Final

Facility Response Plan

Discharge Response and Prevention Plan, Naval Air Station Corpus Christi, Texas

Contract Task Order JM47

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Plan Review and Update

Naval Air Station Corpus Christi (NASCC), also referred to as the Air Station, stores greater than 42,000 gallons of petroleum products and conducts over-water fueling of small water craft at the Morale, Welfare, and Recreation (MWR) Marina. The Air Station is thus regulated under the U.S. Environmental Protection Agency's (EPA's) Facility Response Plan (FRP) regulations described in 40 Code of Federal Regulations (CFR) 112, Subpart D. The aboveground storage tank (AST) at the MWR Marina is located within 100 yards of coastal waters. Due to this AST's location, the MWR Marina is regulated by Texas General Land Office (TGLO) regulation 31 Texas Administrative Code (TAC) 19, Oil Spill Prevention and Response. As a naval air station, NASCC is also governed by Navy Operations Manual (OPNAV M) 5090.1D, Chapter 39 – Oil and Hazardous Substance Spill Preparedness and Response. The plan review and update criteria for each set of regulations are detailed below. Notate changes in the Record of Changes/Review table.

Plan Review and Update in accordance with 40 CFR 112, Subpart D

Pursuant to 40 CFR 112.20(g), a facility subject to EPA's FRP requirements must ensure that its response plan is consistent with requirements described in the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) (40 CFR 300), the United States Coast Guard (USCG) Sector Corpus Christi Area Contingency Plan (ACP), the EPA Region VI Regional Contingency Plan (RCP), the One Gulf Plan, and the Texas Oil Spill Planning and Response Toolkit. NASCC must maintain consistency with these plans. To do so, the Air Station must review these documents on an annual basis, as required by 40 CFR 112.20(g)(2). Records of these reviews may be notated in the Record of Changes/Review table. If there have been no changes to these plans, it is notated as such in the Record of Changes/Review table. In accordance with 40 CFR 112.20(g)(3), the owner or operator of NASCC must also review and update the response plan periodically to reflect changes at the Air Station. Types of changes that trigger a response plan review could include anything that would significantly alter a worst case discharge (WCD) at NASCC, such as:

a. A change in the facility's configuration that materially alters information in the response plan

b. A change in the type of oil handled, stored, or transferred that materially alters the required response resources

c. A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of 40 CFR 112

d. A material change in the facility's spill prevention and response equipment or emergency response procedures

e. Any other changes that materially affect the implementation of the response plan

If changes of this type occur, the Air Station must provide the revised portions of the FRP to the EPA Regional Administrator within 60 days of each change that occurs. The Record of Changes/Review table is used to notate the date, description, the pages affected, and the responsible party conducting the review.

Plan Review and Update in accordance with 31 TAC 19, Subchapter 19B

Pursuant to 31 TAC 19.14, regulated facilities are required to annually report any changes in the information submitted to the TGLO in their applications or certificates. Changes must be reported by the anniversary of the date the certificate was issued, but operators are encouraged to update the information more frequently. Changes may be reported through the internet, mail, or facsimile.

Plan Review and Update in accordance with OPNAV M-5090.1D, Chapter 39

Pursuant to OPNAV M-5090.1D, Chapter 39, a facility with a shoreside oil response plan must maintain the plan in accordance with applicable regulations. OPNAV M-5090.1D, Chapter 39 also includes the following requirements for plan updates:

a. At a minimum, each plan shall be reviewed and updated annually.

b. Depending on personnel turnover rate, responsibility and notification sections shall be updated more frequently, at least quarterly.

c. Each plan shall be updated and resubmitted as required by regulations, or, at a minimum, every 5 years or after any major spill event.

d. Facilities shall report, via the Navy On-Scene Coordinator, the status of FRPs to the Commander, Navy Installations Command annually.

Record of Changes/Review

Record of Changes/Review			
Date	**Description**	**Page(s)**	**Responsible Party**

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SECTION 1

1.0 Introduction

The purpose of the Naval Air Station Corpus Christi (NASCC) Facility Response Plan/Discharge Prevention and Response Plan (FRP/DPRP) is to provide a contingency plan that describes the processes, procedures, and responsibilities for response to, and cleanup of, discharges of petroleum, oil, and lubricants (POLs) into or upon the land and navigable waters of the United States. This FRP/DPRP is applicable to all activities and tenants within the boundary of NASCC (also referred to as "the Air Station"), including: Corpus Christi Army Depot (CCAD), Chief of Naval Air Training, Marine Aviation Training Support Group 22, Naval Health Clinic Corpus Christi, Training Air Wing FOUR, U.S. Customs and Border Protection, USCG Sector Corpus Christi, the Navy Exchange (NEX), Navy MWR, etc. This FRP/DPRP supersedes the previous 2012 FRP/DPRP for NASCC. The main drivers of the FRP/DPRP are listed below:

- United States Environmental Protection Agency (EPA) National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] 300), also known as the NCP
- EPA Oil Pollution Prevention Regulation (40 CFR 112.20 [FRPs] and 112.21 [facility response training and drills/exercises])
- Texas General Land Office (TGLO) Oil Spill Prevention and Response Regulation (31 Texas Administrative Code [TAC], Part 1, Chapter 19)
- Navy Operations Manual (OPNAV M) 5090.1D, Chapter 39 – Oil and Hazardous Substance Spill Preparedness and Response

A regulatory cross-reference is provided in Appendix A, which provides a list of the applicable federal and TGLO requirements as well as their location within this FRP/DPRP. This FRP/DPRP is also consistent with other regional response plans, including the USCG Sector Corpus Christi ACP, EPA Region VI Regional Contingency Plan (RCP), One Gulf Plan, and the Texas Oil Spill Planning and Response Toolkit.

As part of routine operations, large quantities of POLs are stored and used throughout NASCC. NASCC could potentially discharge such petroleum, oil, and lubricants (POLs) into surrounding waters or sensitive environmental areas. In addition, oil spills create visible and lasting effects on wildlife, wetlands, lakes, and streams, as well as present a risk for fire or explosion. This FRP/DPRP was prepared to establish contingency planning to prevent, control, and mitigate the harmful effects resulting from such spills. NASCC also maintains a Spill Prevention, Control, and Countermeasure (SPCC) Plan consistent with federal and state of Texas oil spill prevention requirements.

This FRP/DPRP is divided into three sections:

- The Red Plan, designed as a quick reference guide for first responders to POL discharges. Key components of the Red Plan are immediate response actions, a spill notification form, response teams/organizations, and key response strategies or locations.
- The Emergency Response Action Plan (ERAP), a condensed version of the FRP/DPRP that provides more-detailed response information, including the types and locations of spill response material available to NASCC and evacuation plans.
- The FRP/DPRP, which describes in detail emergency response notification requirements, hazard evaluations, discharge scenarios, plan implementation, inspections/drills, and training.

The Department of the Navy (Navy) uses a tiered system to provide immediate facility-level reaction to discharges, followed by a regional response for any discharges that exceed the capabilities of the Air Station. Fire and Emergency Services (F&ES) responds to all discharges and will provide fire protection and basic life support. F&ES responds to all land-based discharges as the Facility Response Team (FRT) to "dam, dike, and divert" the discharge. If the discharge is water-based or exceeds the capability of Air Station resources, F&ES will respond

while NASCC Environmental notifies the Commander, Navy Region Southeast (CNRSE) Federal On-Scene Coordinator Program Manager (FOSC-R), through the Regional Operations Center (ROC), to request Oil Spill Response Organization (OSRO) services. The FOSC-R, based at NAS Jacksonville, serves as the regional Qualified Individual (QI) with overall responsibility for regional response and interaction with other federal and state agencies (EPA, USCG, etc.).The FOSC-R will activate the Tier 1 OSRO using the USCG Basic Ordering Agreement (BOA). The Tier 2 or Tier 3 OSRO will be requested by the FOSC-R should the discharge exceed the Tier 1 OSRO's response capability.

1.1 Emergency Response Action Plan

1.1.1 Qualified Individual Information

TABLE ERAP 1.1.1.1
Qualified Individual Information

Facility Incident Commander (FIC)		
FIC	Position	Commanding Officer (CO)
	Work Address	NASCC 11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-2332 (Defense Switched Network [DSN]: 861)
	Fax Number	(361) 961-3402
	24-Hour Emergency Phone	(361) 961-2082
Alternate FIC	Position	Executive Officer (XO)
	Work Address	NASCC 11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-2331 (DSN 861)
	Fax Number	(361) 961-3402
	24-Hour Emergency Phone	(361) 961-2082
Qualified Individual (QI)		
QI	Position	Public Works Officer (PWO)
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-3665, DSN 861
	Fax Number	(361) 961-4628
	24-Hour Emergency Phone	(361) 961-2082
Alternate QI	Position	Deputy PWO
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-3664, DSN 861
	Fax Number	(361) 961-4628
	24-Hour Emergency Phone	(361) 961-2082
Alternate QI	Position	NASCC Fire Chief
	Work Address	1000 D Street Corpus Christi, Texas 78419-5021
	Work Phone	(361) 533-3074
	Fax Number	(361) 961-1722
	24-Hour Emergency Phone	911

TABLE ERAP 1.1.1.1
Qualified Individual Information

Alternate QI	Position	Installation Environmental Program Director (IEPD)
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-5353
	Fax Number	(361) 961-3798
	24-Hour Emergency Phone	(361) 961-2082
Regional Qualified Individual (QI)		
Regional QI	Position	FOSC-R
	Address	Naval Facilities Engineering Command Southeast (NAVFAC–SE) Langley and Yorktown Building 903 Jacksonville, FL 32212
	Work Phone	Direct: (904) 542-6981 (DSN: 942) Mobile: (904) 482-8397
	Fax Number	(904) 542-6345
	24-Hour Emergency Phone	(904) 542-3118 (DSN: 942) CNRSE ROC

1.1.2 Emergency Notification Phone List

The following is a list of agencies, organizations, and individuals to contact in the event of a discharge. Personnel should contact these agencies promptly, and record the date and time of notification.

