depths achieved with a DPT rig are improving but DPT still can not get as deep into bedrock as conventional drill rigs. DPT can get as deep as 60 feet (depending on the overburden material). DPT used on the Base has reached a depth of about 30 feet. Each method has different limitations, but all methods provide a representative sample.

SSTTDC Update – J. Young stated that their focus is primarily on the East-West Parkway projects. The funds are now in place to move it forward (approximately 53 million dollars). The work must be completed within 2 years per the stimulus funds. There are two planned phases. The plan for Phase I is to connect Shea Memorial Drive at Hangar 1 to Weymouth Street in Rockland. J. Young brought a figure that showed the proposed location of the East-West Parkway. The demolition in the Hangar 1 area cannot be started until the property is transferred or there is a plan in place to handle soil/groundwater. There will be a lot of discussion at the upcoming SSTTDC Board Meetings. The western segment of Phase 1 is from Hangar 1 to Old Swamp River and will be completed with the stimulus money. The eastern part runs from slightly west of Old Swamp River out to Weymouth Street and will be handled under the state bonds funding. The state will be going out with bid documents for the western segment probably in February.

#### Conclusion/Next Meeting

J. Goodrich wrapped up the meeting.

M. Bromberg brought up a concern about the WGL design and runoff to French Stream. D. Barney stated that it would be better as a March discussion topic given the timing of the design.

M. Bromberg stated his concern about post-capping maintenance activities required for the drainage system to ensure that runoff is directed away from French Stream especially if SSTTDC or others would be responsible for the capped landfill O&M. He would like a plan to be developed beforehand. He suggested moving the current course of French Stream so that drainage from WGL would not run into it.

D. Barney stated that Navy remains responsible for maintenance activities associated with the landfills - RDA, Small Landfill, and WGL. Navy could contract with SSTTDC or others to do work, but the Navy is always responsible. A. Malewicz stated she agreed that moving French Stream should be considered.

Suggestions for topics for the next meeting include:

- Small Landfill capping update
- WGL design

The next RAB meeting will be the second Thursday in January (January 14, 2010). The meeting will again be held at the New England Wildlife Center, 500 Columbian St., Weymouth, MA.



# AGENDA

## Naval Air Station South Weymouth, MA Restoration Advisory Board (RAB) Meeting Agenda

November 12, 2009

New England Wildlife Center, Weymouth, MA

7:00 PM

| <i>Agenda Items</i>                      | <i>Item Lead</i> | <i>Projected Time</i> |
|--|------------------|-----------------------|
| 1. Introduction, Review of Meeting Notes | Facilitator      | 7:00 - 7:15           |
| 2. Hangar 1 Update                       | Navy             | 7:15 – 8:15           |
| 3. Updates and Action Items              | Navy             | 8:15 – 8:30           |
| 4. Questions, Agenda Items, Next Meeting | Facilitator      | 8:30 – 9:00           |

**Facilitator:** John Goodrich, Massachusetts Office of Dispute Resolution & Public Collaboration

### Restoration Advisory Board (RAB) Members:

**Abington:** James Lavin, (Alternate: Steve Ivas); Phil Sortin (Alternate: Beth Sortin)

**Hingham:** no current representation

**Rockland:** no current representation

**Weymouth:** James Cunningham (Community Co-Chair); Ken Hayes; Dan McCormack; Steve White

**Navy:** Dave Barney (Navy Co-Chair)

**EPA:** Kymberlee Keckler (Alternate: Bryan Olson)

**MA DEP:** David Chaffin (Alternate: Ann Malewicz)

### BRAC Cleanup Team (BCT) Points of Contact:

**Navy:** Dave Barney, BRAC Environmental Coordinator, Base Realignment and Closure, Program Management Office, Northeast (617) 753-4656  
Email: [david.a.barney@navy.mil](mailto:david.a.barney@navy.mil)

Brian Helland, Remedial Project Manager, Base Realignment and Closure Office, Program Management Office, Northeast (215) 897-4912  
Email: [brian.helland@navy.mil](mailto:brian.helland@navy.mil)

