



Statement of Basis

SWMUs 1 - 4

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Southern Division - NAVFAC

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Acronyms Used in this Presentation

- **AIMD - Aircraft Intermediate Maintenance Department**
- **CA - Corrective Action**
- **CAD - Corrective Action Design**
- **CMS - Corrective Measures Study**
- **COC - Chemical of Concern**
- **ER-M - Effect Range - Median**
- **IRA - Interim Remedial Action**
- **LUC - Land Use Control**





More Acronyms

- **PAH - Polynuclear Aromatic Hydrocarbon**
- **PM - Permit Modification**
- **PR/VSI - Preliminary Review/ Visual Site Inspection**
- **RCRA - Resource Conservation and Recovery Act**
- **RFA - RCRA Facility Assessment**
- **RFI - RCRA Facility Investigation**
- **RGO - Remedial Goal Option**
- **SOB - Statement of Basis**





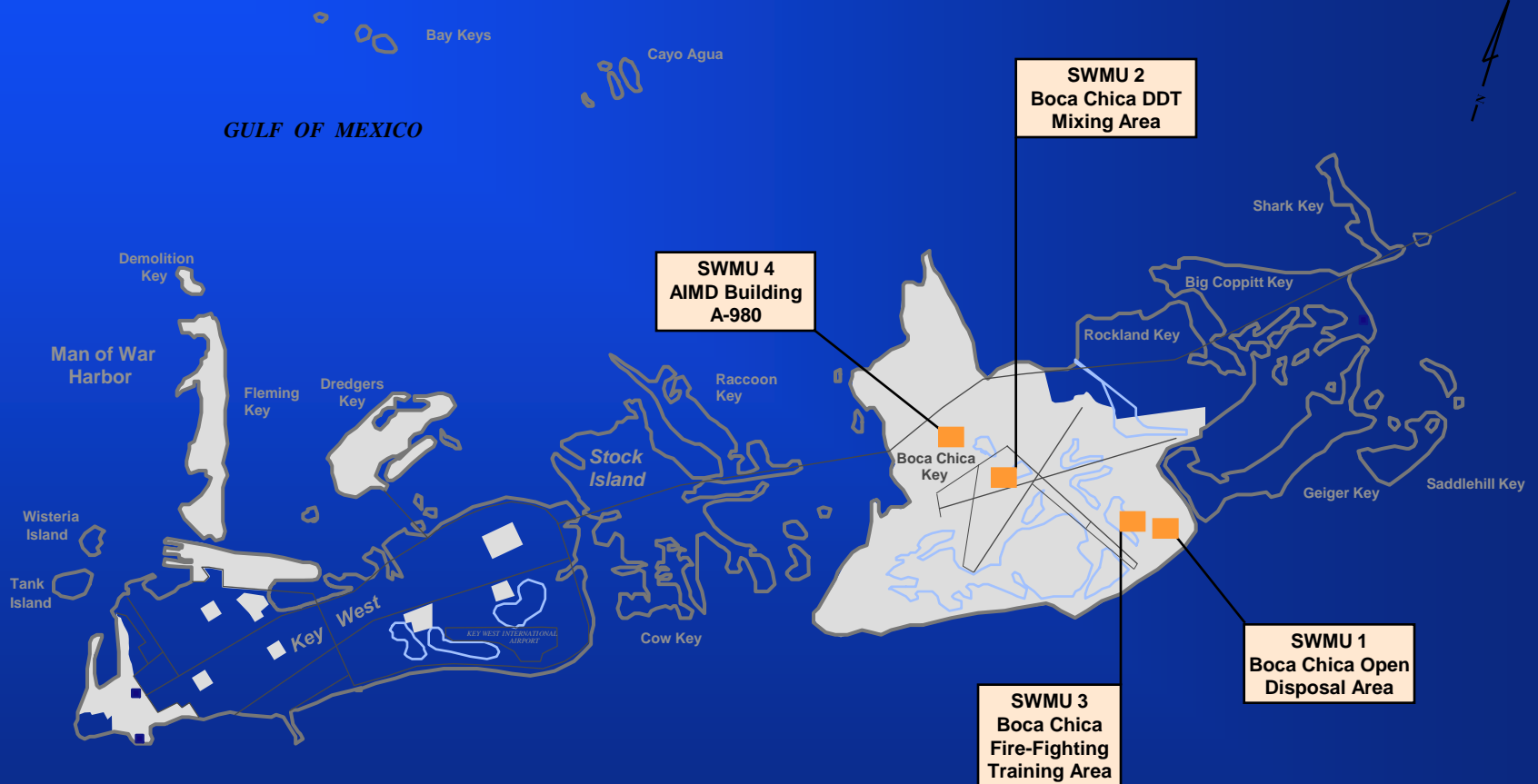
More Acronyms

- **SVOC - Semi-volatile Organic Compound**
- **SWMU - Solid Waste Management Unit**
- **VOC - Volatile Organic Compound**



