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**1998 SITE MANAGEMENT PLAN (SMP)
OF THE INSTALLATION RESTORATION PROGRAM
FOR THE
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA**

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NAS PENSACOLA
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Table of Contents

1.0	THE BASIS FOR A SITE MANAGEMENT PLAN	3
2.0	OVERALL MANAGEMENT APPROACH	3
3.0	RATIONALE FOR OPERABLE UNIT GROUPINGS	10
4.0	EXCLUSIONS	12
5.0	OPERABLE UNIT SCHEDULING	12
6.0	OPERABLE UNIT NARRATIVES	12

List of Tables

Table 1	Identification of PSCs Requiring Action NAS Pensacola	5
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1.0 THE BASIS FOR A SITE MANAGEMENT PLAN

The requirement for the Site Management Plan (*SMP*) is identified in the Federal Facilities Agreement (FFA) signed by the ~~United~~ States Environmental Protection Agency (USEPA), the State of ~~Florida~~, Department of Environmental Regulation (~~FDEP~~), now ~~Florida~~ Department of Environmental Protection (FDEP), and the Department of the Navy (DoN). The FFA was entered into based on the requirement for an interagency agreement identified in the Superfund Amendments and Reauthorization Act (**SARA**), Section 120 (e)(2). The intent of the plan is to provide: (1) an action deemed necessary to mitigate any immediate threat to human health or the environment, (2) a list of Operable ~~Units~~ (OUs) subject to the terms of the FFA, (3) a prioritization and rationale for the OUs at NAS Pensacola, and (4) activities and schedules for work planned the current year, including the submittal schedule for both **primary** and secondary documents. With the FFA being signed on **23** October 1990, and having a declared effective date of 1 November 1990, this is the eighth annual update of the *SMP*.

2.0 OVERALL MANAGEMENT APPROACH

Three major investigations have been conducted at NAS Pensacola. The DoN developed the Navy Assessment and Control of Installation Pollutants (NACIP) **Program** to identify and control environmental contamination from past use and disposal of hazardous substances at Navy and Marine ~~Corps~~ Installations. The NACIP Program is now **part** of the Navy's Installation Restoration Program (NIRP), and is similar to the USEPA "Superfund" Program authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. The three major investigation activities **performed** at NAS Pensacola under **the** NIRP or Superfund Programs are the following: (1) ~~Initial~~ Assessment Study (IAS) or Preliminary Assessment (PA), (2) Verification Study (VS) or Site Inspection (~~SI~~), (3) and the Confirmation Study (CS) or Extended Site Inspection (ESI). The IAS (1982-1983) was conducted by the Naval Energy and Environmental Support Activity (NEESA) and identified and assessed 29 Potential

Sources of Contamination (PSCs) at NAS Pensacola which could pose a potential threat to human health or the environment as a result of contamination ~~from~~ past Naval operations. The VS (1984) and the CS (1985-1986) were conducted by Geraghty & Miller, Inc. to confirm or deny the presence of contamination at the PSCs identified in the IAS, as well as possibly locate additional PSCs. If contamination was detected, the magnitude and the extent of contamination would have been evaluated to allow for the recommendation of future remedial response action at these PSCs.

In addition to the NIRP/CERCLA program, NAS Pensacola ~~has~~ other active regulatory programs. A Florida Resource Conservation and Recovery Act (RCRA) permit was issued to NAS Pensacola by the FDER. Concurrently, a RCRA Hazardous and Solid Waste Amendments (HSWA) permit was issued to the installation by USEPA on July 1988. A RCRA Facility Assessment (RFA) ~~was~~ included in the USEPA issued permit, and additional PSCs were located. An Underground Storage Tank (UST) Program is currently investigating multiple tank sites as provided by the Florida Administrative Code, Section 62-770. These are examples of some but not all the site specific Applicable or Relevant and Appropriate Requirements (ARAR) that are in progress at NAS Pensacola.

A total of 45 PSCs have been identified at NAS Pensacola. Of the 45 PSCs, 21 PSCs have been classified as requiring RI/FS status and 24 PSCs have been classified as requiring screening status in accordance with the FFA (see Table 1). Of the 21 RI/FS PSCs, 15 PSCs require primary deliverables for the 1998 calendar year, five PSCs (PSC 1, 32, 33, 35, and 39) have had RODs submitted, one PSC was combined with another PSC (PSC 31 combined with PSC 30), and two PSCs have been transferred to the UST program (PSC 3 & 22). Of the 16 screening PSCs, three PSCs require secondary deliverables for the 1998 calendar year, seven PSCs have been transferred to the UST program (PSCs 3, 19, 20, 21, 22, 23, 37), ten PSCs have had Site

Site Management Plan
 Naval Air Station Pensacola
 Pensacola, Florida
 September 1997

Characterization Reports (SCR) submitted (PSCs 4, 5, 7, 10, 13, 14, 16, 18, 28, & 36), and three PSCs are scheduled for out years (PSCs 43, 44, 45). Screening Site 6 has been deleted since it is still an active landfill. These screening PSCs are tracked in the SMP with non enforceable schedules for planning purposes only. The Tier I Partnering Team classified PSC 43, 44, and 45 as screening status. Each OU narrative identifies and briefly describes all PSCs to which the accompanying OU specific schedules applies.