FORM ERAP 1.1.2.1

Emergency Notification Phone List Whom to Notify

Reporter's Name: **Facility Name:** **Owner Name:**	 NASCC U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
National Response Center (NRC)	800-424-8802 (24 hr)		
Facility Incident Commander (FIC): Commanding Officer (CO)	(361) 961-2332 (Day) (361) 961-2082 (24 hr)		
Alternate FIC: Executive Officer (XO)	(361) 961-2331 (Day) (361) 961-2082 (24 hr)		
Qualified Individual (QI): Public Works Officer (PWO)	(361) 961-3665 (Day) (361) 961-2082 (24 hr)		
Alternate QI Deputy PWO	(361) 961-3664 (Day) (361) 961-2082 (24 hr)		
Alternate QI F&ES Fire Chief	(361) 533-3074 (Day) (361) 961-2082 (24 hr)		
Alternate QI IEPD	(361) 961-5353 (Day) (361) 961-2082 (24 hr)		
Command Duty Officer (CDO)	(361) 533-7953 (24 hr)		
Regional Qualified Individual (Regional QI): FOSC-R	(904) 542-6981 (Direct) (904) 482-8397 (Mobile) (904) 542-3118 (24 hr)		
Company Response Team: NASCC Fire & Emergency Services	 911		
Federal On-Scene Coordinator (FOSC): USCG Sector Corpus Christi	 (361) 888-3162		
Oil Spill Response Organizations (OSROs): Tier 1: Miller Environmental Tier 2: ES&H Tier 3: United States Navy Supervisor of Salvage and Diving (SUPSALV) Note – additional OSROs are listed in Appendix B	 (361) 289-9800 (512) 904-0401 (202) 781-3889		
Local Response Teams: **Fire Departments:** NASCC Fire and Emergency Services City of Corpus Christi Fire Department **Local Emergency Planning Committee (LEPC):** Texas Division of Emergency Management: Region 3 Texas Department of Public Safety: District 20 Corpus Christi/Nueces County Emergency Management	 911 or (361) 961-1706 911 or (361) 826-3932 (361) 438-5388 (361) 698-5613 (361) 888-0513		
Local Police: City of Corpus Christi Police Department Nueces County Sherriff's Office	 911 or (361) 886-2600 911 or (361) 887-2222		
State Emergency Response Commission (SERC): Texas Commission on Environmental Quality (TCEQ)* *As part of the Texas SERC Notification of TCEQ counts as SERC notification	 (800) 832-8224		

FORM ERAP 1.1.2.1

Emergency Notification Phone List Whom to Notify

Reporter's Name:			
Facility Name:	NASCC		
Owner Name:	U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
State Police:			
Texas Highway Patrol	911 or (512) 698-5500		
Wildlife:			
TCEQ, Region 14	(361) 825-3100		
Texas Parks and Wildlife Department (TPWD), South Texas Plains Wildlife District Supervisor	(830) 569-7806		
National Oceanic and Atmospheric Administration (NOAA) Fisheries Service	(713) 861-9453 (800) 853-1964 (24 hr)		
United States Fish and Wildlife Service (USFWS), Region 2	(505) 248-6652 (505) 480-5368 (24 hr)		
USFWS Endangered Species Program	(703) 358-2171		
Water Utilities (waste/potable water)			
Corpus Christi Water Utilities	(361) 826-1800 (361) 826-1888 (24 hr)		
NASCC Wastewater Treatment Plant	(notification through Public Works)		
Weather Report:			
National Weather Service – Corpus Christi	(361) 289-0753		
Local Television/Radio Stations:			
Television			
KEDT	(361) 855-2213		
KIIITV	(361) 855-6397		
KORO	(361) 883-2823		
KRISTV	(361) 883-7070 or (361) 884-6666		
KZTV10	(361) 884-6666		
Radio	(361) 593-2137		
KEDT-FM	(361) 855-2213		
KZFM-FM	(361) 883-3516		
KPUS-FM	(361) 814-3800		
KBSO-FM	(361) 289-0999		
KFTX-FM	(361) 883-5987		
KKBA-FM	(361) 560-5927		
KLTG-FM	(361) 883-1600		
KKPN-FM	(361) 814-1023		
KLHB-FM	(361) 883-1600 or (361) 882-5483		
KAJE-FM	(361) 814-3800		
KKTX-AM	(361) 289-0111		
KEYS-AM	(361) 883-3516		
Print			
Corpus Christi Caller-Times	(361) 884-2011		
Texas A&M University – Corpus Christi – Island Waves Newspaper	(361) 825-5862		
The Public Affairs Office (PAO) maintains an exhaustive list of new resources outside of the planning distance.			

FORM ERAP 1.1.2.1

Emergency Notification Phone List Whom to Notify

Reporter's Name:	
Facility Name:	NASCC
Owner Name:	U.S. Navy

Organization	Phone No.*	Notification	
		Date	Time
Hospitals and Clinics:			
San Antonio Military Medical Center	(210) 916-4141		
University Hospital San Antonio	(210) 358-4000		
Naval Health Clinic Corpus Christi	(361) 961-2668		
Corpus Christi Memorial Hospital	(361) 902-4000		
Corpus Christi Medical Center (all facilities)	(361) 761-1000		
Driscoll Children's Hospital	(361) 694-5000		
CHRISTUS Spohn Shoreline Hospital	(361) 881-3000		
CHRISTUS Spohn South Hospital	(361) 985-5000		
Chemical and Hazardous Material Technical Support:			
CHEMTREC	(800) 424-9300		
Company Reporting:			
CNRSE ROC	(904) 542-3118		
Federal Notifications:			
EPA, Region VI	(800) 887-6063 (866) 372-7745		
National Park Service, Intermountain Region	(303) 969-2500		
NOAA Office of Ocean and Coastal Resource Management – Texas Program	(713) 702-0767		
Padre Island National Seashore	(361) 949-8068		
State and Local Notifications:			
Port of Corpus Christi - Harbormaster	(361) 885-6152		
Corpus Christi Parks and Recreation	(361) 826-3464		
Nueces County Parks and Recreation	(361) 387-5904		
Corpus Christi Department of Consumer Health Protection	(361) 826-4415		
Texas A&M University, Corpus Christi	(361) 825-5700		
Flour Bluff School District	(361) 694-9800		
Corpus Christi Area Oil Spill Control Association	(361) 221-9317		
Nueces County Coastal Parks	(361) 949-8121		

* Unless otherwise noted, all numbers are 24-hour

1.1.3 Spill Response Notification Form

FORM ERAP 1.1.3.1
Spill Response Notification Form
(Do NOT delay spill notification pending collection of all information)

Reporter Information	
Name (Last, First, MI)	
Position	
Daytime Phone	
Evening Phone	
Company	U.S. Navy
Organization Type	Military
Address	NASCC 11001 D Street, Suite 143 Corpus Christi, Texas 78419-5021
Were Materials Discharged?	☒ Yes ☐ No
Confidential?	☐ Yes ☒ No
Meeting Federal Obligations to Report?	☒ Yes ☐ No
Calling for Responsible Party?	☒ Yes ☐ No
Date Called	
Time Called (24-hour time)	
Incident Description	
Source and/or Cause of Incident	
Date of Incident	
Time of Incident (24-hour time)	
Incident Address/Location	
Nearest City	Corpus Christi
State	Texas
County	Nueces
Zip	78419
Distance from City (include units)	Located 8 miles from Corpus Christi, Texas.
Direction from City	Southeast
Section(s)	N/A
Township	N/A
Range	N/A
Borough	N/A
Container Type	
Tank Oil Storage Capacity (include units)	
Facility Oil Storage Capacity (include units)	
Facility Latitude	27° 42’ 30” N
Facility Longitude	97° 17’ 30” W

FORM ERAP 1.1.3.1

Spill Response Notification Form

(Do NOT delay spill notification pending collection of all information)

Chemical Hazards Response Information System (CHRIS) Code	☐ GAS (Unleaded Gasoline) ☐ GAT (MOGAS) ☐ GAV (AVGAS) ☐ OHY (Hydraulic Oil) ☐ OMT (Motor Oil) ☐ OTF (Transformer Oil) ☐ OTW (Diesel No. 2 Fuel – F-76) ☐ OTB (Turbine Oil) ☐ ODS (Diesel) ☐ OON (Diesel No. 1 Fuel) ☐ OWA (Waste Oil) ☐ Other: _____
Discharged Quantity (include units)	
Material Discharged in Water?	☐ Yes ☐ No
Quantity Discharged in Water (include units)	
Response Actions	
Actions Taken to Correct, Control or Mitigate Incident	
Impact	
Number of Injuries	
Number of Deaths	
Were there Evacuations?	☐ Yes ☐ No
Number Evacuated	
Was there any Damage?	☐ Yes ☐ No
Damage in Dollars (approximate)	
Medium Affected	
Description	
More Information about the Medium	

FORM ERAP 1.1.3.1

Spill Response Notification Form

(Do NOT delay spill notification pending collection of all information)

Additional Information		
Any information about the incident not reported elsewhere in the report		
Caller Notifications		
EPA?	☐ Yes	☐ No
USCG?	☐ Yes	☐ No
State?	☐ Yes	☐ No
Other?	☐ Yes Describe:	☐ No

1.1.4 Response Equipment List and Location

Tables ERAP 1.1.4.1 through ERAP 1.1.4.9 contain spill response equipment available to personnel at NASCC. The tables include equipment stored in response vehicles, at the NASCC Fire Stations, and the NASCC Environmental Storage Building. Spill response kits are also stored at various locations throughout the NASCC. These tables are duplicates of those found in the FRP/DPRP (Section 1.3.2).

TABLE ERAP 1.1.4.1
Skimmers/Pumps*

Type/Model	Year	Number	Capacity (gpm)	Daily Effective Recovery Rate^	Storage Location	Date Fuel Last Changed	Status
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Skimmers and pumps are available through the OSRO. Refer to Appendix B for more information on OSRO resources.

^ Daily Effective Recovery Rate is measured in gallons per day (gpd). Note that it may not be feasible to operate the listed equipment continuously for 24 hours.

N/A – not applicable; gpm –gallon per minute

TABLE ERAP 1.1.4.2
Boom*

Type	Model^	Year	Number (segments)	Size (feet)	Containment Area (ft^2)	Storage Location	Status
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Boom is available through the OSRO(s). Refer to Appendix B for more information on OSRO resources.

^ Various models/brands of boom are maintained, including New Pig, Elastec, CSC, Applied Fabrics, Slickbar, and Oilstop

N/A – not applicable; ft^2 – square foot

TABLE ERAP 1.1.4.3
Chemicals Stored (Dispersants Listed on EPA's National Contingency Plan Product Schedule)

Type	Amount	Date Purchased	Treatment Capacity	Storage Location
N/A	N/A	N/A	N/A	N/A
Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the ACP, where applicable? No dispersants are stored at NASCC and are not allowed for use unless approved by the Regional Response Team.				
Name and State of On-Scene Coordinator authorizing use: N/A.				
Date Authorized: N/A				

N/A – not applicable

TABLE ERAP 1.1.4.4
Dispersant Dispensing Equipment*

Type	Year	Capacity	Storage Location	Response Time (Minutes)	Status
N/A	N/A	N/A	N/A	N/A	N/A

* Dispersant-dispensing equipment is not stored at NASCC. Dispersants are not allowed for use unless approved by the Regional Response Team.