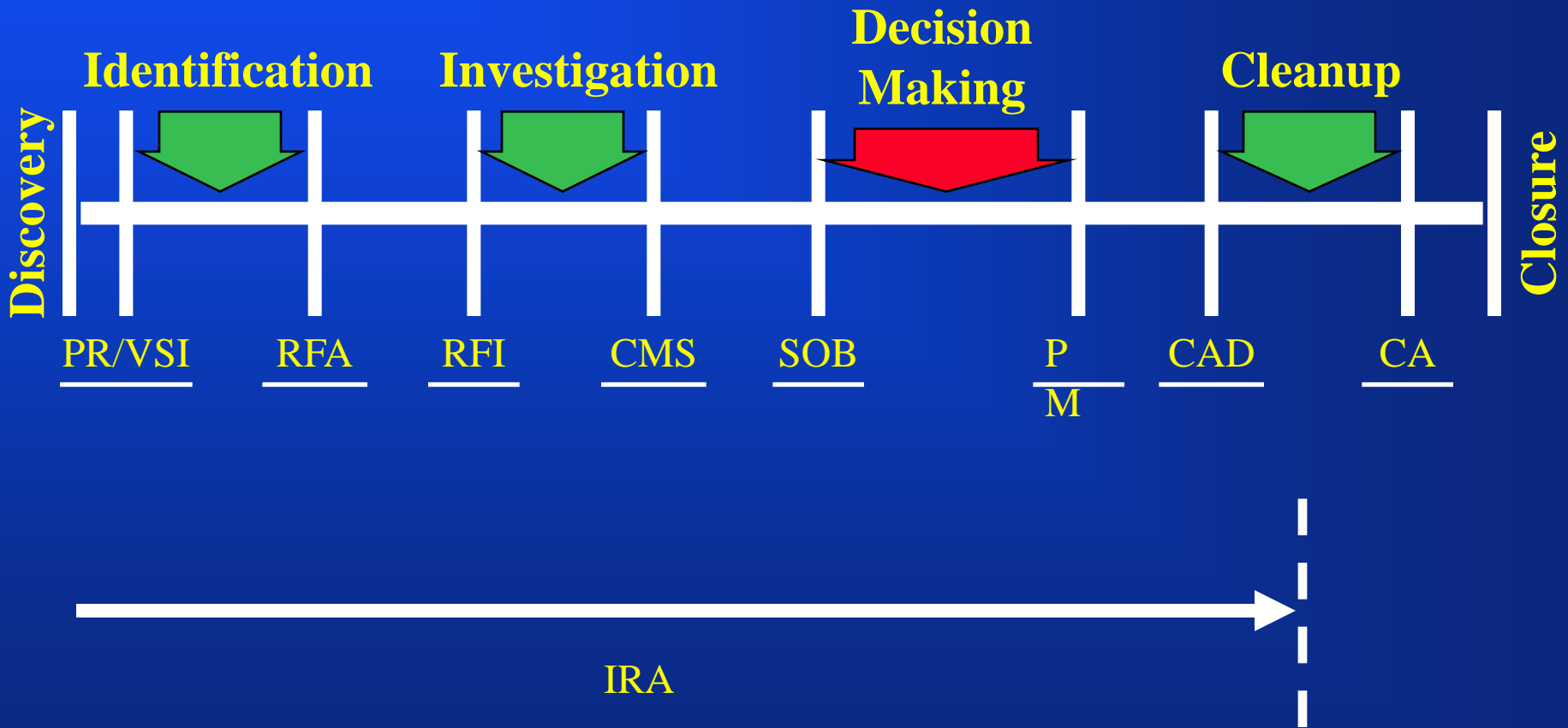


Site Map





The Typical Life of a RCRA Site





Purpose of Statement of Basis

- Identify proposed remedy
- Explain the rationale for its selection
 - Describe all the remedies evaluated in the CMS
 - Summarize findings of RCRA Facility Investigation
- Provide information to the public on involvement in the remedy selection process
- Solicit public review and comment





Selection of the Proposed Remedy

- Protection of human health and the environment
- Media cleanup standards
- Source control
- Waste management standards
- Long-term reliability and effectiveness
- Reduction in toxicity, mobility, or volume
- Short-term effectiveness
- Implementability
- Cost





