



Former NAS Moffett Field



Hangar 1 Removal Action

AMEC Earth & Environmental, Inc.

**January 21, 2010
NASA Ames Research Center
Information Briefing**



AMEC Earth & Environmental



- Prime contractor to the Navy for Environmental Restoration and Construction services
- Prime contractor for restoration of the Pentagon and demolition of the World Trade Center
- Received Congressional Commendation (HR 368)
- Local office in Oakland, CA





Project Objectives



- Control release of PCBs from Hangar 1 in accordance with CERCLA
 - Demolition of interior structures
 - Removal of contaminated siding
 - Application of weather-resistant coating to steel frame



Proposed Approach



- Experienced project team with excellent safety records
 - Nuprecon, LP (demolition and abatement)
 - Techno Coatings, Inc. (coating)
- Use of interior scaffold system to promote safety and contaminant control
- Use of the hangar shell as containment during interior demolition and coating
- Proposed coating system with proven performance
- Rigorous air monitoring program



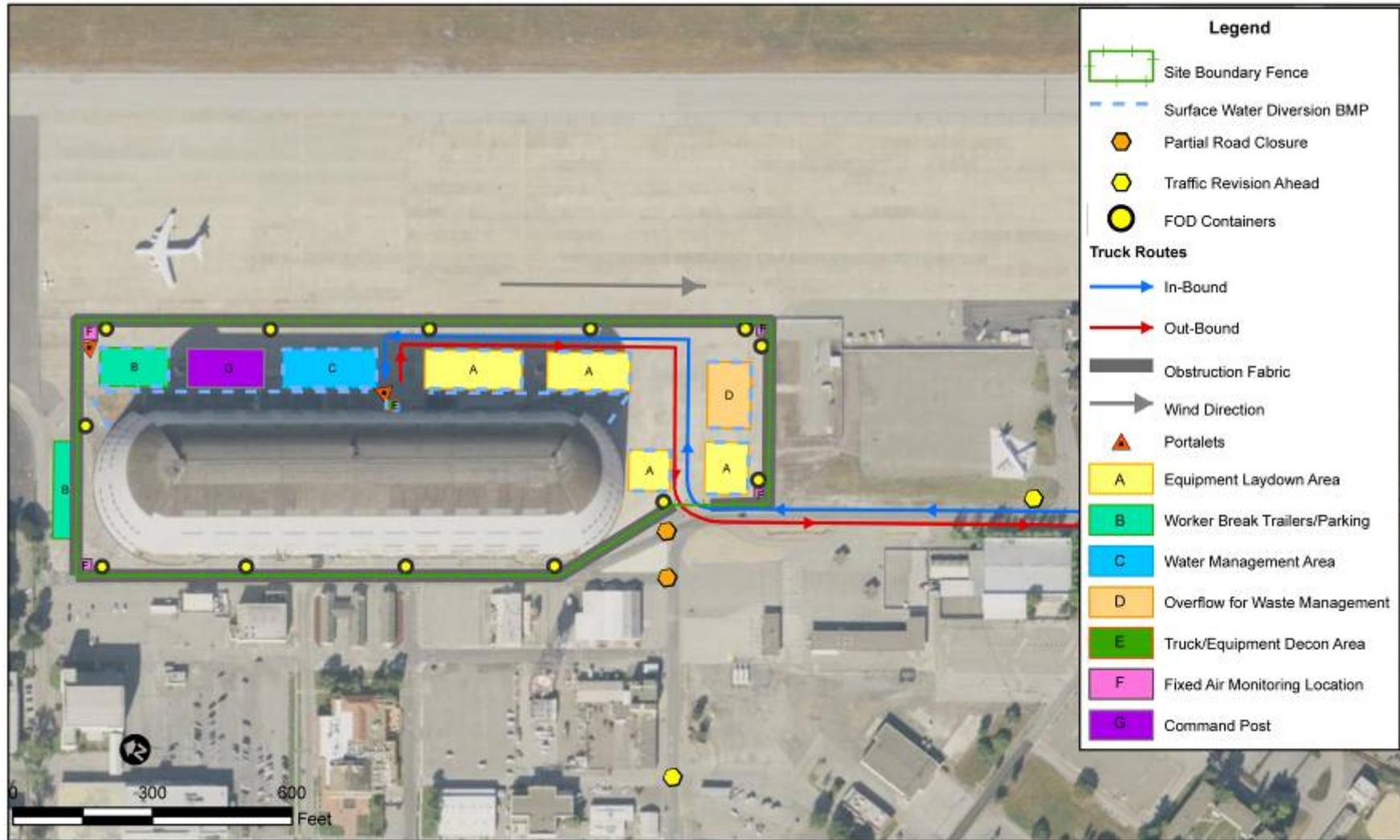
Pre-Construction Activities



- Work Plans
- Permits and notifications
- Biological survey and Bird Air Strike Hazard plan
- Baseline sampling (soil, sediment, air)
- Coating condition survey