N/A – not applicable

TABLE ERAP 1.1.4.5

Sorbents*

Type	Year	Amount	Absorption Capacity (gal/unit)	Storage Location	Status
Absorbent socks (PIG205)	N/A	5 boxes	0.25 gal/sock	Building 22	Available
Super absorbent socks (PIG210)	N/A	5 boxes	1 gal/sock	Building 22	Available
Absorbent pillows (PIL201)	N/A	5 boxes	2 gal/pillow	Building 22	Available
Oil only absorbent booms (BOM414)	N/A	6 boxes	12 gal/boom	Building 22	Available
Blue absorbent socks (PIG217)	N/A	1 box	8 gal/sock	Building 22	Available
Absorbent mat pads (MAT251)	N/A	10 boxes	0.1 gal/mat	Building 22	Available
Super absorbent sock (PIG214)	N/A	2 boxes	2 gal/sock	Building 22	Available
Super absorbent pillows (PIL205)	N/A	5 boxes	1 gal/pillow	Building 22	Available
Loose peat absorbent-bagged (PLP404)	N/A	2 bags	8 gal/bag	Building 22	Available
Delux Variety Pack (KIT254)	N/A	1	17 gal/kit	Building 22	Available
Absorbent pillows (PIL204)	N/A	1 box	0.5 gal/pillow	Building 22	Available
Absorbent mat pads (MAT240)	N/A	10 boxes	0.22 gal/pad	Building 22	Available
Absorbent universal pillow (GPIL1818)	N/A	6 boxes	2.3 gal/pillow	Building 22	Available
Absorbent poly blend pillow (YPIL1818)	N/A	6 boxes	2.91 gal/pillow	Building 22	Available
Oil plus heavy pad absorbent (OPO50)	N/A	4 bales	0.82 gal/pad	Building 22	Available
Acid Spill Kit	N/A	1 kit	Unknown	Special Ops Truck	Available
Assorted universal absorbent pads/pillows/socks	N/A	Assorted	Unknown	Special Ops Truck	Available
Large bag Dry Sweep	N/A	10 bags	Unknown	Special Ops Truck	Available
Assorted universal absorbent pads/pillows/socks	N/A	Assorted	Unknown	Fire Station – In Reserve	Available
Large bag Dry Sweep	N/A	26 bags	Unknown	Fire Station – In Reserve	Available
Universal loose absorbent (OCF1BALE)	N/A	150 bags	2 gal/pound	Building 22	Available

* The OSRO maintains additional inventory of sorbents. Refer to Appendix B for more information on OSRO resources.

Note: The table above describes the NASCC's minimum stocking goals. NASCC may stockpile additional resources. Product numbers are provided for similar items to determine item absorption capacity. Actual absorption capacity may vary.

N/A – not applicable; UNK – unknown; FD – Fire Department; gal – gallon; HazMat – hazardous material

TABLE ERAP 1.1.4.6
Hand Tools

Type	Year	Quantity	Storage Location	Status
Chemical-resistant shovels	N/A	4	Special Ops Truck	Available
Chemical-resistant brooms	N/A	4	Special Ops Truck	Available
Combustible gas detector	N/A	4	Special Ops Truck	Available
MultiRae Plus 5-gas detector: O_2, LEL, HCN, CO, PID	N/A	2	Special Ops Truck	Available
MultiRae Lite 6-gas detector: O2, LEL, H2S/CO, HCN, PID	N/A	3	Special Ops Truck	Available
MiniRae 2000, 110-012062 (PID with 10.6eV lamp)	N/A	1	Special Ops Truck	Available
MiniRae 3000, 592-901806 (PID with 10.6eV lamp)	N/A	1	Special Ops Truck	Available
AHURA First Defender (Raman Handheld Chemical Identifier)	N/A	1	Special Ops Truck	Available
Fisher Tru Defender (FTIR Handheld Chemical Identifier)	N/A	1	Special Ops Truck	Available
Ludlum M 2241-2ERK Radiation Survey Meter	N/A	1	Special Ops Truck	Available
Canberra ERKADV Radiation Survey Meter	N/A	1	Special Ops Truck	Available
Brass tool kit	N/A	1	Special Ops Truck	Available
Brass tool kit	N/A	1	Fire Station – In Reserve	Available

N/A – not applicable; FD – Fire Department; HazMat – hazardous material

Communication is an important aspect in emergency response situations. NASCC response organizations (e.g., Air Operations, F&ES, Naval Security, Public Works (including Environmental), and Safety) all maintain a robust inventory of Enterprise Land Mobile Radios (ELMRs), mobile phones, and supporting equipment. Communication with outside entities (if booming must be conducted outside of NASCC) will be conducted via the Unified Command Structure (UCS) and will be accomplished by NASCC personnel using phones in the Emergency Operations Center (EOC) or mobile phones at the Mobile Command Post.

During a response, the communications equipment listed in Table ERAP 1.1.4.7 would be deployed as necessary. Generally, personnel are able to communicate within all organizations at the Air Station. For example, F&ES can contact Naval Security via ELMR. Direct communication between the Mobile Command Post and EOC is conducted via ELMR or mobile phone.

F&ES will manage communications in accordance with their documented response procedures. The EOC will manage communications in accordance with NASCC's Emergency Management Plan (NASCCINST 3440.17 dtd 12 JUN 2013). A full communications plan is available through the NASCC EOC.

In response situations, the primary method of communication outside of the response zone (the "cold zone") will be via ELMR, with mobile phones providing backup. For health and safety reasons, and to minimize ignition sources within the response zone (the "hot zone"), primary communication will be via voice or hand signals. Communication between the cold zone and the EOC will be conducted via ELMR with mobile phones serving as backup.

TABLE ERAP 1.1.4.7
Communication Equipment

Type	Year	Quantity	Storage Location	Status
ELMR	Varies	68	F&ES	Available
ELMR	Varies	111	Security	Available
ELMR	Varies	39	Air Operations	Available
ELMR	Varies	28	Public Works	Available
ELMR	Varies	34	N6	Available

Note: ELMRs used by NASCC Environmental are counted as part of the Public Works inventory
ELMR – Enterprise Land Mobile Radio; F&ES – Fire and Emergency Services; N6 – Communications

TABLE ERAP 1.1.4.8

Fire Fighting and Personal Protective Equipment

Type	Year	Quantity	Storage Location	Status
Pierce Saber Engine – Suppression Vehicle	2015	1	Station 1	Available
Pierce Contender Engine – Suppression Vehicle	2009	1	Station 2	Reserve
Pierce Velocity Quint/Ladder Truck	2007	1	Station 2	Available
Ford F-450 Ambulance	2012	1	Station 1	Available
E-ONE ARFF T-3000	2012	1	Station 2	Available
Oshkosh ARFF T-1500	2006	1	Station 2	Available
IH 7400 Twin Agent Unit	2015	2	Station 2	Reserve
Pierce Velocity HDR Hazmat/Heavy Rescue	2011	1	Station 1	Available
Wells Cargo EW2024W Enclosed Utility Trailer	2007	1	Station 1	Available
RKO RKO1000FS Foam Trailer	2008	1	Station 2	Available
Bauer TCOM SCBA Trailer	2008	1	Station 1	Available
Chevrolet Tahoe SUV Command Vehicle	2009	1	Station 1	Available
Chevrolet Tahoe SUV Admin Vehicle	2006	1	Station 1	Reserve
Ford Expedition SUV Goliad Support Vehicle	2010	1	Station 1	Available
Chevrolet Tahoe SUV Goliad Support Vehicle	2009	1	Station 1	Available
Chevrolet Silverado, Fire Inspection Vehicle	2010	1	Station 1	Available
Ford F-250, Fire Inspection Vehicle	2010	1	Station 1	Available
Ford F-150, Fire Inspection Vehicle	2010	1	Station 1	Available
Butyl & Nitrile Gloves (SM, MD, LG, XL)	N/A	16 pairs	Fire Station – In Reserve	Available
Kappler Z500 fully encapsulated level “A” protective suits	N/A	8	Fire Station – In Reserve	Available
Lankland Chemax level “B” protective suits	N/A	8	Fire Station – In Reserve	Available
Silver Shield gloves (XL)	N/A	8 pairs	Fire Station – In Reserve	Available
Butyl & Nitrile Gloves (SM, MD, LG, XL)	N/A	16 pairs	Special Ops Truck	Available
Chemical-resistant boots (various sizes)	N/A	Multiple sets	Special Ops Truck	Available
Kappler Z500 fully encapsulated level “A” protective suits	N/A	8	Special Ops Truck	Available
Lankland Chemax level “B” protective suits	N/A	8	Special Ops Truck	Available
Silver Shield gloves (XL)	N/A	8 pairs	Special Ops Truck	Available

Note: certain resources (e.g., waders) suggested in response strategies may not be in stock with the FRT

N/A – not applicable; HazMat – hazardous material

TABLE ERAP 1.1.4.9

Other (Heavy Equipment, Boats, and Motors)*

Type	Year	Quantity	Storage Location	Status
5 gal buckets plug n’ dike	N/A	3	Bldg. 2742	Available
2 qt plug n’ dike	N/A	1	Bldg. 2742	Available
95 gallon spill kit/overpack drum	N/A	2	Bldg. 2742	Available
Chlorine “A” Kit	N/A	1	Fire Station – In Reserve	Available
Chlorine “B” Kit	N/A	1	Fire Station – In Reserve	Available
Chlorine “C” Kit	N/A	1	Fire Station – In Reserve	Available