SWMU 1- Boca Chica Open Disposal Area

- **Former open disposal and burning area (in use during 1942 - 1965)**
- **Received general refuse and waste associated with aircraft maintenance activities**
 - **waste oil** – **hydraulic fluid** – **solvents**
 - **paint thinner** – **lead-acid batteries**
- **Three abandoned aboveground fuel storage tanks in northwestern part of the site**





Interim Remedial Action - SWMU 1

- **Conducted during Spring 1996**
- **Removed lead-contaminated soil and sediment**
 - **An estimated 10,000 pounds of lead were removed during IRA**
 - **Over 80 % of all chemical contaminants were removed**
- **Backfilled excavation to 1 foot below grade to retain surface water and promote mangroves**
 - **Prevented migration of lead into uncontaminated soil sediment, surface water, and groundwater**





SWMU 1

Before IRA





SWMU 1

During IRA





SWMU 1

After IRA





SWMU 1

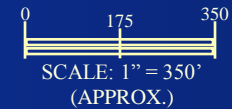
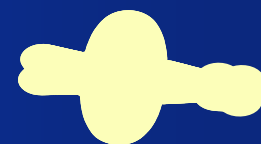
Mangrove recolonization





SWMU 1

Sample Locations



LEGEND	
	Soil
	Sediment
	Surface Water
	Groundwater



SWMU 1

COC Location Map





Summary of Possible Remedies - SWMU 1

- **No Action**
- **Limited Action: land use controls and long-term monitoring**
- **Remove, treat, and dispose of contaminated soils to industrial RGOs; land use controls (with long-term monitoring)**
- **Remove, treat, and dispose of contaminated soil to the Most Stringent RGOs and contaminated sediment to ecological ER-M values; land use controls**





Proposed Remedy for SWMU 1

- **Limited Action: land use controls and long-term monitoring**
 - **Human health risk for occupational workers is very low**
 - **Some potential ecological risk exists, but exposure is unlikely**





SWMU 2 - Boca Chica DDT Mixing Area

- **Former location of Building 915**
 - **4,4'-DDT mixing operations**
 - **used from mid-1940s to early 1970s**
 - **two aboveground tanks on concrete foundations to the west of the building**
 - **building demolished in 1982**
- **Manmade ditch, lagoon, and borrow pit on the northern edge of the site**





Interim Remedial Action - SWMU 2

- Conducted during Spring 1996
- Dredged sediments from ditch and excavated soil from around ditch
 - Approximately 1,900 CY of contaminated soil and sediment were removed (over 90%)
 - About 2 pounds of pesticides were removed from SWMU 2
- Cleaned water in ditch with filtration
- Filled excavated area and left ditch as bare limestone
- Prevented additional migration of contaminants into surface water and groundwater