Table 1 Identification of PSCs Requiring Action NAS Pensacola					
Category Number	OU Number	PSC	PSC Description	FFA Requires	Type of Contamination
1	-	13	Magazine Point Rubble Disposal	Screen	Rubble, Metal, Concrete
	10	32	IWTP Sludge Drying Beds	RI/FS	F006 HW
	10	33	WWTP Ponds	RI/FS	F006 HW wood, bricks
	10	35	Miscellaneous IWTP SWMUs	RI/FS	Unknown
2	1	1	Sanitary Landfill	RI/FS	Solvents, PCP, Plating Soln, oil, paints, mercury, and asbestos
	3	2	Waterfront Sediments	RI/FS	Solvents, cyanide, metals
	11	38	Bldg. 71 Sewer Line TL 073/C southwest to the end	RI/FS	Paint stripper, ketones, TCE, Industrial waste
	12	39	Oak Grove Campground Site	RI/FS	Debris, POL, broken clay, coal, cleaning solutions
3	2	11	N. Chevalier Disposal Field	RI/FS	Industrial waste, oils, HW
	-	12	Scrap Bins	Screen	Wet garage material
	-	25	Radium Spill Site	Screen	Radioactive waste
	2	26	Supply Department <i>outside</i> Storage	RI/FS	Industrial waste, oils
	2	27	Radium Dial Shop Sewer	RI/FS	Radium, phosphorus
	2	30	Bldg. 649 & 755, Bldg. 648 (previously PSC 31) Sewer Line TL 045/A north to IWTP	RI/FS	Metals, acids, caustic, degreasers, chromic soln, cyanide, paint, pesticides, paint thinner and sludge, Industrial waste

Site Management Plan
 Naval Air Station Pensacola
 Pensacola, Florida
 September 1997

4	15	40	Bayou Grande Area	RI/FS	Unknown
	16	41	NASP Wetlands	RI/FS	Unknown
	17	42	Pensacola Bay	RI/FS	Unknown
5	6	9	Navy Yard Disposal	RI/FS	Trash and refuse
	-	10	Commodores Pond	Screen	Underwater storage of oak timbers
	-	14	Dredge Spoil Fill	Screen	Dredge
	6	29	Soil South of Bldg. 3460	RI/FS	Slimy black substance (unknown)
	-	34	Solvent North of Bldg. 3557	Screen	Solvent detergent
6	4	15	Pesticide Rinseate Disposal Area	RI/FS	Organic pesticide
	14	17	Transformer Storage Yard	RI/FS	Dielectric oils, PCBs
	-	18	PCB Spill Area	Screen	Transformer oil, PCBs
	-	28	Transformer Accident	Screen	Transformer oil
7	-	4	Army Rubble Disposal	Screen	Rubble, timber, pipes, other wastes
	-	5	Borrow Pit	Screen	Unknown
	-	7	Firefighting School	Screen	POLs
	13	8	Rifle Range Disposal	RI/FS	Solid waste, paper
	-	16	Brush Disposal Area	Screen	Pruning and tree trimming refuse
	13	24	DOT Mixing Area	RI/FS	DDT w/diesel fuel
			IWTP Sewer Line	Screen	Industrial waste
			Buried Drums	Screen	Unknown
			Former UST 3221SW	Screen	Solvents
		45	Building 603 Lead Site	Screen	Lead

Schedules are in place for each screening PSCs in the IR program, and will be used to track the investigation progress providing updates to the Remedial Project Managers (RPMs). Each screening PSC will remain a screening PSC until such time as defensible and validated Level III or IV data becomes available. Once available, the Navy will utilize such data to either prepare individual PSC Site Characterization Reports to support a NFRAP determination with USEPA/FDEP concurrence or immediately reclassify the PSC to RI/FS status. When any

screening PSC is reclassified to **RI/FS status**, an enforceable schedule with due dates will be submitted at the next **Tier I Partnering** meeting. The parties will either **reach** agreement on the schedule at that meeting or will set a time frame for agreeing on that schedule. For PSCs currently listed as **RI sites**, if upon review of the **RI report**, the Parties agree that no remedial action is needed, then a draft Proposed Plan (**PP**) will be submitted in place of the **FS**. The Parties should make this decision as early in the process as possible and revise the appropriate enforceable schedules. During the investigation, if a removal action **is** deemed necessary or desirable, the DoN will provide a schedule indicating impacts to the **current** enforceable schedule for the consideration by the **Tier I Partnering Team**.

Specific changes have been made to facilitate the investigation at **OUs 2 and 3**. All **Category 3 RI/FS PSCs (11, 26, 27, 30)** have been combined into **OU 2** due to their geographic proximity and common potential remediation. (Note: **PSC 27** was originally **OU-7** and **PSC 30** was originally **OU-5**.) All **Category 3 Screening PSCs (12, 25)** are associated with **OU 2**. (Note: **PSC 25** was originally associated with **OU-7**.) **OU 9**; **PSC 31**, "Soil North of Building **648**" has been combined with **Category 3, OU 2**; **PSC 30**, "Building 649 and **755**" due to the proximity and similar contaminants. **Category 2; OU 7**; **PSC 27**, "Radium Dial Shop Sewer" and **Screening PSC 25**; "Radium Spill Site" have been moved to **Category 3** so they can be reported together with **OU 2**. This combination was necessary to allow study of contaminant migration across site boundaries. **Category 7, OU 18, PSC 26**, "Supply Department Outside Storage", and **Category 7, Screening PSC 12**, "Scrap **Bins**", have been moved to **Category 3** due to their geographic proximity to **Category 3 PSCs**. **Category 3, OU 3, PSC 2**, "Waterfront Sediments", and **Category 3, OU 11, PSC 38**, "Bldg. **71** Sewer **Line** TL **073/C** Southwest to **End**", have been moved to **Category 2** to expedite completion of the investigation.

Additional changes were agreed upon at the 22 August 1996 Tier I Partnering Team meeting. Due to the proximity of PSCs 8, 22, and 24 along with the detected levels of contamination detected at PSCs 8 and 24, these sites will be grouped into Operable Unit 13. Therefore, Category 6, Screening PSC 24, "DDT Mixing Area", has been moved to Category 7, elevated to RI/FS status, and grouped into Operable Unit 13 based on geographic location. Category 7, Screening PSC 8, "Rifle Range Disposal", has been elevated to RI/FS status and grouped into Operable Unit 13 based on geographic location. Category 7, RI/FS PSC 22 has been transferred to the Underground Storage Tank Program.