TABLE ERAP 1.1.4.9
Other (Heavy Equipment, Boats, and Motors)*

Type	Year	Quantity	Storage Location	Status
55-gallon overpacks	N/A	4	Fire Station – In Reserve	Available
Large roll of heavy plastic	N/A	4	Fire Station – In Reserve	Available
Zumro 10'x15' Inflatable Decon Shelter/System	N/A	1	Fire Station – In Reserve	Available
pH Paper	N/A	1 kit	Special Ops Truck	Available
Fluorine Paper	N/A	1 kit	Special Ops Truck	Available
Advent Pro Strip 5 Biological Detection Kit (Detects Anthrax, Ricin Toxin, Botulinum Toxin, Y pestis, SEB)	N/A	1 kit	Special Ops Truck	Available
WeatherPak MTR	N/A	1 kit	Special Ops Truck	Available
EntryLink Search Camera	N/A	1	Special Ops Truck	Available
Pelican Lights	N/A	2	Special Ops Truck	Available
Large Drip Pans	N/A	2	Special Ops Truck	Available
50' garden hose	N/A	2	Special Ops Truck	Available
Hose manifold	N/A	1	Special Ops Truck	Available
Hazmat repair putty	N/A	1	Special Ops Truck	Available
Salvage covers	N/A	4	Special Ops Truck	Available
Chlorine "A" Kit	N/A	1	Special Ops Truck	Available
Chlorine "B" Kit	N/A	1	Special Ops Truck	Available
Chlorine "C" Kit	N/A	1	Special Ops Truck	Available
C-1 leak control kit	N/A	1	Special Ops Truck	Available
C-2 leak control kit	N/A	1	Special Ops Truck	Available
AE leak control kit	N/A	1	Special Ops Truck	Available
5-gallon overpacks	N/A	4	Special Ops Truck	Available
Chemical-resistant large drain covers	N/A	4	Special Ops Truck	Available
Assorted chemical-resistant plugs	N/A	1 kit	Special Ops Truck	Available
Large roll of heavy plastic	N/A	4	Special Ops Truck	Available
Trident One Mass Decon Kit	N/A	1 kit	Special Ops Truck	Available

N/A – not applicable

1.1.5 Response Equipment Testing and Deployment

Response equipment testing and deployment is conducted at NASCC to ensure that response equipment is operational and the personnel who operate the equipment during a spill response are capable of deploying and operating it. Records are maintained by the organization conducting the response equipment testing and deployment. F&ES and OSRO(s) maintain their own records for testing and equipment deployment events. The FRP/DPRP Manager maintains records of testing, drills, or exercises that encompass multiple organizations or are driven by regulatory requirements (i.e., National Preparedness for Response Exercise Program [PREP]). The FRP/DPRP Manager informs the Air Station's Installation Mission Readiness Officer (IMRO) of training requirements, which are then scheduled and implemented. Additional information and forms to be used when documenting equipment inspection, deployment, and drills are located in Section 1.8, Self-Inspection, Drills/Exercises, and Response Training.

Miller Environmental is the Tier 1 OSRO. The Tier 1 OSRO is required for any discharge that will exceed more than one or two drums of cleanup material. A Tier 2 or Tier 3 OSRO is required for any medium (maximum most probable) discharge or any discharge that has the potential to migrate outside of the Air Station's boundary.

ES&H is NASCC's Tier 2 OSRO; and Navy SUPSALV is NASCC's Tier 3 OSRO. Miller Environmental, ES&H, and Navy SUPSALV, as outside resources, conduct their own equipment testing, exercises, and deployment drills and will provide completed records to NASCC, when requested. The FRP/DPRP Manager maintains OSRO records along with pertinent copies of support contracts. Access to the Tier 1 and Tier 2 OSRO is through the USCG BOA and access to the Tier 3 OSRO is through a Memorandum of Understanding. Refer to Section 1.3, Emergency Response Information, and Appendix B for more information.

Testing and deployment exercises must meet PREP guidelines as described in Section 1.8.2, Facility Drills/Exercises, of this FRP/DPRP. As stated above, the FRP/DPRP Manager maintains regulatory-driven training/exercise records. NASCC's OSROs are also required to meet the PREP guidelines and to provide copies of required exercises to NASCC, when requested.

1.1.6 Incident Management Team

F&ES is the Air Station's FRT and will respond to all discharges once notified by the Regional Dispatch Center. F&ES will also respond to water-based spills and provide fire suppression support and spill response support, as necessary. Depending on the location of the discharge, the Assistant Fire Chief will respond to the Mobile Command Post (on-scene) and coordinate as the Incident Commander (IC) until the Incident Management Team (IMT) is activated. The Fire Chief will report to the EOC. Whereas the FRT consists of F&ES, the IMT is the comprehensive response component that involves personnel and organizations from across the Air Station. Once the IMT is activated, NASCC F&ES becomes part of the response Operations Section. The QI takes over for discharge response and/or cleanup and reports updates and resource requirements to the FIC (NASCC CO or XO). The primary responsibility of the FRT is to mitigate any discharged petroleum product and ensure that fire hazards are controlled. The IMT is responsible for overseeing response to major spills and any cleanup required after response actions have been completed.

The Assistant Fire Chief will direct response actions in accordance with their documented response procedures and NASCC's Emergency Management Plan (NASCCINST 3440.17 dtd 12 JUN 2013). All FRT personnel are trained to the HazMat Technician level and are adequately trained to perform their job duties. Refer to Section 1.8.3, Response Training, for further information on required levels of response training. IMT members are listed by Incident Command System (ICS) role in Table ERAP 1.1.6.1. A chart describing the organization of the IMT is provided in Figure ERAP 1.1.6.2 at the end of this subsection.

In the event of a spill, the QI and members of the IMT will assess the situation to determine whether sufficient Air Station resources are available. If additional, outside resources are required, the QI will work through the EOC to notify the OSRO(s).

NASCC has access to OSROs through the USCG BOA. A Memorandum of Understanding between NASCC and Navy SUPSALV has also been established (refer to Appendix B for more information). In the event of an extremely large spill, multiple contractors may be activated.

TABLE ERAP 1.1.6.1
Incident Management Team

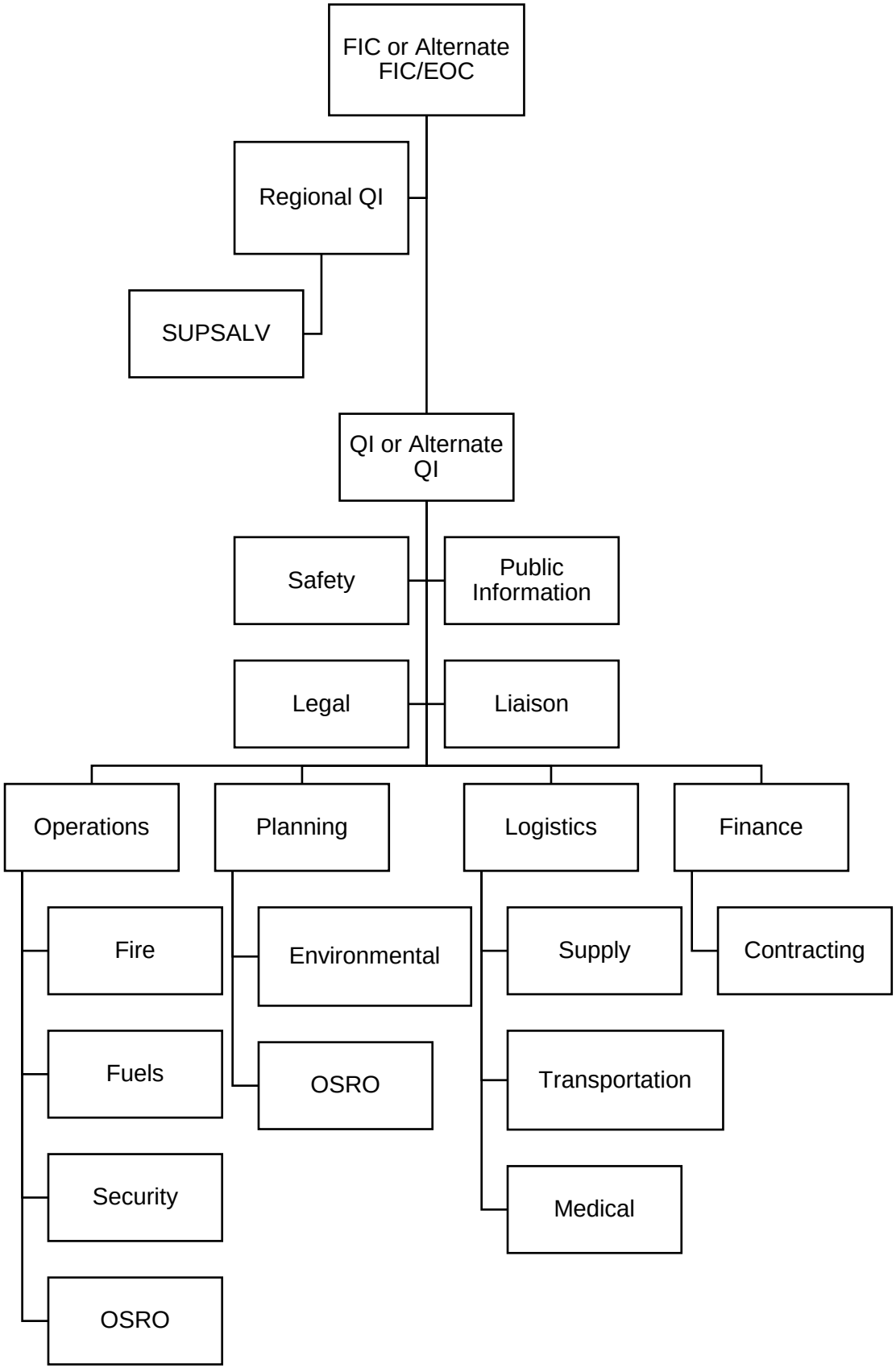
ICS Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Facility Incident Commander (FIC): Commanding Officer	60	(361) 961-2332	(361) 961-2082
Alternate FIC: Executive Officer (XO)	60	(361) 961-2331	(361) 961-2082
Qualified Individual (QI): Public Works Officer (PWO)	60	(361) 961-3665	(361) 961-2082
Alternate QI: Deputy PWO	60	(361) 961-3664	(361) 961-2082