Site Plan





Trucking Route





Asbestos Abatement Plan





Asbestos Abatement Controls

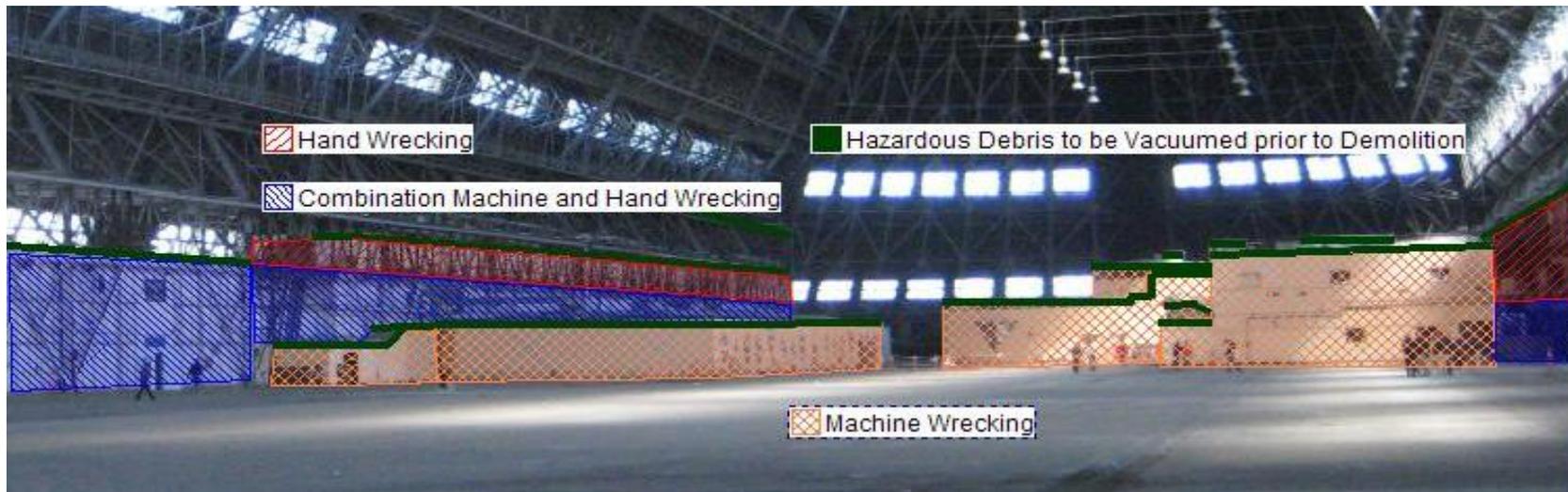


- Vacuum existing dust first
- Install containment barriers and negative air pressure
- Air monitoring supervised by Certified Industrial Hygienist
- Post abatement inspection and clearance sampling
- All work under direction of California Asbestos Consultant
- Compliance with OSHA and Cal. Code of Regulations (CCR Title 8)