The seven (7) remaining PSCs that will not proceed in the IR Program are PSCs 3, 19, 20, 21, 22, 23, and 37. These PSCs were transferred to the UST Program and are not included or tracked in this SMP. The State of Florida has a regulated process for the remediation of petroleum contaminated sites.

The SMP provides event management planning. Included in the SMP is a description of NAS Pensacola's PSC program arrangement into remedial activity categories and OUs.

The CERCLA Remedial Investigation/Feasibility Study (RI/FS) process is tailored to allow prioritization of PSCs according to potential threat to human health and the environment. The process initially focuses on source identification and delineation of soil, sediment, groundwater and surface water contamination. Data is continually assessed and PSCs evaluated to determine if contamination is present, to what extent, and what further action is needed. Should a threat to human health and or the environment exist, the process is responsive to provide time critical removal of contaminants from a PSC. If an initial data evaluation indicates groundwater and/or surface water to be an immediate threat to human health or the environment, interim actions may be performed to mitigate further transport from the PSC. If groundwater or surface water

contamination is not **judged** to be an **immediate threat**, delineation may be performed on a larger scale by **viewing** local **aquifer** and **surface water system** as an **individual OU(s)** which may be impacted by several **PSCs** simultaneously.

Innovative ways **are** continually sought to **reduce** lengthy interim report development and review process. Methods such **as** offering data presentations to regulatory agencies allowing continual data assessment and rapid decision-making are good examples. These data presentations are in response to a need to eliminate the need for formal **interim** data reports **and** thereby reduce the time required to reach critical decision points for each **PSC**. Specifically, the data gaps and the information needed to fill those gaps shall be identified by evaluating the data itself rather than by evaluating a formal data report. These data presentations to concerned agencies offer effective communication and a reduced schedule to reach a ROD. **A** formal report shall be prepared once the nature and extent of contamination **has** been adequately delineated for the purposes of performing a BRA and selecting a Remedial Action. Decisions concerning data assessment and actions to be taken can be made during **RPM** meetings. These meetings will provide a forum for discussion of investigative results and proposed actions. The verbal decisions may be final with no reporting and review time required.

This approach synthesizes prioritization of PSCs with a realistic view of dynamic environmental systems. Areas more easily defined can be identified and treated, thereby removing potential sources of contamination in a timely manner. Flowing groundwater and surface water systems are naturally continuous without regard for **PSC** boundaries, **and may be** investigated **and** treated **as** a single system.

The RI/FS process is responsive to individual **PSC** characteristics and technical requirements, and attempts to **minimize** lengthy delays between field actions. This process provides the Navy

flexibility to address PSCs, OUs, or a set of PSCs/OUs separately or as a whole. In addition, specific matrices (i.e., soil/sediment, groundwater, surface water, or air) of individual PSCs, or OUs, can be treated separately if necessary, or a single matrix may be investigated at one time across the entire facility.

As agreed upon in the FFA, the DoN shall update the SMP yearly. Updates (due September 1 of each year) will reflect changes in project priorities, changes in scheduling, and the addition or deletion of PSCs due to the site condition or program accomplishments with the continued regulatory agency and the Restoration Advisory Board (RAB).

3.0 RATIONALE FOR OPERABLE UNIT (OU) GROUPINGS

To facilitate implementation of the NAS Pensacola RI/FS program, the nineteen (19) PSCs requiring RVFS have been clustered into thirteen (13) OUs. The scheduled work at these OUs is being prioritized based on relative potential threat, schedule optimization, and task management. The category priorities were originally formulated in the Site Management Plan, at the June 1992 RPM meeting for Category 1-4 and in August 1992 for Category 5-7 for the yearly SMP submittal. As a result of the 1993 Base Realignment and Closure process, category priorities were modified and are reflected in the following operable unit narratives. The criteria used to generate the RI/FS OUs was as follows.

- Geographic proximity of PSCs
 - Similar contamination types
 - Similar aquifer contamination zones
 - Similar potential investigation methods
 - Potential scope and complexity of the investigation
- Mission impact of remedial activities

- Regulatory concerns
- Similarity of potential remedial actions
 - Potential for **human** exposure/contact
- **suspected** mobility of potential contaminants
- Potential for off-site migration and exposure
- Relative threat to groundwater (e.g., **suspected** date, and volume of release)

These OUs **may** be re-defined **as** more **data** is collected and evaluated. Ultimately, **an** OU **will** consist of PSCs and matrices which require **similar** remedial efforts, or potential for human exposure/contact, or for earlier remediation.

Due to the large number of **PSCs** on **NAS** Pensacola, the number of **PSCs** in each OU, and the aggregate complexity of the contamination problem at each OU, the commencement of work at all OUs concurrently is not feasible. The schedule **has** been staggered to relieve these and other problems such as regulatory staffing, monetary resources, and contractor resources.

4.0 EXCLUSIONS

The **PSCs** undergoing screening activities are included and otherwise addressed hereafter in the **SMP**, some have been grouped with **OUs** for investigative and reporting purposes. After screening the **PSCs**, the **RPMs** will determine future response activities. If **RI/FS** activities are recommended, the **DoN** shall incorporate these **PSCs** into existing **OUs** prior to the submittal of the **RI** report, or designate them as new **OUs** following the criteria listed in Section **3**. When all parties concurrence has **been** established, the **future** additional **OUs** shall become **part** of the **SMP**, **and** a revision to the **SMP** shall be made in accordance with Section **2.0**.

5.0 OPERABLE UNIT SCHEDULING

OU schedules are based on the issuance of draft **primary** and **secondary** submittals. The schedule is in accordance with the **FFA** and reflects **USEPA** and **FDEP** input allowing for review periods based on their resources. The **SMP** assumes no dispute resolutions or delays due to holidays, vacations or weekends. The schedule calendar is a **Julian** calendar without weekends, holidays, or other non-work days. Quarterly reports will be submitted as required in the **FFA**. The final comment responses to be submitted with each draft **final** primary document, shall be the product of consensus of all Parties to the **maximum** extent practicable. In order to achieve this goal, the **Navy** shall notify the Parties in writing of any difficulties which it foresees in adequately addressing any agency's comments as soon as possible, and no later than 60 days from receipt of all regulatory comments.