**MassDEP:** David Chaffin, Environmental Engineer, Federal Facilities (617) 348-4005  
Email: [david.chaffin@state.ma.us](mailto:david.chaffin@state.ma.us)

**EPA:** Kymberlee Keckler, Remedial Project Manager, Federal Facilities Section (617) 918-1385 Email: [keckler.kymberlee@epa.gov](mailto:keckler.kymberlee@epa.gov)

**MassDEP Ombudsman:** David DeLorenzo (617) 292-5774, Email: [david.delorenzo@state.ma.us](mailto:david.delorenzo@state.ma.us)



# ACTION ITEMS

## Naval Air Station South Weymouth, MA Restoration Advisory Board (RAB) Meeting

### November 12, 2009 – Next RAB Meeting

| <i>Action Item</i>  | <i>Item Lead</i> | <i>Deadline</i> |
|---|------------------|-----------------|
| <b>ACTION ITEMS</b>   |                  |                 |
| Evaluate possible methods to solicit new RAB members.   | RAB Co-Chairs    | Next RAB        |
| Check July RAB meeting tapes for P. Scannell wetlands report request                                    | Tetra Tech       | Next RAB        |
| <b>UPDATES</b>  |                  |                 |
| RAB Administrative Actions  | D. Barney        | Each RAB        |
| MassDEP Update  | D. Chaffin       | Each RAB        |
| IR Program Sites Update   | D. Barney        | Each RAB        |
| EBS Review Item Areas/ Various Removal Action Update  | D. Barney        | Each RAB        |
| FOST/FOSL Update  | D. Barney        | Each RAB        |
| SSTDC Update  | J. Young         | Each RAB        |
| <b>RECENTLY COMPLETED ITEMS</b>   |                  |                 |
| Provide photographs of landfill reuse with parking on cap (5/09)  |                  |                 |
| Provide update on selection of the Independent Observer (5/09)  |                  |                 |
| Provide update on TAG/TASC funding (5/09)   |                  |                 |
| Provide list of constructed sewage treatment systems similar in design to that proposed by SSTDC (5/09) |                  |                 |
| Provide the amount of natural habitat acreage (3/09)  |                  |                 |
| Provide acreage estimate for FOST 5B and FOST 6 property (3/09)   |                  |                 |
| Provide ACOE 401 permit to those interested (3/09)  |                  |                 |
| Provide an update on contract for independent observer (3/09)   |                  |                 |