Interior Demolition



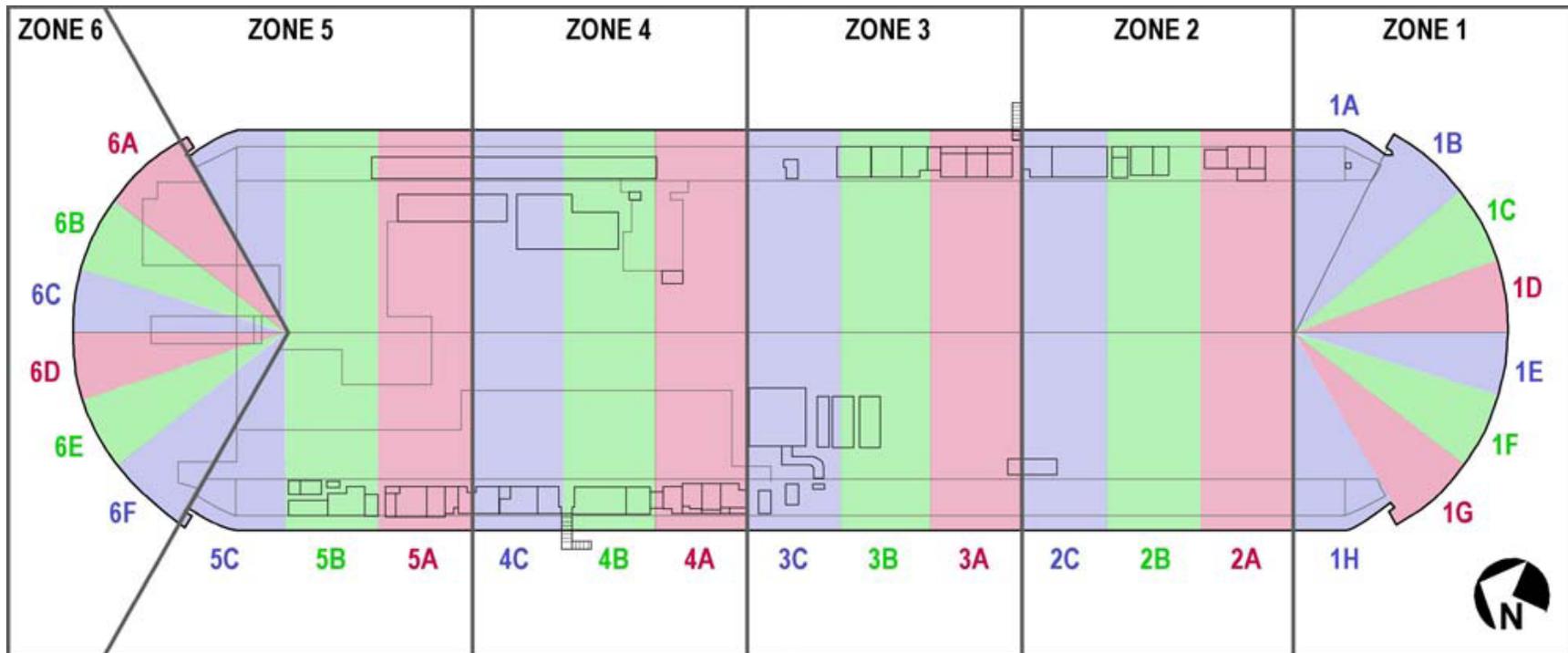
- NASA furnishings/equipment decontaminated and re-used
- Combination of manual and machine demolition methods
- Designed to protect structural integrity of the hangar



Siding Removal Plan



- Phase work in 6 Zones
- Start on the south end
- Work from roof to ground
- Maintain balanced loads