6.0 OPERABLE UNIT NARRATIVES

The following narratives describe the contents **of each** **OU**. **A** brief description **of** each **OU** **and** what is known about its contamination is included. Deliverables for the upcoming year are listed with due dates.

RI/FS Category 1: OU 10

- **PSC 32: IWTP Sludge Drying Beds,**
- **PSC 33: WWTP Ponds,**
- **PSC 35: Miscellaneous IWTP Solid Waste Management Units (SWMUs),**
- **PSC 13: Magazine Point Rubble Disposal (Screening PSC)**

PSC 32, Industrial Wastewater Treatment Plant (IWTP) Sludge Drying Beds □ These contiguous units operated with the IWTP from 1971 to 1984. These units received listed hazardous waste sludges (F006) from the RCRA surface impoundment (IWTP Surge Pond), and, as a result, underwent RCRA closure in 1989. Contents of the drying beds (remaining sludge and leachate drainage system) and an underlying layer of sand were removed to about **six** feet below ground surface. Material removed was disposed of as a hazardous waste. The PSC was then backfilled with clean sand and capped with high density asphalt. The site's groundwater is monitored by three (3) monitoring wells and the surrounding HSWA permit groundwater monitoring system. The PSC will continue to be monitored under the HSWA permit as a part of the IR Program.

PSC 33, Wastewater Treatment Pond (WWTP) □ These surface impoundment's consist of the domestic polishing pond, phenol/stabilization pond and industrial surge pond. In **1987**, the USEPA RCRA Compliance Branch determined the polishing and stabilization ponds received listed F006 hazardous waste from the surge pond. The ponds were taken out-of-service. In **1988-1989**, the ponds underwent RCRA **permitted "clean closures"**. The sediment in the ponds was removed and disposed of as hazardous waste. No further formal monitoring of these surface impoundment's is required, but they are in range of the HSWA permit monitoring system. The industrial surge pond was taken out-of-service and underwent closure in 1989. The industrial surge pond is suspected of being the prime contributor to the IWTP groundwater contamination. The surge pond was removed to the groundwater table. The groundwater table **is** approximately

six (6) feet below ground surface. Removed **material** was disposed of as a hazardous waste. The surge pond **PSC** will continue to be monitored under the **HSWA permit** as part of the IR program.

PSC 35, Miscellaneous IWTP SWMUs □ In addition to **PSC 32** and **33** units, other units in the IWTP may receive hazardous waste or constituents. These will be investigated for possible releases. Most of these **units** are above ground **tanks**. These **tanks** require only visual inspection for leaks, cracks, or other evidence of release. Also included are underground oil/sludge storage **tanks** and underground piping which are appurtenances to SWMUs. The following **units** are included as **IWTP** area SWMUs:

- Industrial Grit Chamber
- Primary Clarifier
- Oil/Water Separator
- Oil Storage **Tanks**
- Sludge Thickener
- Belt Filter Presses
- Parallel Flocculators
- Aeration (activated sludge) **Tank**
- Parallel Final Clarifiers
- Aerobic Sludge Digester
- Contact Chlorinator
- **Arcillary Piping, Pumps, Junction Boxes, etc.**

PSC 13, Magazine Point Rubble Disposal (Screening PSC) □ **PSC 13** will be investigated and reported on concurrently with this **OU**. This **PSC** is **within** the same area as **PSC 32** and **33**, and

was found after the construction in 1971 and upgrading of the existing WWTP to provide tertiary treatment of industrial wastes and secondary treatment of the domestic wastes by NAS Pensacola.

These PSCs were grouped together due to the following: geographic proximity of PSCs, **similar** contamination types, and similar groundwater **flow**. Prioritization of these PSCs was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of **contaminants** via several pathways, **and** the potential for human exposure.

<u>1998 Primary Deliverable</u>	<u>Due Date</u>
NONE: ROD SUBMITTED	

RI/FS Category 2: OU 1

e PSC 1: Sanitary Landfill

This large SWMU received both sanitary and industrial waste over a 20 year period. These waste include solvents, PCBs, plating solutions, pesticides, oils, paints, mercury, medical waste, and pressurized cylinders. Reportedly, asbestos is also buried here. Twelve (12) shallow and three (3) deep ~~monitoring~~ well are located in the site vicinity. Samples taken from monitoring well indicate groundwater contamination exists in both the shallow and deep layer of the uppermost aquifer. These aquifers are separated by a locally semi-confining clay layer. Shallow groundwater moves north and east and discharges into the Bayou Grande. The flow direction in the underlying aquifer is southward. Two (2) deep wells used as occasional potable water supply tap into the deep aquifer. These wells are southwest within one (1) mile radius of the site. Neither of these wells are known to be contaminated. PSC 1 was identified prior to preparation of the IAS report in 1983. The PSC was given a very high investigative priority relative to other PSCs identified at this time. This priority was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contamination via several pathways, and the potential for human exposure.

<u>1998 Primary Deliverables</u>	<u>Due Date</u>
Draft ROD	04 January 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 2 OU 3

- **PSC 2 Waterfront Sediment Area**

Documented quantities of industrial and hazardous waste discharged to Pensacola Bay by storm sewers over a 35 year period. Examples of these hazardous wastes are solvents, cyanide and heavy metals. Fish kills were not uncommon in this area during 1940s, 1950s, and 1960s. Periodic dredging has been done to widen and deepen the channel for current aircraft carrier berthing. This PSC was given a higher priority due to the suspected magnitude and toxicity of potential contamination.