TABLE ERAP 1.1.6.1
Incident Management Team

ICS Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Alternate QI: NASCC Fire Chief	60	(361) 537-1151	(361) 961-2082
Alternate QI: IEPD	60	(361) 961-5353	(361) 961-2082
Safety: Safety Manager	60	(361) 961-2489	(361) 961-2082
Legal: Legal Officer	60	(361) 961-1605	(361) 961-2082
Public Information: Public Affairs Officer	60	(361) 961-2674	(361) 961-2082
Liaison: Emergency Manager	60	(361) 961-1725	(361) 961-2082
Operations Section Chief: Security Officer	60	(361) 961-3392	(361) 961-2082
First Responder: NASCC Fire & Emergency Services	10	911	
Fuels: Fuels Contracting Officer Representative (COR)	60	(361) 961-3265	(361) 961-2082
Security: Watch Commander/Security Officer	60	(361) 961-2082	(361) 961-2082
Planning Section Chief: Operations Officer	60	(361) 961-2246	(361) 961-2082
Environmental: IEPD	60	(361) 961-5353	(361) 961-2082
Logistics Section Chief: Supply Officer	60	(361) 961-3662	(361) 961-2082
Supply: Supply Officer	60	(361) 961-3662	(361) 961-2082
Transportation: Transportation Officer	60	(361) 961-1650	(361) 961-2082
Medical: Branch Health Clinic Commanding Officer	60	(361) 961-2685	(361) 961-2082
Finance Section Chief: Facilities Engineering Acquisitions Division Director	60	(361) 961-2156	(361) 961-2082
Naval Facilities Engineering Command Southeast Contracting: Contracting Officer	60	(904) 542-6914	(904) 542-3118 CNRSE ROC
Regional QI: FOSC-R	960 (16 hours)	Direct: (904) 542-6981 Mobile: (904) 482-8397	(904) 542-3118 (CNRSE ROC)

FIGURE ERAP 1.1.6.2

Incident Management Team Organizational Chart



This organizational chart represents a worst-case scenario of a major oil spill. It is scalable and would be staffed with or without activation of the EOC depending on the size of the event (e.g., 5 gallons or 200,000 gallons) with the following primary responders:

- FIC = Facility Incident Commander (CO)
- Alternate FIC = Alternative Facility Incident Commander (XO) overseeing the EOC
- QI = Qualified Individual (PWO)
- Alternate QI = Alternate QI (i.e., Deputy PWO, Fire Chief, or IEPD)
- Regional QI = CNRSE/NAVFAC-SE designated FOSC-R at the request of the CO/XO to aid in major offsite oil spills. The Regional QI has the ability to activate USCG BOA and SUPSALV (or additional regional contractors) for additional response resources in extreme catastrophic events.
- OSRO = Oil Spill Response Organization (USCG approved contractors that are already on retainer to aid in the event of a spill).

Note: During an actual spill, the QI/Alternate QI is based on the size/scale of the fuel spill and dependent upon the EOC being activated. For example, very small spills would involve the IEPD as the Alternate QI; whereas major spills would involve the PWO as the QI reporting to the EOC. QI and Alternate QI designations are required under EPA regulations.

1.1.7 Evacuation Plan

The evacuation of NASCC will be coordinated by the EOC and/or IC and conducted by F&ES and Naval Security. The routes used to evacuate NASCC would be evaluated by these authorities in response to the specific emergency scenario (considering all of the factors discussed in Section 1.3.5). If an evacuation was required, NASCC's AtHoc network and Big Voice system would notify Air Station staff of an emergency situation. AtHoc would be used to notify the housing manager who would notify occupants using a call tree and text blast. Before evacuation, NASCC personnel may be told to shelter in place within their work centers or buildings. Once authorized by the EOC, personnel would evacuate and muster at pre-designated areas in accordance with their work center emergency evacuation plans. Muster areas would be a safe distance outside of the NASCC to ensure accountability of all staff members.

Diagram ERAP 1.1.9.1 provides a location map of NASCC with respect to the state of Texas. Diagram ERAP 1.1.9.2 shows locations of all the bulk petroleum storage locations throughout NASCC. Diagram ERAP 1.1.9.3 shows the NASCC drainage plan and Diagram ERAP 1.1.9.4 shows probable evacuation routes from NASCC. Evacuation of the local community will be coordinated with the City of Corpus Christi and local LEPCs.

1.1.8 Immediate Actions

Follow the steps below in the event of a discharge of petroleum product.

TABLE ERAP 1.1.8.1
Oil Spill Response (Immediate Actions)

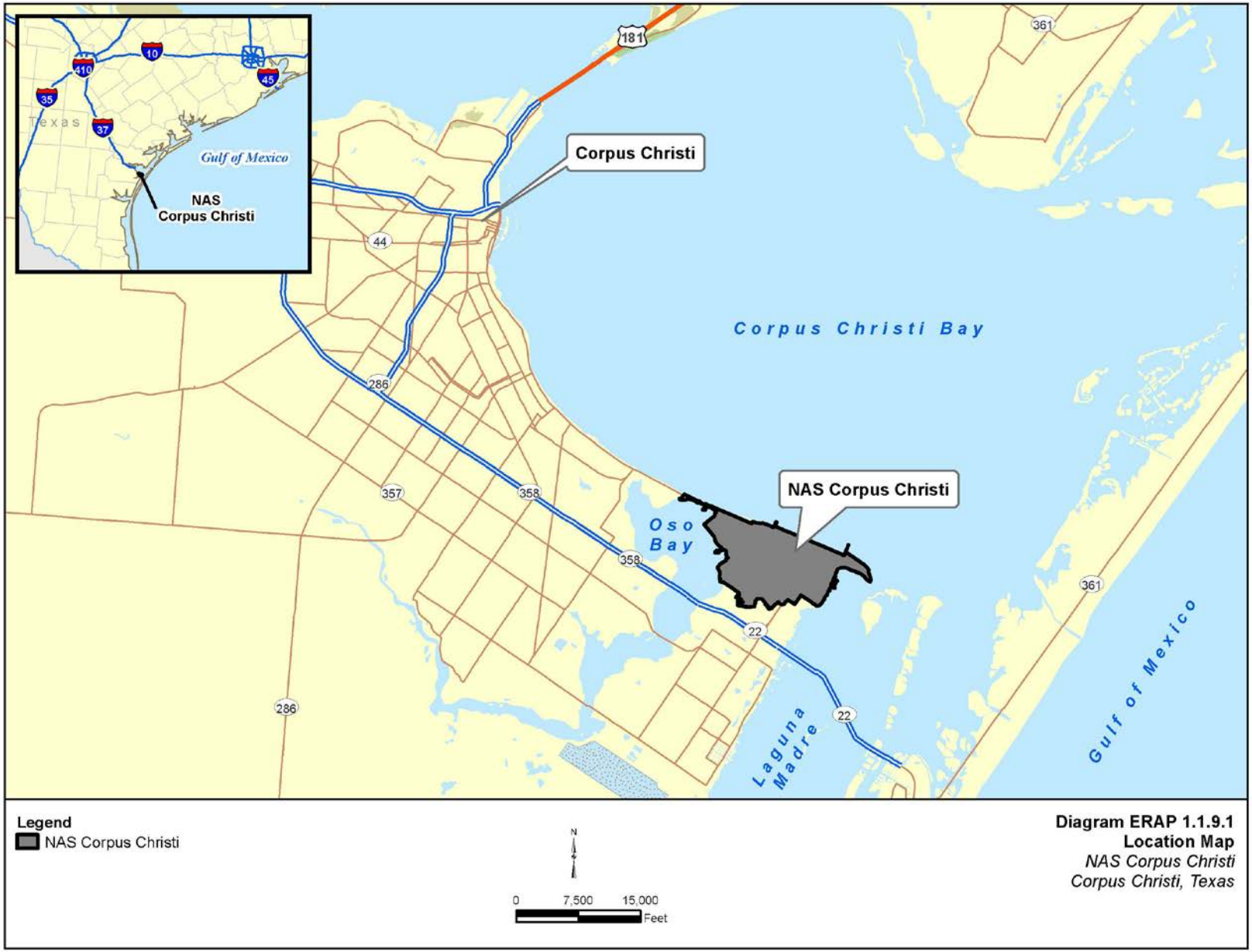
1. Stop the product flow.	Act quickly to secure pumps, close valves, etc.
2. Warn personnel.	Enforce safety and security measures.
3. Shut off ignition sources.	Motors, electrical circuits, open flames, etc.
4. Initiate containment.	Around the tank and/or in the water with oil boom.
5. Notify the Regional Dispatch Center	911
6. Notify the QI (PWO)	(361) 961-3665 (day) or (361) 961-2082 (24-hr)
7. Notify the NRC	(800) 424-8802

1.1.9 Facility Diagrams

Diagrams ERAP 1.1.9.1 through ERAP 1.1.9.4 depict the location map, site plan, site drainage plan, and the site evacuation plan, respectively. Diagrams ERAP 1.1.9.5-1 and ERAP 1.1.9.5-2 present an overview of the Environmental Sensitivity Indices (ESIs) for the area surrounding NASCC and within the responsibility of USCG Sector Corpus Christi. Diagrams ERAP 1.1.9.5-3 through ERAP 1.1.9.5-6 depict individual ESIs for the region surrounding NASCC. These diagrams are taken from the TGLO Oil Spill Response Planning Toolkit and include the areas that encompass NASCC's planning distance.

Diagram ERAP 1.1.9.6 presents an overview map of all protection strategies that have been developed at NASCC. Diagram ERAP 1.1.9.7 provides a key to the NASCC protection strategies. Individual protection strategies for NASCC are provided in Diagrams ERAP 1.1.9.8 through ERAP 1.1.9.21.