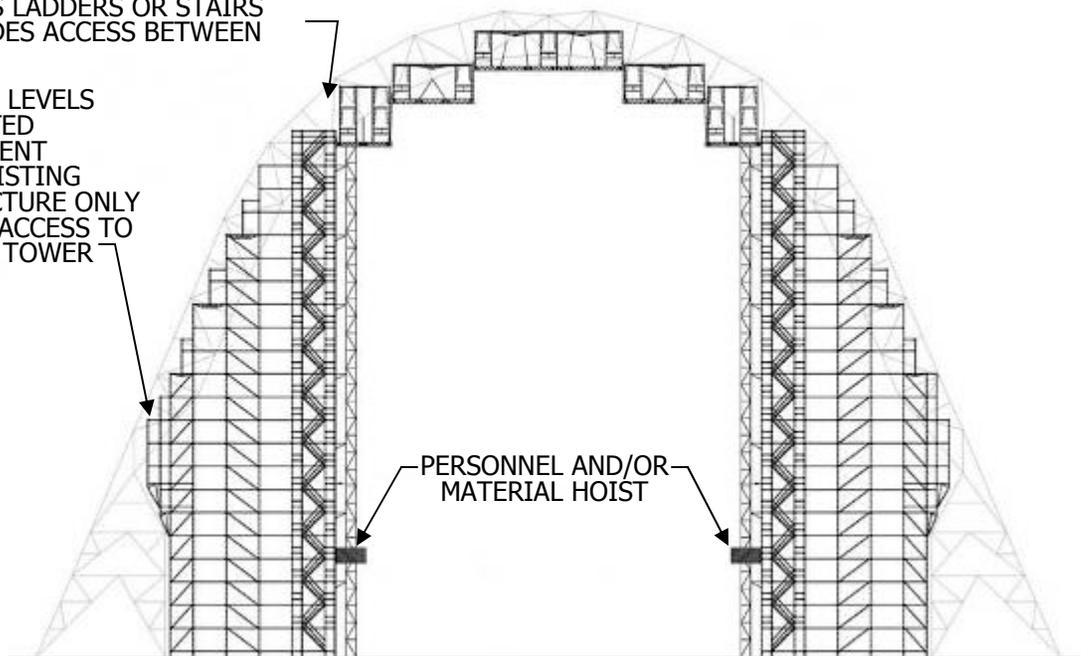
Scaffolding System



- Floor-mounted scaffold for siding removal
- Hanging scaffold for roof removal
- Integrated material/personnel hoists
- Designed by structural engineer

ACCESS LADDERS OR STAIRS PROVIDES ACCESS BETWEEN LEVEL

PLANK LEVELS LOCATED ADJACENT TO EXISTING STRUCTURE ONLY WITH ACCESS TO STAIR TOWER



Material Hoist



Transport Platform





Siding Removal



- FAA beacons and star remain operational
- Manually remove roofing and siding
- Individual panels unbolted from inside the hangar
- 100% clamp connection to secure panels
- Roofing and siding lowered to scaffold and hangar floor via hoists





Waste Management



- Demolition wastes will be recycled or disposed offsite at permitted landfills
- All wastes managed per Cal. Code of Regulations Title 22
- Waste transported by registered haulers
- Average 5 loads per day
- Wash water filtered and treated on-site
- Treated water recycled or discharged to sanitary sewer



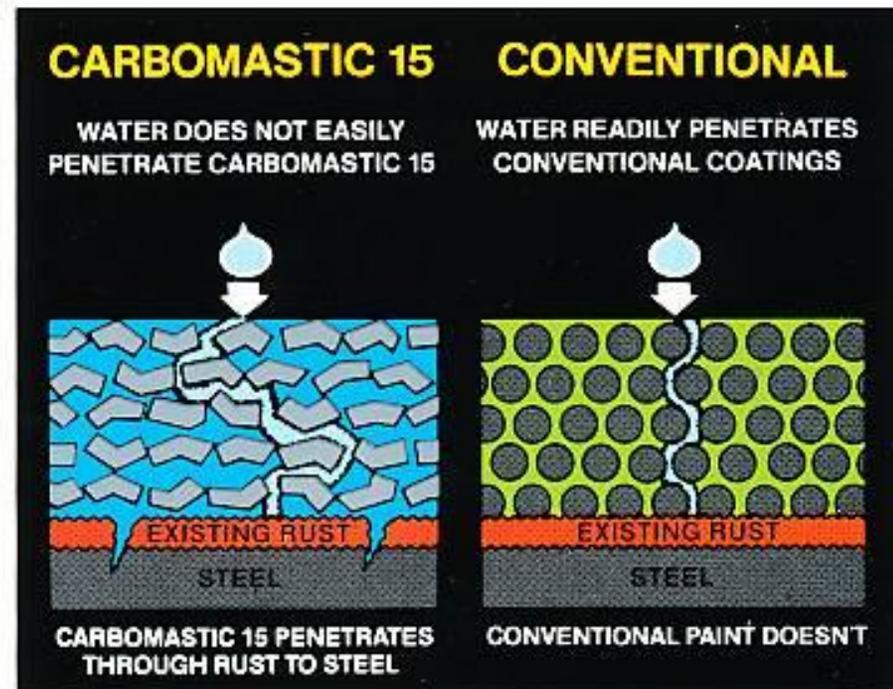


Proposed Coating System



CARBOMASTIC 15

- Proven 30-year field history
- Excellent performance in over-coating applications
- Excellent penetration through rusted substrates
- Low solvent content - does not soften existing coating