1998 Primary Deliverables	Due Date
Draft ROD	24 January 1998
1998 Secondary Deliverables	Target Date
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 2: OU 11

- **PSC 38: Building 71 and Industrial Waste Sewer Line (TL 073/C southwest to the end)**

This PSC includes buildings 71 and the associated industrial waste sewer line. The building has since been demolished but, soil testing conducted detected hazardous waste constituents, the presence of which is consistent with the use of Buildings 49, 71, and 72 during the period from about 1935 to the late 1970s for aircraft paint stripping and painting operations. These activities are described in the IAS in detail. Study documents identify the use of paint strippers, ketones, and trichloroethylene (for parts cleaning) in Buildings 49 and 71. Ten 550 gallon above grade tanks were located in these facilities which were periodically drained through the underground lines from the buildings to Pensacola Bay. A cyanide spill in the area near Buildings 71 and 104 and the presence of cyanide in the adjacent bay waters also are documented in the report.

Waste from various types of operations enter the Industrial Waste Sewer Line (TL 073/C southwest to the end) without any pretreatment or segregation. Consequently, the waste stream may consist of everything generated or used in the facility, including paint strippers, heavy metals, pesticides, fuels, cyanide wastes (prior to 1962), solvents, and waste oils.

<u>1998 Primary Deliverable</u>	<u>Due Date</u>
Draft Proposed Plan	01 February 1998
Draft ROD	16 May 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 2: OU 12

- **PSC 39: Oak Grove Campground Area**

Oak Grove is a campground area located immediately **South** of Sherman Field on the South side of Radford Boulevard. **An** area of stressed vegetation and stained soil approximately 150 feet in diameter **was** found near the Pensacola Bay. A **small** amount of construction debris consisting of old brick, broken clay pipe and coal is scattered across the site. Records indicate that a saw mill was once located near this site. Investigations are currently underway to determine if the debris is the remains of this old mill or if **this was an** old dump site. Preliminary tests of the surface soil showed that the **stained** soil is the result of petroleum contamination.

1998 Primary Deliverables	Due Date
NONE: ROD COMPLETED	

RI/FS Category 3: OU 2

- **PSC 11: North Chevalier Disposal Area**
- **PSC 26: Supply Department Outside Storage Area**
- **PSC 12: Scrap Bins (Screening PSC)**
- **PSC 27: Radium Dial Shop Sewer**
- **PSC 25: Radium Spill Area (Screening PSC)**
- **PSC 30: Buildings 648, 649, and 755 and Sewer Line (TL 145/A North to IWTP)**

PSC 11, North Chevalier Disposal Area □ This PSC received industrial waste and oils, including hazardous waste. Eleven (11) shallow monitoring wells have been installed, three (3) of which have been destroyed. One (1) deep well is also in place. Analytical data from the wells indicate both shallow and deep groundwater contamination with heavy metals and VOCs. Groundwater flow in the shallow system is eastward toward the creek leading into Bayou Grande. Sediment samples taken during the NACIP Study showed high concentrations of heavy metals. Borings to define the lateral and vertical extent of the landfill indicate construction debris east of the creek. The total lateral extent of the site is unknown. Old topographic surveys indicate the fill encompasses several hundred thousand square feet of the original tidal creek area. Prioritization of this PSC was due to the suspected magnitude and toxicity of contamination, pathways, and the potential for human exposure.

PSC 26, Supply Department Outside Storage Area □ PSC 26 is a 90 square foot outside area, south of building 684, used to store containers of industrial materials. Containers were stored on steel mats. Leakage is reported to have occurred from these containers. Since PSC 11 is down gradient from this area, in depth studies will be conducted.

PSC 12, Scrap Bins (Screening PSC) □ Screening PSC 12 is being investigated and reported on concurrently with this OU. It is located approximately 800 feet northwest of Chevalier Field and 600 feet west of PSC 11. Most of the site area is enclosed by a fence and covered with a large concrete pad where heavy equipment is currently kept. From the early 1930s to mid 1940s, garbage from NAS Pensacola was placed in scrap bins and stored in this area (industrial waste was sent to the North Chevalier Disposal Area). Approximately 16 cubic yards (2 truck loads) per day of wet garbage was stored before being hauled off and used as livestock feed. There is no evidence of hazardous material disposal at this PSC.

PSC 27, Radium Dial Shop Sewer □ From 1940s to 1976, Building 709 was used to rework instrument dials painted with radium containing paint. Spent cleaning solutions and luminous paint were routinely poured into the sanitary sewer system. In 1976, the building was dismantled and the drain pipe found to have a reading of 1.2 mR/hr. The drain pipe was removed to a depth of 18 inches. The remaining lateral underground portion of the pipe was capped and covered with concrete. At PSC 27, radium removal operations at NAS Pensacola involved stripping radium-containing paint from instrument dials prior to repainting. From 1965 to 1975, these operations were conducted in Building 709. In 1975, all activities related to radium painted instruments, including stripping and re-painting, were permanently moved to building 780. At the present, aircraft instruments containing radium are disassembled in Building 780. Instrument dials were stripped using paint thinner, then soaked in a lye and nitric acid solution. Contaminated instruments cases were processed by soaking in a "turco" acid solution. Components were cleaned with a wire brush to remove all residue.

Screening PSC 25 has been grouped with PSC 27 to investigate the extent of contamination. One (1) shallow well and one (1) deep monitoring well was installed near the drain of PSC 27. Analyses of shallow samples indicate gross Alpha concentrations in the shallow groundwater are

below the primary drinking water standard. Chlorinated hydrocarbons were detected. Chlorinated hydrocarbons were not detected in samples **from** the deeper wells. The groundwater flow direction is, reportedly, south-southeast and toward **PSC 30**. Several analyses for chlorinated VOCs **from** the installed **monitoring** wells indicated traces of solvents **are** present in the groundwater.