DIAGRAM ERAP 1.1.9.1
Location Map



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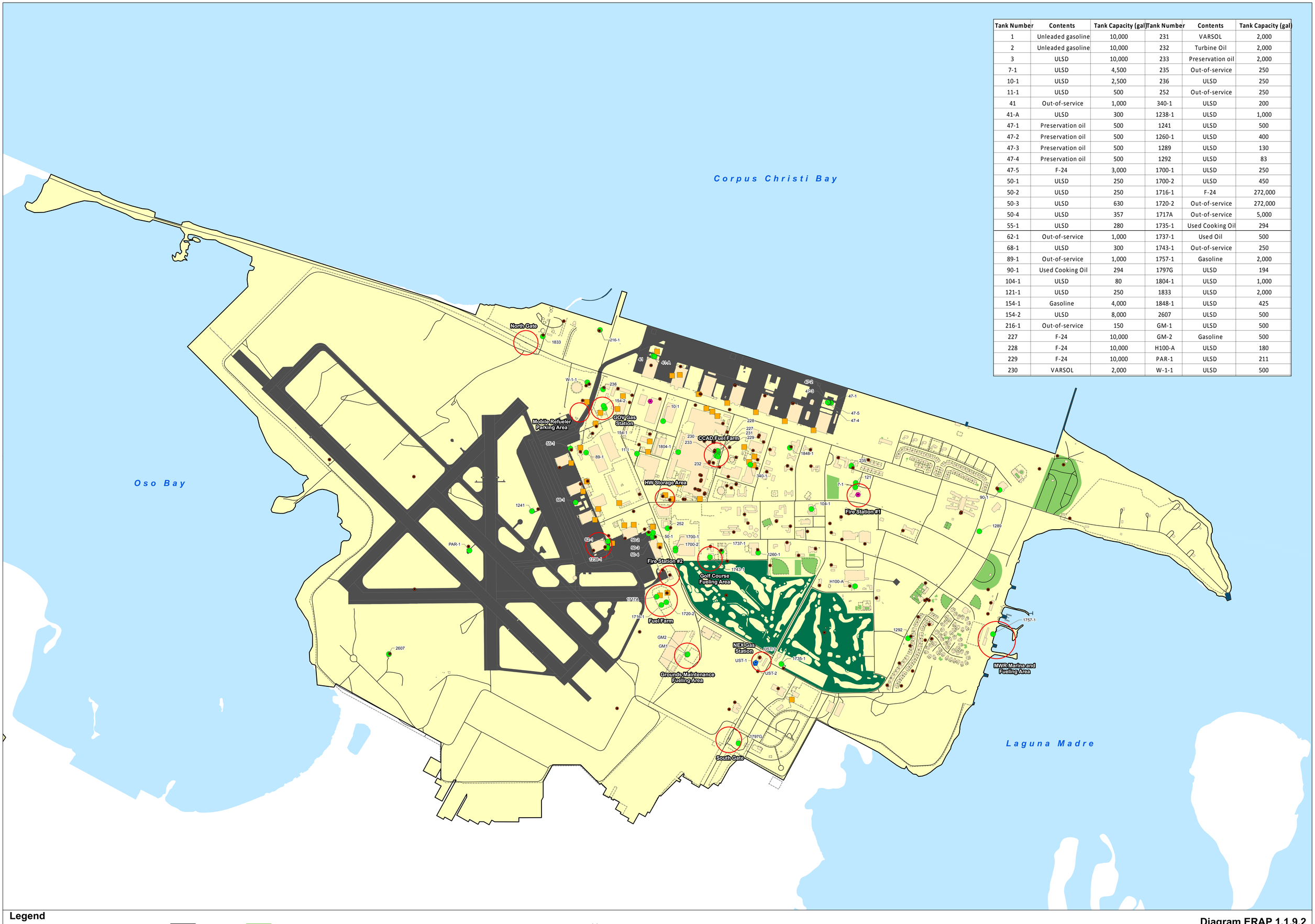
Tank Number	Contents	Tank Capacity (gal)	Tank Number	Contents	Tank Capacity (gal)
1	Unleaded gasoline	10,000	231	VARSOL	2,000
2	Unleaded gasoline	10,000	232	Turbine Oil	2,000
3	ULSD	10,000	233	Preservation oil	2,000
7-1	ULSD	4,500	235	Out-of-service	250
10-1	ULSD	2,500	236	ULSD	250
11-1	ULSD	500	252	Out-of-service	250
41	Out-of-service	1,000	340-1	ULSD	200
41-A	ULSD	300	1238-1	ULSD	1,000
47-1	Preservation oil	500	1241	ULSD	500
47-2	Preservation oil	500	1260-1	ULSD	400
47-3	Preservation oil	500	1289	ULSD	130
47-4	Preservation oil	500	1292	ULSD	83
47-5	F-24	3,000	1700-1	ULSD	250
50-1	ULSD	250	1700-2	ULSD	450
50-2	ULSD	250	1716-1	F-24	272,000
50-3	ULSD	630	1720-2	Out-of-service	272,000
50-4	ULSD	357	1717A	Out-of-service	5,000
55-1	ULSD	280	1735-1	Used Cooking Oil	294
62-1	Out-of-service	1,000	1737-1	Used Oil	500
68-1	ULSD	300	1743-1	Out-of-service	250
89-1	Out-of-service	1,000	1757-1	Gasoline	2,000
90-1	Used Cooking Oil	294	1797G	ULSD	194
104-1	ULSD	80	1804-1	ULSD	1,000
121-1	ULSD	250	1833	ULSD	2,000
154-1	Gasoline	4,000	1848-1	ULSD	425
154-2	ULSD	8,000	2607	ULSD	500
216-1	Out-of-service	150	GM-1	ULSD	500
227	F-24	10,000	GM-2	Gasoline	500
228	F-24	10,000	H100-A	ULSD	180
229	F-24	10,000	PAR-1	ULSD	211
230	VARSOL	2,000	W-1-1	ULSD	500



Legend

- Aboveground Storage Tank
- Underground Storage Tanks
- Drum Storage
- SRES Location
- Electric Transformers
- Fence
- RoadCenterline
- Road Areas
- Airfield Surface Areas
- Building/Structure
- Docks and Wharfs
- Golf Course
- Recreation Areas
- Water Body
- Installation Boundary
- Areas of Interest (high-hazard areas, fuel transfer areas, entry/exit points)

Note:
Refer to the NASCC SPCC Plan for a list of HM Storage locations

N

0 300 600 1,200 Feet

Diagram ERAP 1.1.9.2
Site Plan
NAS Corpus Christi
Corpus Christi, Texas

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Corpus Christi Bay

Oso Bay

Laguna Madre

Legend

- Fire Hydrant
- Storm Sewer Discharge Point
- Storm Sewer Inlet
- Storm Sewer Line
- Storm Sewer Open Drainage Line
- Wastewater Line
- Water Line
- Fence
- RoadCenterline
- Road Areas
- Airfield Surface Areas
- Building/Structure
- Docks and Wharfs
- Golf Course Area
- Recreation Areas
- Water Body
- Installation Boundary

N

0 300 600 1,200
Feet

Diagram ERAP 1.1.9.3
Site Drainage Plan
NAS Corpus Christi
Corpus Christi, Texas

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Corpus Christi Bay

Oso Bay

North Gate

Safe Haven

South Gate

Laguna Madre

Legend

- Evacuation Route
- Fence
- RoadCenterline
- Road Areas
- Airfield Surface Areas
- Building/Structure
- Docks and Wharfs
- Golf Course
- Recreation Areas
- Water Body
- Installation Boundary
- Entry/Exit Point