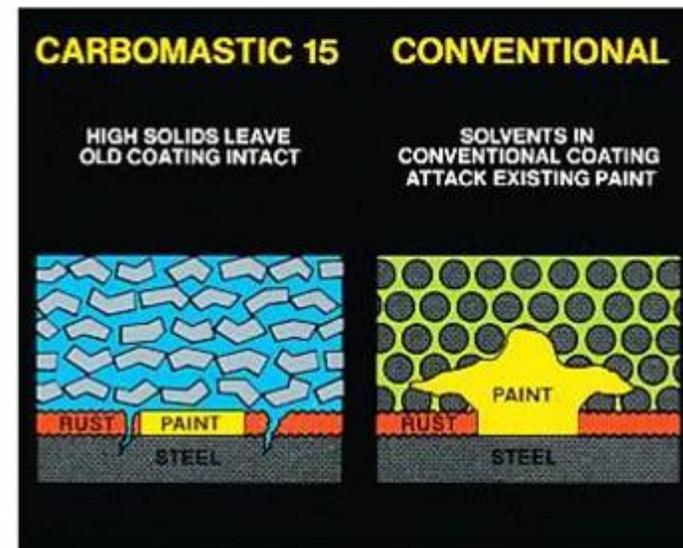
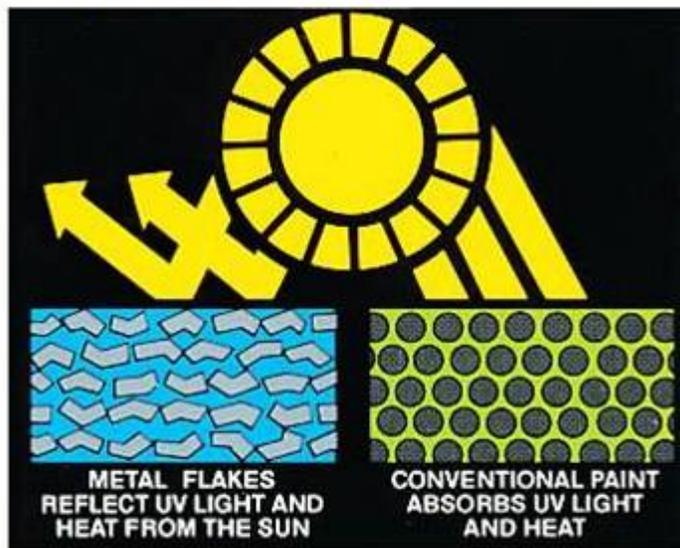




Advantages of CM 15 Coating



- Aluminum flakes (pigment) provide an excellent water barrier, corrosion protection, and UV protection
- Ultra Low VOC emissions compliant with Bay Area Air Quality Management District regulations
- Good color match with historic hangar siding color





Vandenberg Launch Tower



Space Launch Complex 6 – CM 15 coating has weathered the coastal environment for 20 years