PSC 25, Radium Spill Site (Screening PSC) □ **PSC 25** will be investigated and reported on concurrently with **this** OU and is located on the eastern portion of NAS Pensacola just east of Murray Road and **north** of **Farrar** Road on the east side of **Building 780**. NEESA (1983) reported a small spill of low-level radioactive waste containing radium at **this site** in 1978. **The** spill occurred on pavement and was properly cleaned up according to **NEESA**. **The** spill occurred because drums of waste were being stored in the weather and allowed to corrode and leak. Building 780 was the location of radium removal operations for radium dials and other equipment. The equipment was decontaminated here before being repainted in the radium **dial** shop (former Building 708). Contamination resulting **from** the spill or waste handling are the focus of the investigation. On **14** Oct 1992 the **UST** program transferred 709D-N, which is at **PSC 27**, to the IR Program.

These **PSCs** were grouped together mainly due to the following: geographic proximity of **PSCs**, and the potential for off-site migration, and its impact on the other **PSC**. Prioritization of these **PSCs** was due to the suspected magnitude and toxicity of contamination, **the** potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

PSC 30, Buildings 648, 649 and 755 and Industrial Sewer Line □ Over a fifteen (**15**) year period north of Bldg. **648**, waste paint, thinner, **and** paint sludges were poured **onto** the ground. **The** **only** monitoring well **near** the site indicated low concentrations of chlorinated hydrocarbons. A

second round of samples ~~from~~ this monitoring well detected no chlorinated volatiles. The exact location of the disposal site in relation to the monitoring well is not reported. The plume of contamination may have already passed the monitoring point. Further study will be conducted. On **14 Oct 1992** the **UST Program** transferred **647N and 648N**, which are at previous **PSC 31**, to the **IR Program**.

Building **649** housed a tin/cadmium plating shop with fifteen **(15)** tanks located inside this building, ranging in capacity from **200** to 500 gallons. These tanks, along with a **250** gallon tank of trichlorethylene, were emptied routinely into a ditch leading to a creek discharging into Bayou Grande. Acids, caustics, degreasers, and chromatic solutions were also drained into this ditch. After twenty **(20)** years, this operation was replaced with a magnesium treatment line. The magnesium treatment line operated for ten **(10)** years.

Building **755** operated 50 tanks located inside this building over a ten year period as a plating facility for nickel, lead, ~~tin~~, chromium and miscellaneous **metals**. These tanks, ranging in capacity from 50 to **200** gallons, were drained periodically into the ditch described above. Sediment samples from four **(4)** separate locations in the ditch were analyzed for metals and cyanide. Low levels of metal (below EP Toxic) were found. On **14 Oct 1992** the **UST Program** transferred **647E, 647N, 649N, and 649W**, which are at **PSC 30**, to the **IR Program**.

Waste from various **types** of operations enter the Industrial Waste Sewer **Line** (TL 045/A north to the IWTP) without any pretreatment or segregation. Consequently, the waste stream may consist of everything generated or used in the facility, including paint strippers, heavy metals, pesticides, radioactive wastes, fuels, cyanide wastes (prior to **1962**), solvents, and waste oils. In **1979**, a pump failure at ~~the final industrial waste lift station, located~~ approximately **2,000** feet southwest ~~of~~ the Industrial Waste Treatment Plant, ~~caused~~ a spill of ~~industrial~~ waste into a nearby

unnamed creek, which leads into the south arm of Bayou Grande. The spill was investigated by the Florida Department of Environmental Regulation (FDER), and a Notice of Violation was issued to NAS Pensacola. The spill caused a minor fish kill in the creek.

Prioritization of this PSC was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

<u>FY 1998 Primary Deliverables</u>	<u>Due Date</u>
Draft FS	01 February 1998
Draft PP	16 May 1998
Draft ROD	28 August 1998
<u>1998 Secondary Deliverable</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 4: OU 16

▪ **PSC 41: Naval Air Station Pensacola (NASP) Wetlands**

An EPA inventory of wetlands identified and enumerated 79 wetlands complexes on NAS Pensacola. Two other wetlands were identified during habitat/biota surveys. For the purpose of these studies, freshwater and brackish water ponds, and drainage ditches are included as wetlands. The majority and largest of the wetlands on NAS Pensacola are located in the western portion of the installation, primarily south and west of Sherman Field. About a third of the 81 wetlands are located east of Sherman Field, where most of the IRP sites are located. These small and remnant wetlands are the only potential receptors on base. Contamination was detected in all eight wetlands that have been sampled during contamination assessments. Nineteen PSCs (1, 3, 4, 5, 6, 9, 10, 11, 13, 14, 16, 29, 30, 32, 33, 34, 35, 36, and 39) on NAS Pensacola are suspected sources of contamination to these wetlands.

<u>1998 Primary Deliverable</u>	<u>Due Date</u>
Draft RI	27 April 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 4: OU 15

- **PSC 40: Bayou Grande**

NAS Pensacola is bordered on the south by Big Lagoon and Pensacola Bay, on the east by Pensacola Bay, and on the north by Bayou Grande. Bayou Grande, an estuarine water body connected to Pensacola Bay, lies adjacent to the northern boundary of NAS Pensacola. During contamination assessment investigations, Total Recoverable Petroleum Hydrocarbons (TRPHs), metals, Polynuclear Aromatic Hydrocarbons (PAHs), and phenols were detected in near shore Bayou Grande sediment samples, and metals were detected in near shore Bayou Grande surface water samples. Sixteen PSCs (1, 3, 9, 10, 11, 12, 15, 16, 23, 29, 30, 32, 33, 34, 35, and 36) are believed to potentially contribute to the concentrations found in Bayou Grande.