N

0 300 600 1,200
Feet

Diagram ERAP 1.1.9.4
Evacuation Plan
NAS Corpus Christi
Corpus Christi, Texas

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DIAGRAM ERAP 1.1.9.5-1

Corpus Christi Bay Area Overview

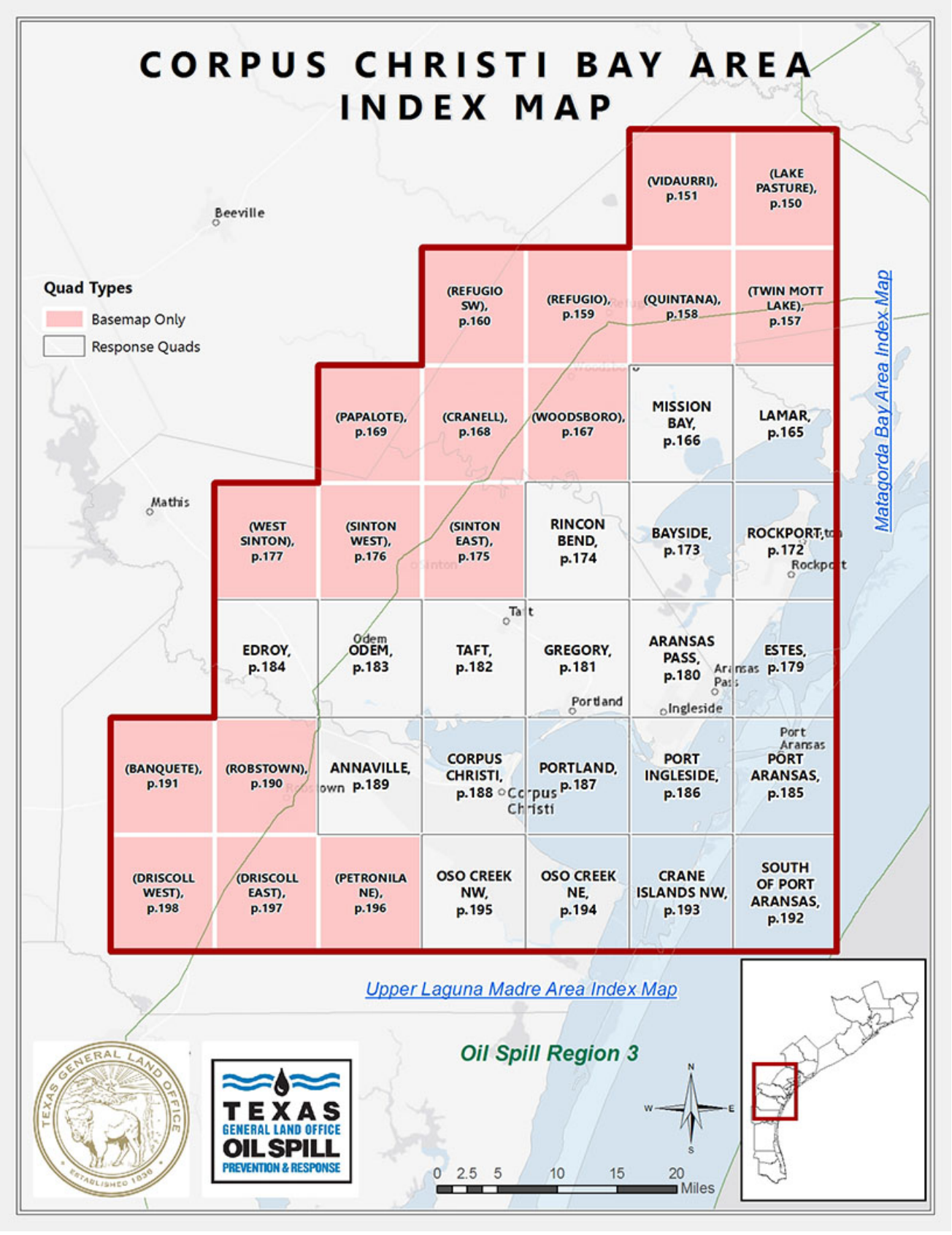

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DIAGRAM ERAP 1.1.9.5-2

Upper Laguna Madre Area Overview

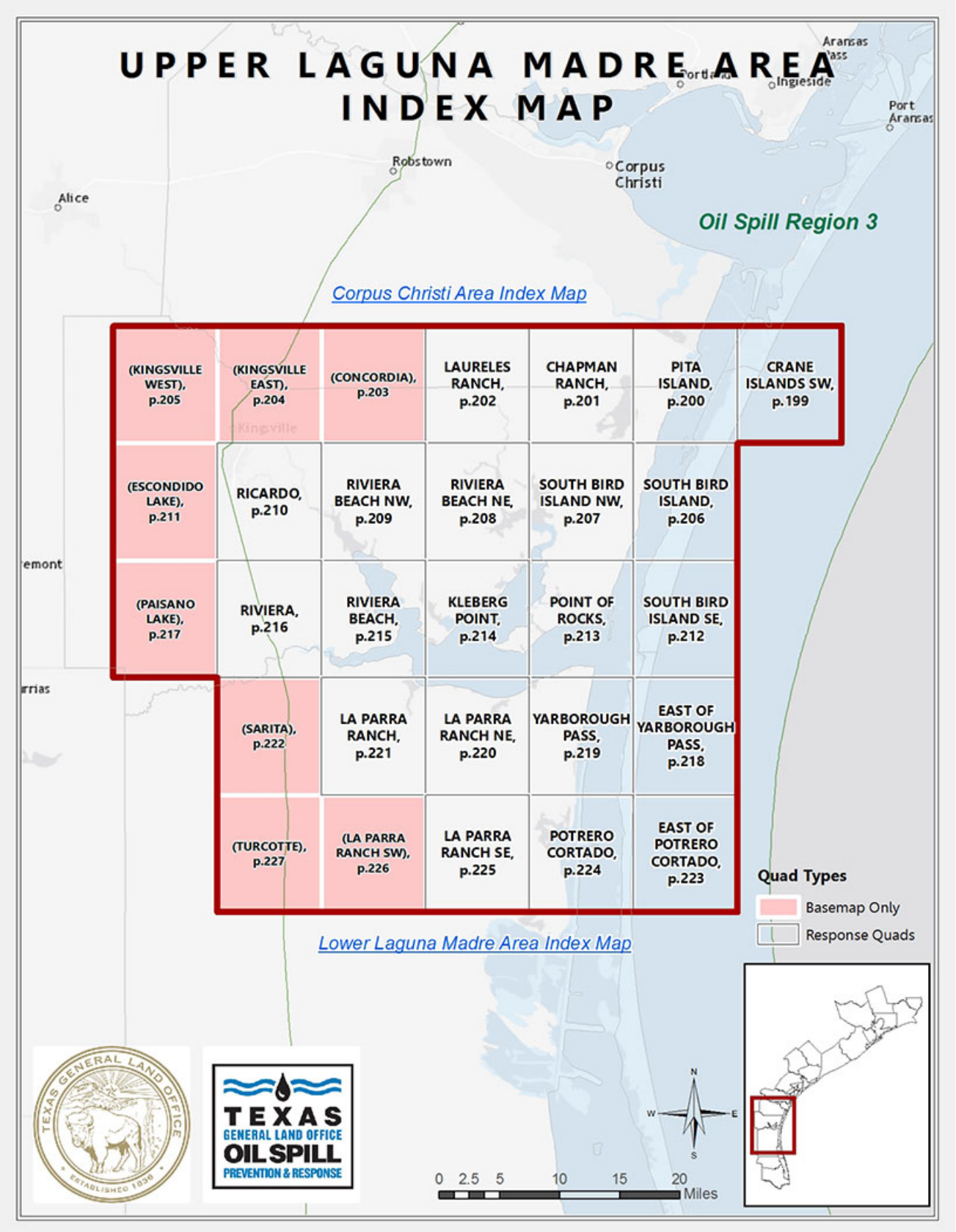

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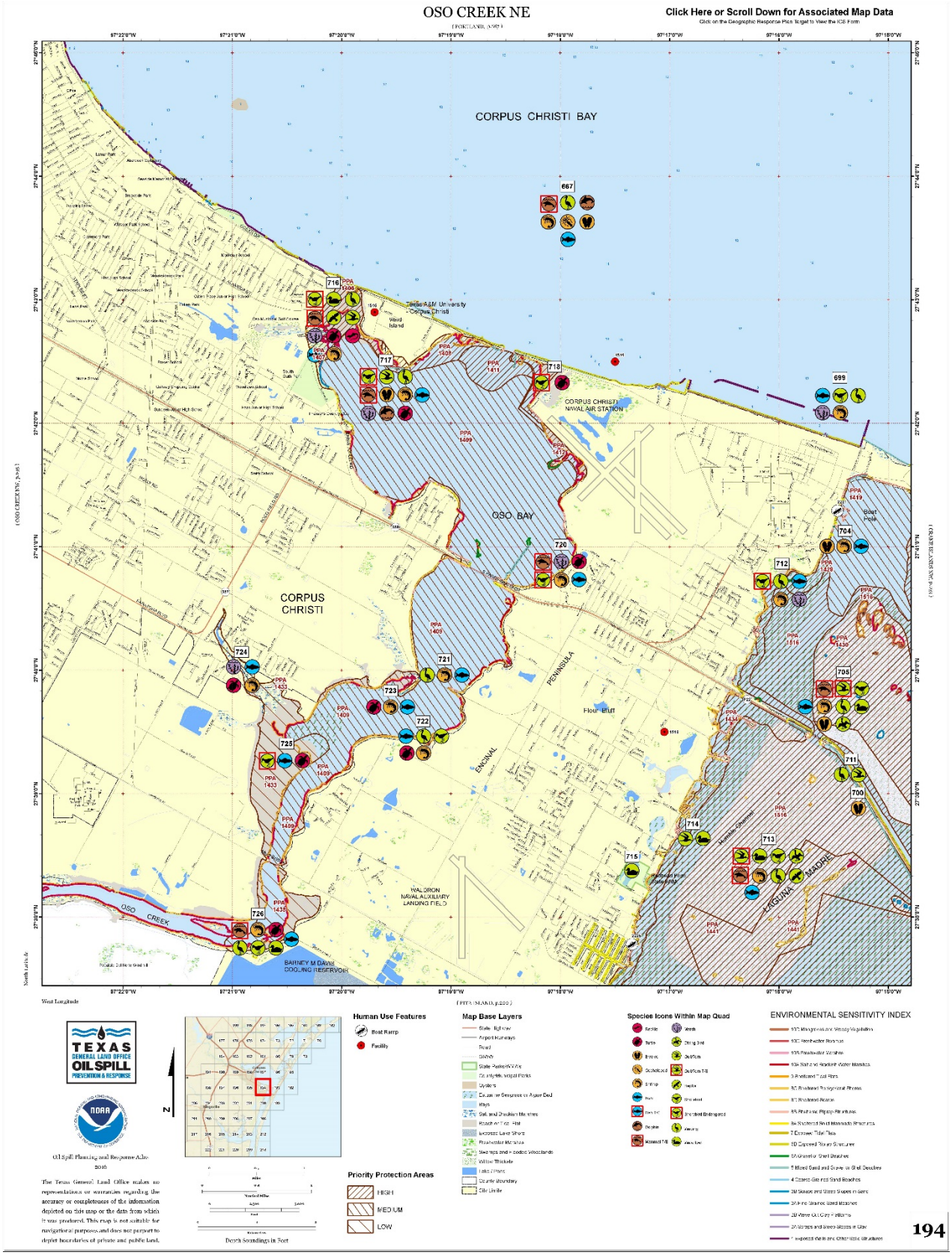
DIAGRAM ERAP 1.1.9.5-3
ESI 194, Oso Creek NE



Back To Map

Quadrant: OSO CREEK NE

Map # :194

Biological Information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
	HIGH	Oso Bay colonial waterbird rookery, colony code 614-220	High	Gull-billed terns, Forster's terns, Black skimmers				
PPA1406	HIGH	Oso Bay blind cut	HIGH	Piping and snowy plovers, other shorebirds year-round, pelicans, wading birds, peregrine falcons	Nursery	MEDIUM		Mud and algal flats fringed by Spartina, Salicornia marsh
PPA1407	HIGH	Marsh, wastewater outfall near Oso Bay blind cut	MEDIUM	High wading birds, shorebirds, pelicans, others	Nursery	HIGH	HIGH	Fresh to brackish marsh
PPA1408	HIGH	Shoreline of Ward Island	LOW	Habitat for shorebirds, wading birds	Nursery	HIGH	HIGH	Batis-Salicornia marsh, Halodule, mud flats
PPA1409	MEDIUM	Oso Bay	MEDIUM	Shorebirds, wading birds, reddish egrets feeding on shorelines	Nursery	MEDIUM	MEDIUM	Seagrass at bay margins
PPA1411	HIGH	Mouth of Oso Bay	MEDIUM	Piping plovers, shorebirds, terns	Nursery	MEDIUM		
PPA1412	HIGH	Flats west of Corpus Christi N.A.S.			Nursery	HIGH	HIGH	Batis-Salicornia marsh, mud flats
PPA1419	MEDIUM	Boat Hole, Laguna Madre south of Demit Island, and ICW	MEDIUM		Nursery, deep water refuge, migration route, recreational fishing	HIGH		
PPA1429	HIGH	Cove northeast of Flour Bluff	HIGH		Nursery area	HIGH	HIGH	
PPA1430	HIGH	Islands north of Kennedy Causeway	HIGH	Important rookery (614-221) for gulls, terns, skimmers, some wading birds; heavy waterfowl use (redhead, pintail), shorebirds, occasional ospreys	Nursery area, excellent fishing	HIGH	HIGH	Extensive high-quality seagrass beds (Halodule, some Syringodium), Spartina alterniflora fringe marsh on islands
PPA1433	LOW	Oso Bay flats northwest of Mud Bridge	MEDIUM	Shorebirds, nesting snowy plovers	Nursery	MEDIUM	LOW	Sand and algal flat grading into high marsh (Scirpus, Batis, Salicornia, cattails)
PPA1434	HIGH	Laguna Madre shoreline east of Flour Bluff and Laguna Shores Road	HIGH	Wading birds, piping plover, black skimmers on spits of land from mainland	Nursery area	HIGH	HIGH	Fringe marsh on shoreline
PPA1438	LOW	Oso Creek south of Mud Bridge		White pelicans, reddish egrets at outfall	Nursery	MEDIUM	MEDIUM	Some seagrass (Halodule)
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
667	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
699	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
705	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill			6	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			26	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
711	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
712	Red knot		T					X	X			X	X							
	Piping plover		T	LOW	X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
713	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull			5774	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		42	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Caspian tern			122	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern			917	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern			24	X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
	Sandwich tern			190	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			2	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			94	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			46	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			42	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		30	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			1	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
714	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl			HIGH	X	X	X	X	X	X	X	X	X	X	X	X				
715	Waterfowl			HIGH	X	X	X	X	X	X	X	X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
716	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR–AUG	APR–AUG	APR–AUG	MAY–SEP
	Black-necked stilt				X	X	X	X	X	X	X	X	X	X	X	X	APR–SEP	APR–SEP	APR–SEP	APR–SEP
	Wood stork				X	X	X	X	X	X	X	X	X	X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
717	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR–AUG	APR–AUG	APR–AUG	MAY–SEP
718	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
720	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
721	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
722	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
725	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
726	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
667	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
699	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
704	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
705	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
712	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
716	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Gizzard shad				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	MAR-AUG
717	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Gizzard shad				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	MAR-AUG
720	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
721	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
722	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
723	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
724	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
726	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
727	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
667	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
700	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
704	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
705	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
712	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
716	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
717	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
720	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
721	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
722	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
723	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
724	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
726	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
727	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Marine Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
667	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
705	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
713	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
716	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
717	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
720	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
726	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
716	Gulf salt marsh snake				X	X	X	X	X	X	X	X	X	X	X	X				
	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
717	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
718	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
720	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
722	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
723	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
724	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
725	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
726	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	