# Update: Hangar 1 Area

## Restoration Advisory Board Meeting

November 12, 2009

Phoebe Call  
Tetra Tech NUS



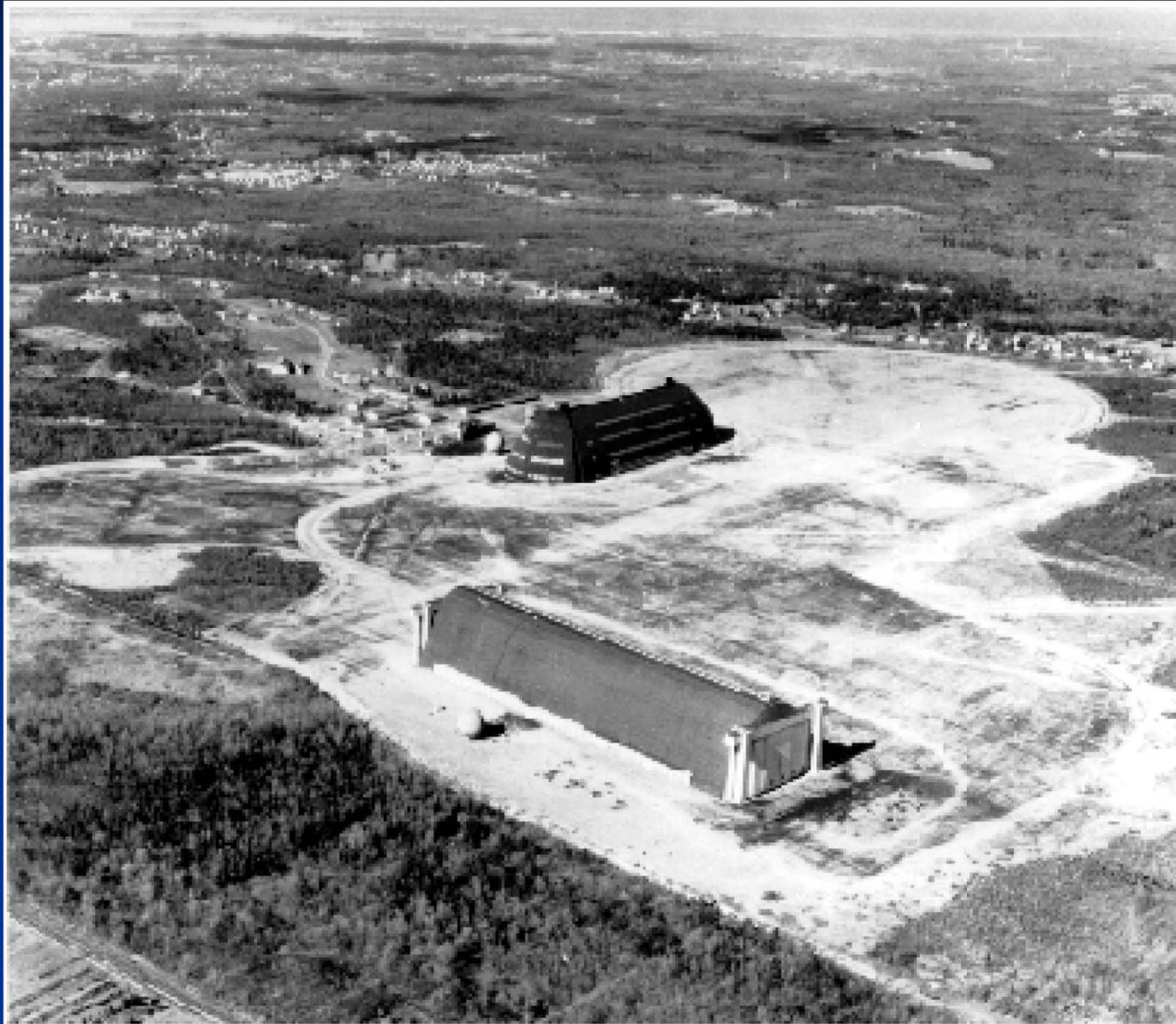
# Tonight's Objectives

- Update the RAB on activities completed to date at the Hangar 1 area.
- Review background information on the hangar and associated sites.
- Summarize maintenance actions and investigations performed at the sites.
- Discuss the Hangar 1 Human Health Risk Assessment.
- Summarize next steps and anticipated schedule.

## Background Information

- Hangar 1 is in the central portion of the Base; approximately 3.8 acres.
- Original Hangar 1 constructed in 1942 for dirigibles.
- Current Hangar built in 1966 for storage and maintenance of aircraft. Lean-tos constructed on north and south sides of hangar.
- Activities at the sites included: painting, metal working, machining, engine/hydraulic system repair, photo shop, training, welding, plating, anodizing.