SWMU 2

Before IRA





SWMU 2

During IRA





SWMU 2

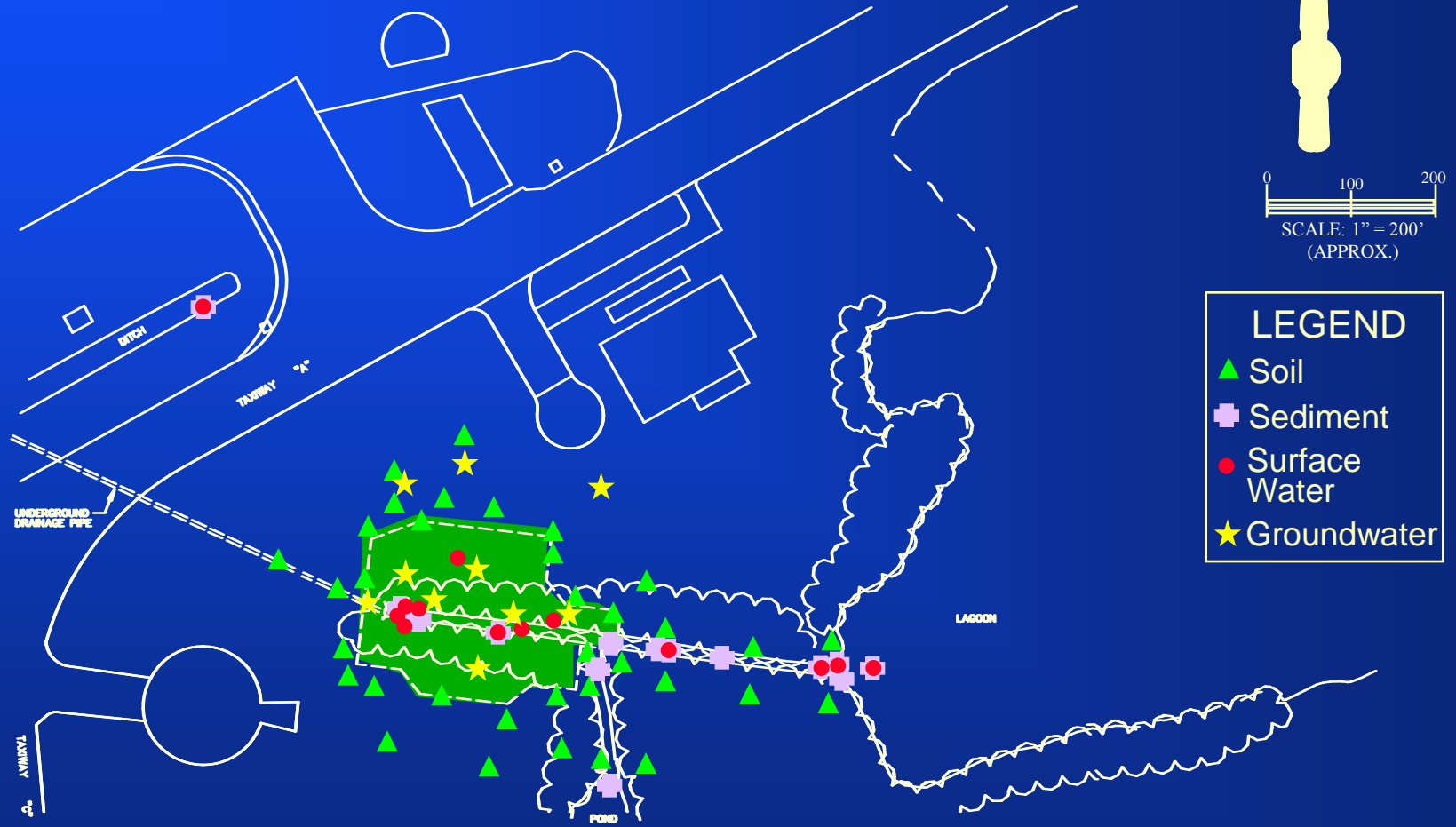
After IRA





SWMU 2

Sample Locations



SWMU 2 COC Location Map



LEGEND

- ▲ Soil
- Sediment
- Surface Water
- ★ Groundwater

Chemicals of Concern

- | | |
|-----------|--------------------|
| Arsenic | Chlorobenzene |
| Aluminum | Delta-BHC |
| 4-4'DDD | Endosulfan I |
| 4-4'DDE | Endrin |
| 4-4'DDT | Ethylbenzene |
| Aldrin | 1,2 Dichloroethene |
| Alpha-BHC | Heptachlor |
| Beta-BHC | |



Summary of Possible Remedies - SWMU 2

- **No Action**
- **Limited Action: land use controls and long-term monitoring**
- **Remove, treat, and dispose of contaminated soil to Industrial RGOs and contaminated sediment to ecological ER-M values; treat surface water; land use controls and long-term monitoring**
- **Remove, treat, and dispose of contaminated soil and sediment to the Most Stringent RGOs; treat surface water; land use controls**





Proposed Remedy for SWMU 2

- **Limited Action: land use controls and long-term monitoring**
 - **Human health COCs (pesticides) pose minimal risk**
 - **Minimal ecological risk**





SWMU 3 - Military Installation Former Fire-Fighting Area

- **Near a closed taxiway and a lagoon**
- **Contains vehicles and aircraft ignited with JP-5 fuel, waste oil, and hydraulic fluid**
- **Two unlined circular pits where combustible liquids were ignited**





Interim Remedial Action - SWMU 3

- Conducted during Fall 1995
- Removed soil base and berm from one pit
 - 835 cubic yards of soil were removed
 - Removed an estimated 6 pounds of organic chemicals
 - Over 95 percent of all chemical contaminants were removed
- Replaced with clean fill
 - Prevented migration of contaminants into surface water and uncontaminated soil





SWMU 3

During IRA





SWMU 3

After IRA





SWMU 3

Sample Locations





Proposed Remedy - SWMU 3

- **No Further Action with land use controls**
 - **Virtually no human health risks**
 - **No risks to ecological receptors**





SWMU 4 - Boca Chica Aircraft Intermediate Maintenance Building A-980

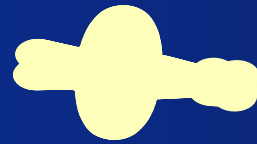
- Two in-ground plastic 55-gallon drums were used between 1981 and 1987 to receive and store solvents and oil mixtures generated by maintenance activities
 - **Drum A** - north of Building A-980, collected spills in the work area through a floor drain
 - **Drum B** - south of Building A-980, collected rinseate from Aircraft wheel rims through a floor drain
- Both drums and 6 inches of surrounding soil were excavated in 1989