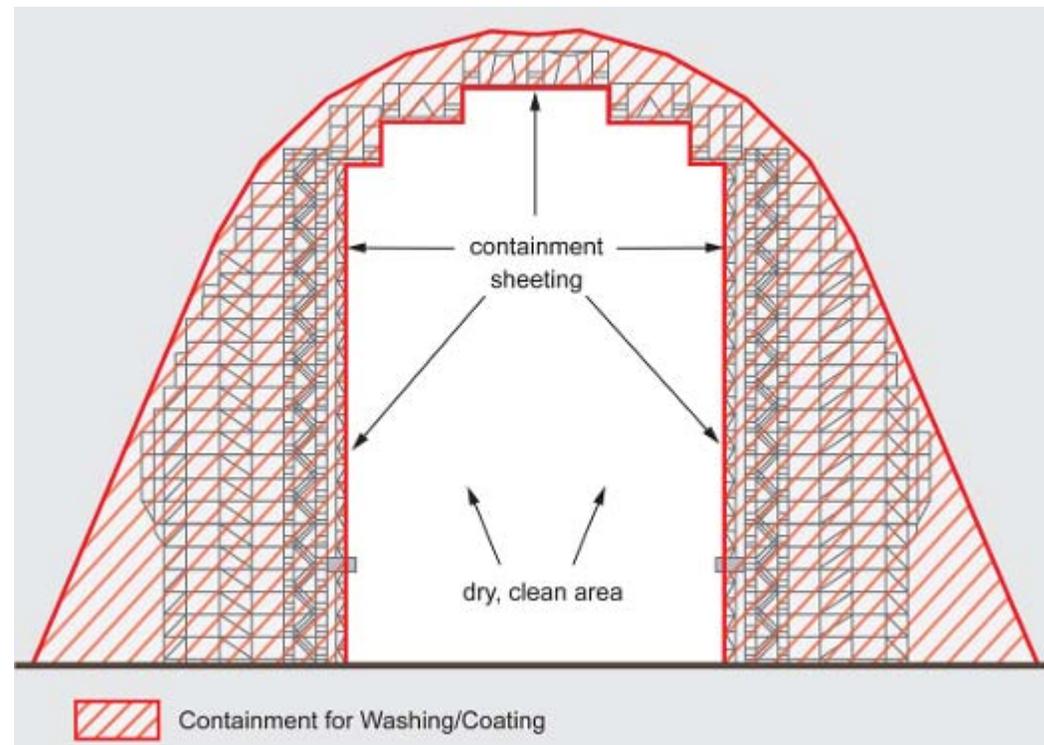




Coating Procedures



- Prepare surface by high-pressure water cleaning per Society of Professional Coating (SSPC) specifications
- Apply primer coat over rusted or degraded areas
- Apply full coat of CM 15 with airless spray
- Quality Control per manufacturer and SSPC specifications
- NACE and SSPC certified inspectors





Air Monitoring Program



- Three levels of monitoring
 1. Worker Air Monitoring (OSHA Cal/OSHA regulations)
 2. Work Area Perimeter Monitoring (NESHAPS, BAAQMD)
 3. Site Perimeter Air Monitoring (NESHAPS, BAAQMD)
- Site Safety Manager collects air samples daily
- Sub-contractors collect samples daily
- Certified Industrial Hygienist reviews data
- Air monitoring data reported to Navy & NASA





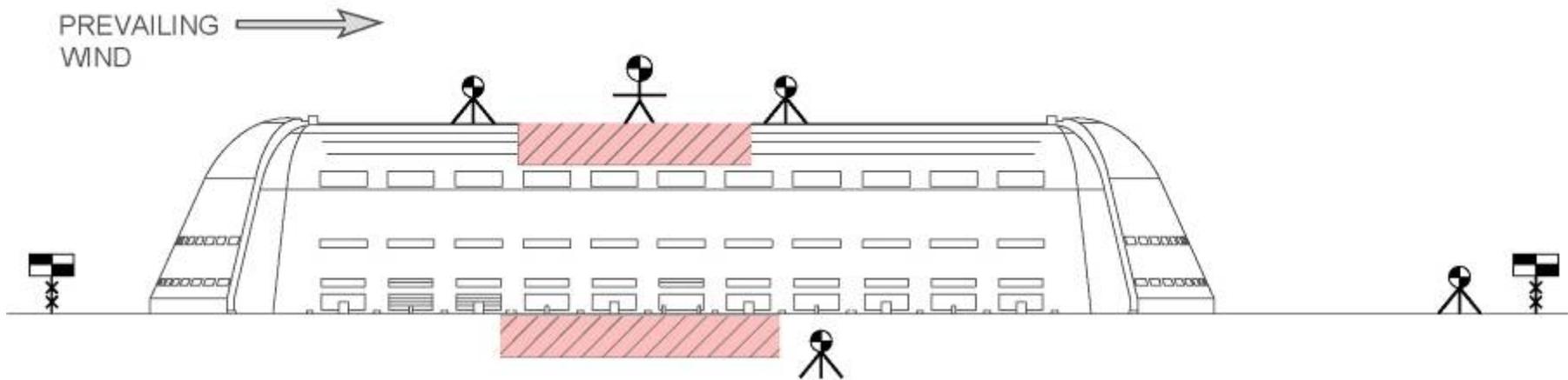
Worker & Work Area Monitoring



- Worker Air Monitoring
 - Monitoring of all contaminants per Cal/OSHA requirements
 - 100% worker air monitoring in the work zones
 - Initial assessment of dust control measures
- Work Area Air Monitoring
 - Monitoring of contaminants per Cal/OSHA, NESHAPS, BAAQMD
 - Abatement, washing, coating, demolition, waste packaging activities
 - Regulated areas with and without containment
 - Stop work if clean air standards are exceeded