# Original Hangar 1 (center)



# Current Hangar 1 (center)



# Sites Associated with Hangar 1

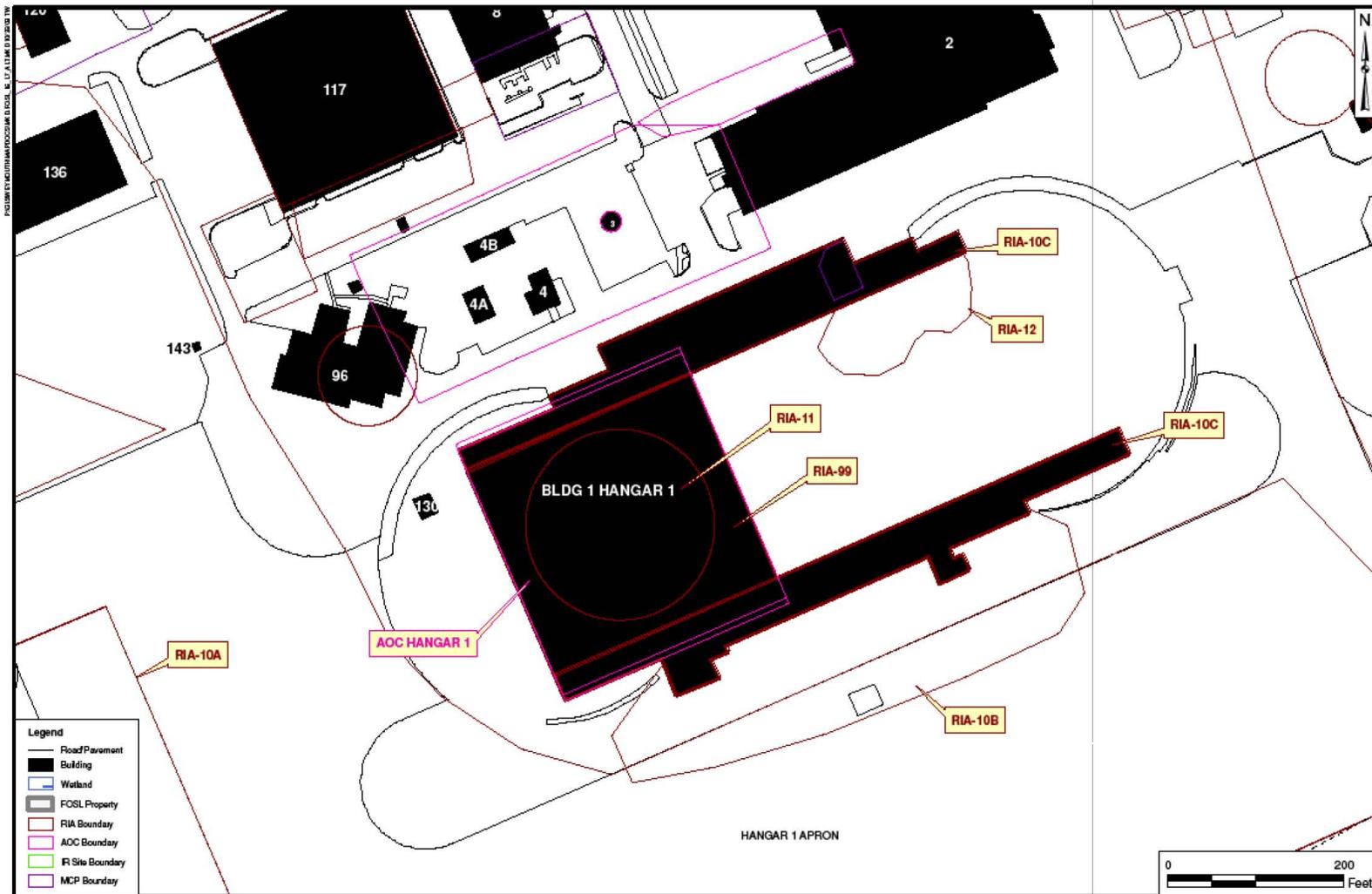
## ■ Active Sites:

- AOC Hangar 1 – Main Bay Floor Drains
- RIA 10C – North and South Lean-Tos
- RIA 11 – Aqueous Film-Forming Foam (AFFF)

## ■ Closed Sites:

- RIAs 10A & 10B – Fuel Spills Near/on Apron;
- RIA 12 – Staining on Asphalt Between Lean-tos
- RIA 99 – Potential Use of Radium-Bearing Paint in Hangar 1
- MCP RTN 3-18964 – Hydraulic Oil Release