<u>1998 Primary Deliverable</u>	<u>Due Date</u>
Draft RI	10 March 1998
<u>1998 Secondary Deliverable</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 4: OU 17

• **PSC 42: Pensacola Bay Area**

NAS Pensacola is bordered on the south by Big Lagoon and Pensacola Bay, on the east by Pensacola Bay, and on the north by Bayou Grande. Only a very **small** portion of the western end of NAS Pensacola is farther than a mile from one of these bodies of water. Swampy **areas** exist on or near the western portion of **NAS** Pensacola. Man-made **drainage** ways and storm drains feed into the short intermittent streams emptying into Pensacola Bay and Bayou Grande. No perennial streams enter or exit NAS Pensacola, but the **marshy** areas (wetlands) and **their small** lakes retain water throughout the year. **During** contamination assessment investigations, metals, total recoverable petroleum hydrocarbons (TRPHs), Polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) were detected in sediment samples collected along the Southeastern waterfront of Pensacola Bay. Fourteen **PSCs** (2, 3, 4, 13, 14, 17, 18, 28, 32, 33, 35, 36, 28, and 39) on NAS Pensacola are suspected sources of contaminants to Pensacola Bay.

<u>1998 Primary Deliverables</u>	<u>Due Date</u>
Draft PP	14 January 1998
Draft ROD	28 April 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 5: OU 6

- **PSC 9: Navy Yard Disposal Area**
- **PSC 29: Soil South of Building 3460**
- **PSC 34: Solvent North of Building 3557 (Screening PSC)**

PSC 9, Navy Yard Disposal Area □ This area **was used** for the disposal of trash and refuse during the period between 1917 and the early 1930s. It is reported that the PSC is shown on several old maps as the Navy Yard Dump or the Warrington Village Dump (NEESA 1983). In the late 1960s, while trenching for the Industrial Wastewater Treatment Plant (IWTP) system, part of PSC 9 was excavated. Glass, scrap metal, and debris were unearthed. No unusual odor was reported associated with the PSC. The IAS report concluded no further study was necessary and the PSC did not constitute a threat to human health or the environment. During the VS of this PSC, monitoring wells were installed at the southwest corner of Chevalier Field to determine shallow groundwater flow and groundwater samples taken to further delineate the contamination problem in the general area of Screening PSC 34 and PSC 29. Groundwater samples were analyzed for VOCs; however, no VOCs were detected in any samples obtained.

PSC 29, Soil South of Building 3460 □ In 1981, workers excavating soil beneath the concrete apron south of Building 3460 received skin burns from a "black slimy liquid" in the soil. Types of chemicals involved and extent of contamination are **unknown**. A leak in the nearby industrial sewer line from the Naval Aviation Depot (NADEP) facility is the expected source. This site is part of the group including PSC 9 and Screening PSC 34 studied together. No analyses of groundwater for non-halogenated hydrocarbons volatiles, extractables, exotic or parameters other than method 601 VOCs were done.

PSC 34, Solvent North of Building 3557 (Screening PSC) □ During May 1984, a leak occurred in a pipeline at the north end of Building 3557. The leak reportedly resulted in the loss of solvent detergent used for cleaning aircraft. The solution contained 1.7 percent chlorinated aromatic hydrocarbons solvent. Contamination of site soils and groundwater may have occurred as the result of the solvent detergent release. Contamination may have penetrated beneath the apron via the expansion joints which separated individual concrete tiles and via runoff of escaped solvent to the unpaved storage tank area. The unpaved drainage ditch in the tank area is suspected to have carried contamination off-site and is presumed to be connected to the paved drainage ditch located west Chevalier Field. It is unknown whether or not site contamination entered into the NAS Pensacola storm sewer system.

These PSCs were grouped together mainly due to the following: geographic proximity of PSCs, the potential for off-site migration, and its impact on the other PSC. Prioritization of these PSCs was due to the suspected magnitude and toxicity of contamination, the potential for off-site migration of contaminants via several pathways, and the potential for human exposure.

<u>1998 Primary Deliverables</u>	<u>Due Date</u>
Draft ROD	1 March 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 5

- **PSC 10: Commodore's Pond (Screening PSC)**

During the mid-nineteenth century, screening **PSC 10** was the location of a small surface water body used for the underwater storage of **shaped oak timbers**. This underwater storage method preserved the wood prior to its use for shipbuilding. The original pond's, no longer in existence, exact dimensions are unknown. **PSC** debris **was** unearthed in the late 1960s during trenching operations for installations of the IWTP system. Abandoned **oak timbers** were exhumed and reburied on Magazine Point. It is reported **no** hazardous materials were encountered during this effort.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: SCR SUBMITTED	

RI/FS Category 5

- **PSC 14: Dredge Spoil Disposal Area (Screening PSC)**

PSC 14 has been used for placement of dredge materials removed from Pensacola Bay. These materials represent the sand, mud, and debris found at various depths within the Pensacola Bay dredged channels and basins.

1998 Secondary Deliverables
NONE: SCR SUBMITTED

RI/FS Category 6: OU 4

- **PSC 15: Pesticide Rinseate Disposal Area**

PSC 15 is located at the golf course maintenance area. It was used for over sixteen (16) years as a disposal area for rinse water from cleaning pesticide mixing and spray equipment. It includes a septic tank and drain field system. The quantity disposed of in this area is unknown. Analysis of soil samples show the presence of organic pesticides and EP Toxic concentrations of arsenic in the soil. Two (2) shallow monitoring wells were installed. Analysis of groundwater for pesticides and PCB indicate arsenic is present in groundwater. Groundwater flow direction is presumed northerly towards the Bayou Grande. In depth studies will be conducted to help define the contamination plume and definitive flow direction.

<u>1998 Primary Deliverables</u>	<u>Due Date</u>
Draft FS	28 April 1998
Draft PP	10 August 1998
Draft ROD	22 November 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 6: OU 14

- **PSC 17: Transformer Storage Yard**

Transformers containing **PCBs** as well as PCB-free transformers were stored on this paved area. A black oily residue on the pavement was found to contain high levels of **PCBs** as well as other chlorinated hydrocarbons. **Three (3)** soil borings drilled through the pavement found significant concentrations of **PCBs** near the catch basin; leakage through joints in the pavement is the suspected cause. **PCB** concentrations were below the EP toxic standard.