Three Levels of Air Monitoring - Exterior



LEGEND



REGULATED WORK AREA
ACTIVE ROOF ABATEMENT



WORK AREA PERIMETER
MONITORING - "CHEMICAL
SPECIFIC"



FENCE LINE



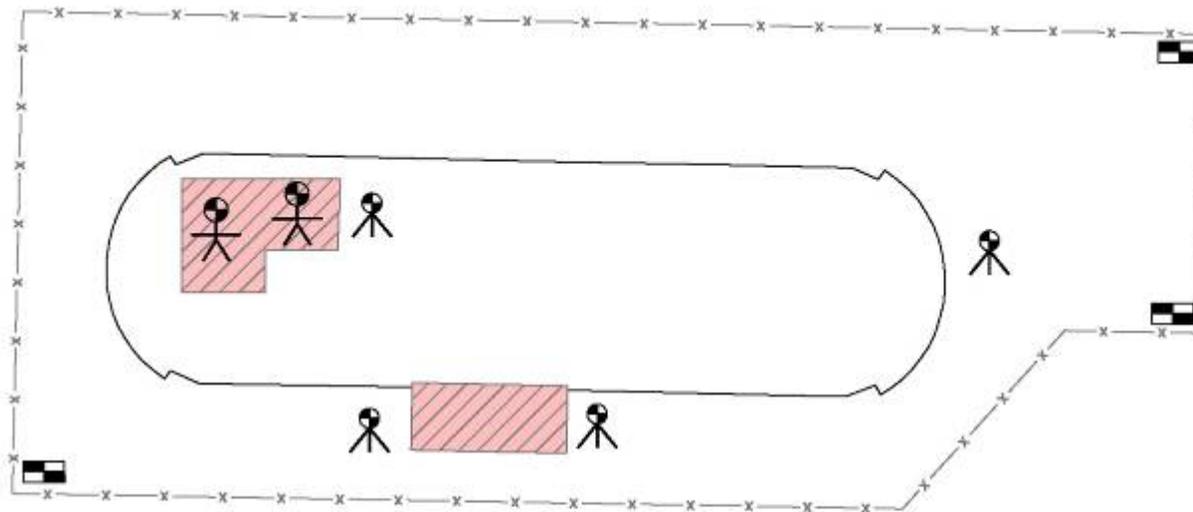
"PERSONNEL" WORKER AIR
MONITORING



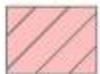
SITE PERIMETER DUST
MONITORING - FIXED



Three Levels of Air Monitoring - Interior



LEGEND



REGULATED WORK AREA
ACTIVE ROOF ABATEMENT



WORK AREA PERIMETER
MONITORING - "CHEMICAL
SPECIFIC"



FENCE LINE



"PERSONNEL" WORKER AIR
MONITORING



SITE PERIMETER DUST
MONITORING - FIXED



Site Perimeter Air Monitoring



- Continuous site perimeter dust monitoring at fence line
 - Fixed Locations – PM_{10} as indicator
 - 3 stations (1) upwind and (2) downwind
 - Datalogging DustTrak monitors
 - Instant notification & alarm capability
- If dust levels are exceeded
 - Chemical-specific monitoring for Asbestos, lead, PCBs
 - Stop Work – review and modify work practices





Air Monitoring Site Plan





Interior Demolition Dust Control



- Vacuum roofing prior to demolition
- Water spray/mist suppression
- Siding in place during demolition
- Debris loading and waste packaging inside the hangar





Siding Removal Dust Control



- Wash down structure first
- Sheeting installed on scaffold deck and floor
- Water mist dust suppression
- Panels removed manually and carefully lowered and packaged inside hangar
- Operations adjusted during high winds





Confirmation Sampling



- Soil sampling
- Drain system sampling
- Concrete wipe sampling
- Results compared to baseline sampling and regulatory limits





Historic Mitigation



- Man Crane, “Clam Shell” doors/motors, and star to be preserved
- Coating to match historic color
- Video documentation of the removal action





Schedule



- Work Plan approval **Summer 2010**
- Start interior abatement/demolition **Summer 2010**
- Start siding removal **Winter 2010**
- Complete siding removal and coating **Summer 2011**
- Complete confirmation sampling **Summer 2011**
- Submit final report **Winter 2012**



Questions



Point of Contact

Kathryn Stewart, P.E.
BRAC Environmental Coordinator
(415) 743-4715
Kathryn.Stewart@navy.mil