# Hangar 1 & Associated Sites



# Hangar 1 Area Closed Sites

- RIA 10A – MCP limited removal action, completed May 2004
- RIA 10B – EBS NFA Final Decision Document, December 2002
- RIA 12 – EBS NFA Final Decision Document, November 2003
- RIA 99 – EBS NFA Final Decision Document, October 2009
- MCP RTN 3-18964 – MCP limited removal action, completed October 2000

# Hangar 1 – Main Bay and Lean-Tos



# AOC Hangar 1 Background

- 1995 – Site identified during Phase I EBS. Two floor drain systems connected to sanitary sewer identified as potential sources of contamination.
- 1999 – Two oil water separators removed, floor drain systems cleaned and tested, soil samples collected near separators.
- 2000 to 2001 – Both floor drain systems removed.
  - Confirmatory soil samples collected along removed drain line trenches; analysis for full parameter set.
  - Approximately 105 tons of PCB-contaminated soils shipped off site for disposal.
  - Excavations backfilled with clean soil.
- 2002 – Monitoring wells installed downgradient of the hangar.
  - Groundwater concentrations were below background values.

# AOC Hangar 1 Human Health Risk Assessment

- Used confirmatory soil sample data from the floor drain removal action.
- Evaluated future residential exposure to subsurface soil (most conservative potential receptor):
  - Exposure to soil via ingestion and dermal absorption (touching).
  - Exposure to air via inhalation not evaluated, no COPCs.
- Soil direct contact COPCs: carcinogenic PAHs, Aroclor 1254.
- Evaluated migration of chemicals in soil to groundwater.

# AOC Hangar 1 Human Health Risk Assessment, cont.

- Draft HHRA submitted October 2009. Now under review by EPA/MassDEP.
- Draft HHRA conclusions:
  - Non-cancer risk less than EPA target HI of 1.
  - Cancer risk within EPA target range  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ .
  - No negative impact on groundwater due to chemicals in soil.

# RIA 10C Background

- Lean-tos are long narrow 2-story structures on north & south sides of Hangar 1.
- Configurations of the lean-tos changed from 1942 to 1966.
- North & South Lean-tos included: metal, machine, dope, paint, hydraulic, and welding shops; photo lab; plating/ anodizing area; parachute packing area.
- Historic construction plans used to compile list of former uses and locations of sinks, floor drains, etc.

# RIA 10C Drain Line Removal Action

- Video inspection of stormwater drain line system performed in March 2003.
  - Piping in good condition; joints compromised.
- Cleaning drain lines via jet spraying not feasible so removal action performed.
- Removed about 1,455 linear feet of piping, collected confirmation samples, and backfilled excavated areas.
- Approximately 160 tons of excavated soil disposed of off site.
- Removal action completed October 2003.

# RIA 10C EBS Investigations

- 2003 – Four soil borings completed downgradient of the lean-tos; monitoring wells installed.
  - Soil & groundwater samples collected for TCL/TAL, PAH analysis.
- 2004 – Subsurface soil samples collected below 2 former degreaser locations.
  - Analysis for TCL/TAL, PAH, EPH/VPH
- Data screened against human health benchmarks and Base background values.
- Draft EBS Decision Document concluded soil & groundwater concentrations representative of background conditions.

# RIA 11 Background

- Site identified during Phase I EBS to address releases of aqueous film-forming foams (AFFF) in Hangar 1.
- AFFF spills were managed in accordance with the Base SPCC (spill control plan).
- EPA/MassDEP concerned about the components of AFFF and potential impact of spills on human health and the environment.
- Navy completed research on AFFF used at the Base.
- Base Cleanup Team evaluating next steps to address any risk associated with AFFF components.

## **Next Steps – Anticipated Schedule**

- **AOC Hangar 1 – Final Human Health Risk Assessment, January 2010.**
- **AOC Hangar 1 – Draft Final Proposed Plan, January 2010; ROD, July 2010.**
- **RIA 10C – Draft Final Decision Document, November 2009.**
- **RIA 11 – Develop consensus on path forward, December 2009.**
- **Resolve outstanding regulator concerns from June 2005 site walkover, Summer 2010.**