No sampling of soil outside of the paved area has been done. In addition, no samples were taken from sediments or soils within or under joints, cracks in the catch basin, or the storm sewer. Further study will be conducted on this **PSC**.

<u>1998 Primary Deliverable</u>	<u>Due Date</u>
NONE: ROD SUBMITTED	

RUFS Category 6

- **PSC 18: PCB Spill (Screening PSC)**

In 1966 a transformer at Substation A reportedly failed, spilling approximately 50 gallons of transformer oil containing an unknown concentration of PCBs on the small gravel-covered area along the northeast side of substation A. It is assumed no clean-up effort was conducted. During IAS field investigations, analysis of a field sample indicated Aroclor 1260 was present at a concentration of 4 ppm, which was less than that considered hazardous under the Toxic Substance Control Act.

1998 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category 6

- PSC 28: Transformer Accident Area (Screening PSC)

In 1969 a transformer fell from a truck traveling on Radford Boulevard, just north of Building 632. The transformer broke open and spilled approximately 50 gallons of transformer oil onto the pavement. It is not known whether the oil contained PCBs. The oil was reportedly washed into a nearby storm sewer drain.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: SCR SUBMITTED	

RI/FS Category 7: OU 13

- **PSC 8: Rifle Range Disposal**
- **PSC 24: DDT Mixing Area**

PSC 8: Rifle Range Disposal - The rifle range disposal area is located in the area **now** occupied by Building 3561. This budding covers an area approximately **550** feet by **163** feet. Surrounding the building is **an** asphalt parking lot on the eastern, western and northern sides of the building. **Along** the **southern** side of the building lies a small **grassy** area. **This** area was reportedly used for the disposal of solid waste (primarily paper) from NAS Pensacola **between** 1951 and 1955, and disposal was accomplished by **burning** and burial.

PSC 24: DDT Mixing Area - From the early **1950s** until the early 1960s, this **PSC** was used as a location for mixing **DDT** with diesel fuel for mosquitoes control. Spill occurred within the mixing area when **DDT** was transferred **from** drums to spray **tanks**. The unintentional spillage of **DDT** concentrate may have contaminated site **soil** and groundwater.

<u>1998 Primary Deliverables</u>	<u>Due Date</u>
Draft FS	20 May 1998
Draft PP	01 September 1998
Draft ROD	14 December 1998
<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
Quarterly Reports	31 Jan, 30 Apr, 31 Jul, 31 Oct

RI/FS Category 7

- **PSC 4: Army Rubble Disposal Area (Screening PSC)**

Site 4 is an area of about 150 feet by 800 feet southeast of Forrest Sherman Field, just north of Building 3260. In the early 1950s rubble from tearing down the old U.S. Army barracks at Fort Barrancas was disposed of at Site 4. The rubble included timber, pipes, mattresses, and other waste.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: SCR SUBMITTED	

RI/FS Category 7

- **PSC 5: Borrow Pit (Screening PSC)**

Site 5, a long, shallow pit about one foot deep, is southeast of Forrest Sherman Field and east of Building 3221. Soil was removed ("borrowed") from the site in 1976 for use elsewhere on the facility. The area is still mainly bare.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: SCRSUBMITTED	

RI/FS Category 7

- **PSC 7: Firefighting School (Screening PSC)**

The firefighting training school in Building **1713** has been in operation *since* 1940. Training *that* involved gasoline **fires** (and perhaps other flammable liquids) in open tanks of water reportedly occurred west of Building 1713. The presence of a clearing and firefighting tower east to southeast of Building 1713 suggests training in those areas **as** well. There is no evidence of hazardous waste disposal or threat to human health or the environmental.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE : SCR SUBMITTED	

RI/FS Category 7

- **PSC 16: Brush Disposal Area (Screening PSC)**

Site 16 is northeast of the east end of Forrest Sherman Field. From the late 1960s to 1973 the site was used for the disposal of brush pruned and trimmed at NAS Pensacola. The Army may have used part of the site to burn garbage and dispose of ash..

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: SCR SUBMITTED	

RI/FS Category 8

- **PSC 36: Industrial Wastewater Treatment Plant Sewer Line (Screening PSC)**

The industrial waste sewer line is about 23,000 feet long and is located in an area approximately 1 mile wide by 1.5 miles long in the southeastern portion of NAS Pensacola. Flow within the sewer line is toward the Industrial Waste Treatment Plant which is located at the northeast end of the base. The entire line will be investigated for leaks. The following schedule is provided for information only as this PSC is currently a screening site.

1998 Secondary Deliverables	Target Date
NONE: SCR SUBMITTED	

RI/FS Category 9

- PSC 43: Buried Drum Site (Screening PSC)

Site 43 contains drums and other debris buried in an area near the corner of Murray and Taylor Roads, across Murray Road from Site 10. The area was identified and fenced in January 1994. Presently there is no knowledge of what was in the drums or if the site is contaminated.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: Funding Programmed for 1999	

RI/FS Category 10

- **PSC 44: Former UST 3221 SW (Screening PSC)**

This PSC was transferred from the Florida Petroleum Program because chlorinated solvents were detected during the petroleum investigation. The site is near an active hangar (Building 3221) on Forrest Sherman Field, just north of the museum and west of Site 5. The hangar is currently used by the museum for aircraft restoration.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: Funding Programmed for 2000	

RI/FS Category 11

- **PSC 4 5 Building 603 Lead Site (*Screening*PSC)**

This PSC was discovered during the investigation of Site 18 (PCB Spill Area) when high levels of lead was detected in the area adjacent to Site 18.

<u>1998 Secondary Deliverables</u>	<u>Target Date</u>
NONE: Funding Programmed for beyond 2003	