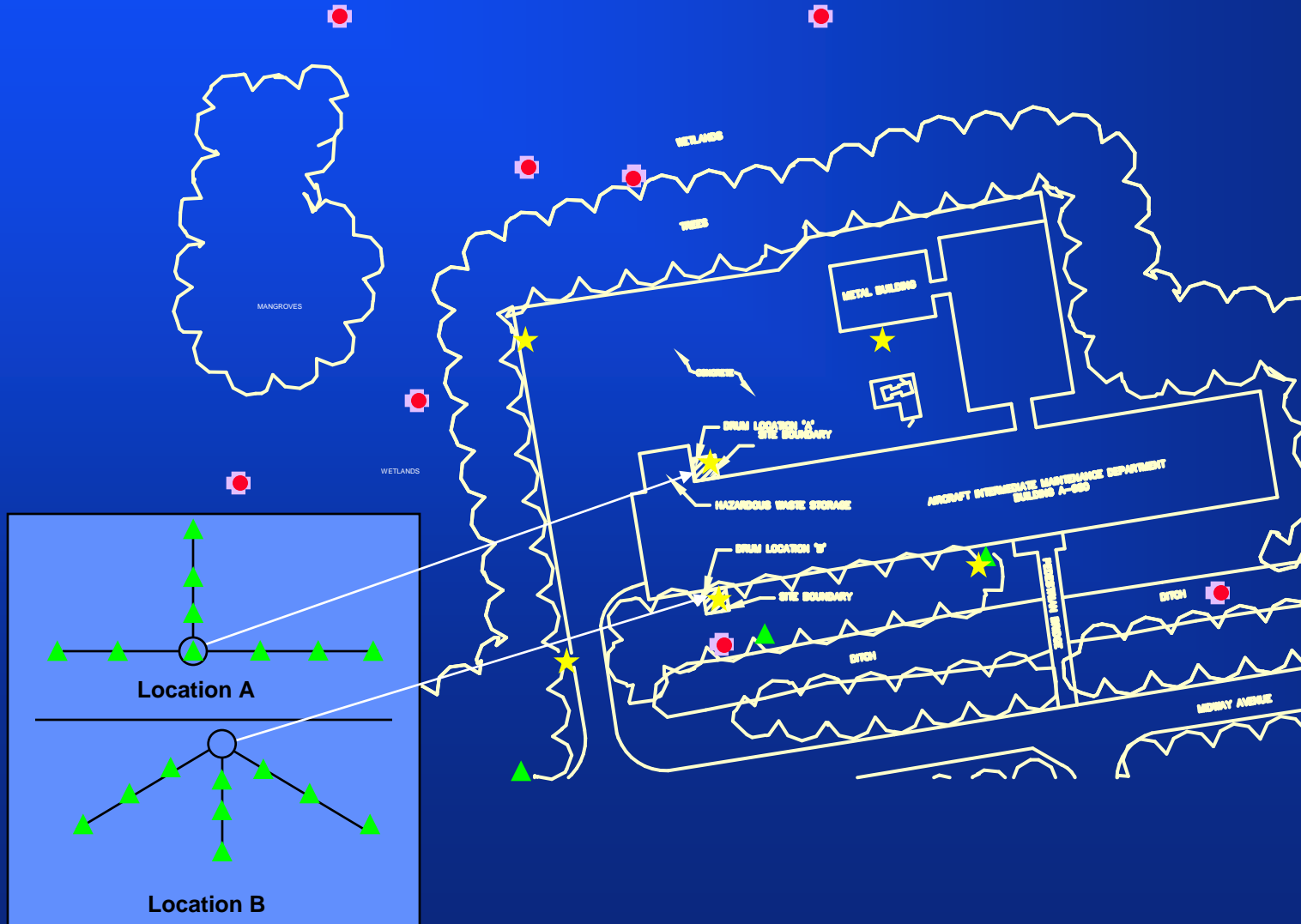
SWMU 4

Sample Locations



LEGEND

- ▲ Soil
- ⊕ Sediment
- Surface Water
- ★ Groundwater





Proposed Remedy at SWMU 4

- **No Further Action with land use controls**
 - **Virtually no human health risk**
 - **No risk to ecological receptors**





Summary

SWMU	Permit Modification	LUCs	Monitoring
1			
2			
3			
4			