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Human Use Resources

Boat Ramp	RARNUM	NAME	CONTACT	CONTACT INFO
	2221	Naval		
	2225	Tropic Isles Boat Ramp		nuecesnuecesrio@tropicisles
Facility	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	1515	Texas A&M University - Corpus Christi	Roy Coons	361-825-4444
	1516	Naval Air Station (NAS) Corpus Christi	Bernice Snyder	360-722-2429
	1518	Amerril Energy - Flour Bluff Compressor Station and Pita Island Tank Battery	Windsor Wen	361-881-5059

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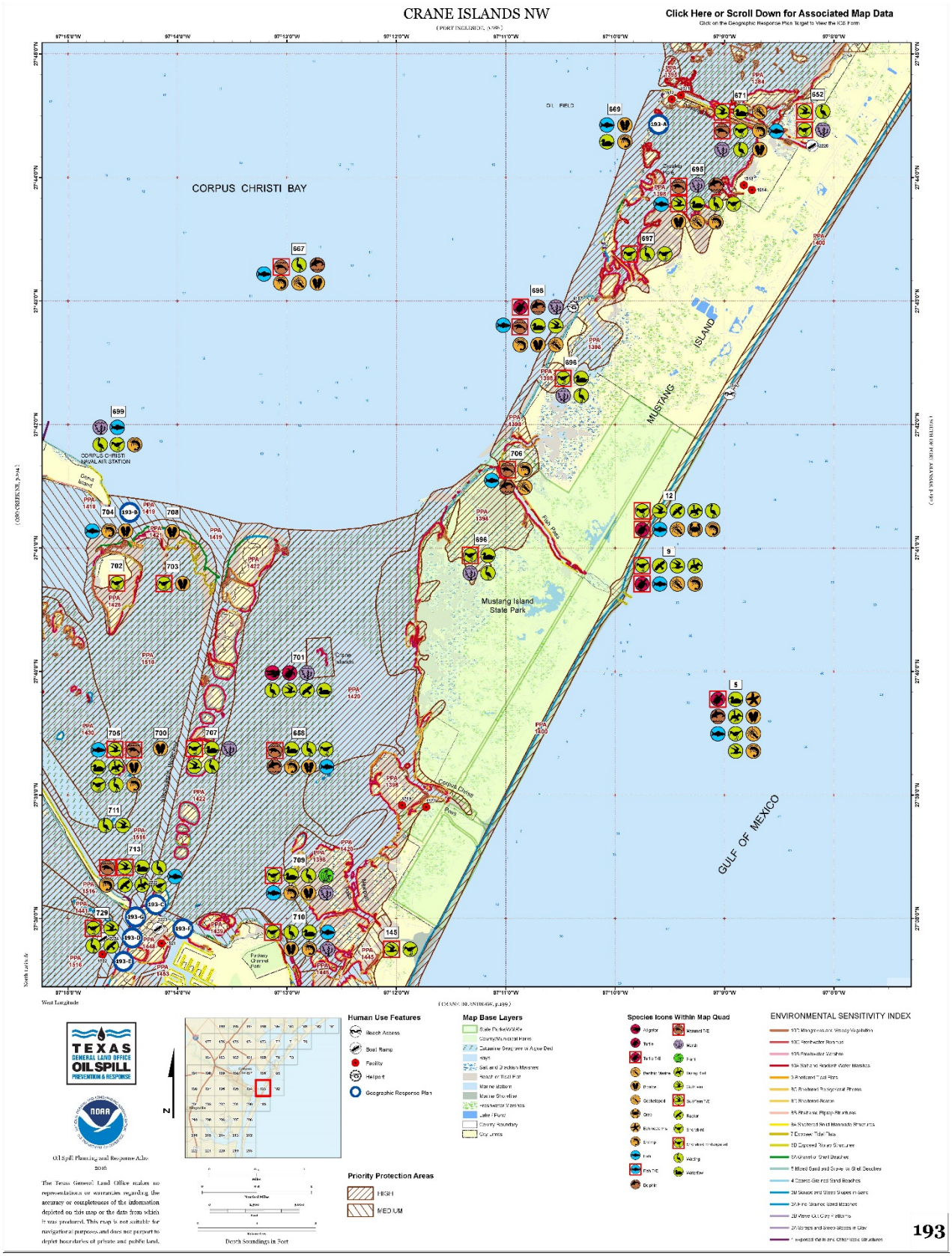
DIAGRAM ERAP 1.1.9.5-4

ESI 193, Crane Island NW



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Quadrant: CRANE ISLANDS NW

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Biological Information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
	HIGH	Crane Islands colonial waterbird rookery, colony code 614-241	High	Tri-colored herons, Reddish egrets, Gull-billed terns				
PPA1384	HIGH	Flats, marshes on west shore of Mustang Island	HIGH		Important nursery	HIGH	HIGH	Mud flats, low salt marsh (Spartina, Salicornia, Batis)
PPA1395	HIGH	Flats on west side of Mustang Island	HIGH	Piping plover use, other shorebirds				Algal mat
PPA1398	HIGH	West shore of Mustang Island	MEDIUM		Nursery; recreational fishing (spotted seatrout)	HIGH	HIGH	Seagrass (Halodule)
PPA1400	HIGH	Mustang Island Gulf beach	HIGH	Heavy piping plover use, snowy plover, shorebirds, wading birds, reddish egret; sea turtles				
PPA1419	MEDIUM	Boat Hole, Laguna Madre south of Demit Island, and ICW	MEDIUM		Nursery, deep water refuge, migration route, recreational fishing	HIGH		
PPA1420	HIGH	Laguna Madre east of ICW	HIGH	Heavy waterfowl use; shorebirds, reddish egrets, occasional ospreys	Important nursery, excellent recreational fishing, scattered oyster	HIGH	HIGH	Extensive seagrass (Halodule, occ. Syringodium); Spartina fringe marsh on islands
PPA1421	MEDIUM	Islands in Laguna Madre	HIGH	Piping plover				Algal flat, shell grading to marsh
PPA1422	HIGH	Northernmost spoil islands east of ICW	HIGH	Causeway Islands colonial waterbird rookery (614-240) with gulls, wading birds, least tern; few piping plover,black skimmer, reddish egret, Forsters tern			LOW	Fringe marsh (Batis-Salicornia), mud and algal flat
PPA1426	HIGH	Flats of island in Laguna Madre	MEDIUM	Naval Air Station colonial waterbird rookery (614-221),Piping plovers,reddish egret, Forster's tern, black skimmers				LOW
PPA1430	HIGH	Islands north of Kennedy Causeway	HIGH	Important rookery (614-221) for gulls, terns, skimmers, some wading birds; heavy waterfowl use (redhead, pintail), shorebirds, occasional ospreys	Nursery area, excellent fishing	HIGH	HIGH	Extensive high-quality seagrass beds (Halodule, some Syringodium), Spartina alterniflora fringe marsh on islands
PPA1439	MEDIUM	Packery Channel	HIGH	foraging area for wading birds, reddish egret,shorebirds	Red drum,southern flounder,shrimp,green sea turtles,snappers,juvenile barracuda, tarpon,	HIGH	MEDIUM	Seagrass,black mangroves
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1445	MEDIUM	Flats east of Route 361	MEDIUM	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM	MEDIUM	
PPA1446	HIGH	Flats east of Packery Channel	HIGH	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM		
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1453	HIGH	Western Padre Island flats	MEDIUM	Piping plover use	Nursery	HIGH	MEDIUM	Mud and algal flat, high and low marsh
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
145	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
652	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wilson's plover	C					X	X	X	X	X	X	X	X			MAR-AUG			
	American avocet				X	X	X	X				X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
658	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
667	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
669	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
671	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
695	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
696	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Mottled duck	C			X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
697	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
698	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
699	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
701	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Laughing gull			720	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		25	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern			18	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern			41	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			6	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C		26	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	American wigeon				X	X	X	X						X	X	X				
	Gadwall				X	X	X	X					X	X	X	X				
702	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
703	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
705	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Roseate spoonbill			6	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			26	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
707	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Laughing gull			9	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Black-crowned night-heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			8	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Cattle egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	APR-AUG
	Great egret			2	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C		4	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Black-bellied whistling-duck				X	X	X	X	X	X	X	X	X	X	X	X			MAY-OCT	JUL-OCT
709	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
710	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
711	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
713	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull			5774	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		42	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern			122	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern			917	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern			24	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Sandwich tern			190	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			2	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			94	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			46	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			42	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		30	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			1	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
9	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X		
	Snook				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X	X			
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	JAN-AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
658	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
667	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
669	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
671	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Spotfin mojarra				X	X	X	X	X	X	X	X	X	X	X	X		
	Silver jenny				X	X	X	X	X	X	X	X	X	X	X	X		APR-AUG
	Cownose ray				X	X	X	X	X	X	X	X	X	X	X	X		
695	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Silver jenny				X	X	X	X	X	X	X	X	X	X	X	X		APR-AUG
698	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Atlantic stingray				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Cownose ray				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
704	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
705	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
706	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Blackcheek tonguefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
709	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
710	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
9	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Mackerels						X	X	X	X	X	X	X	X				
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
658	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
667	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
669	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
671	Eastern oyster			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
695	Eastern oyster			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
698	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Quahog (hard clam)				X	X	X	X	X	X	X	X	X	X	X	X		JUN-DEC
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
700	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
703	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
704	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
705	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
706	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
708	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
709	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
710	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
9	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Marine Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
658	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
667	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
671	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
695	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
698	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
705	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
706	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
713	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

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Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR-OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
698	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
701	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC	JUN-DEC	ALLYEAR
	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
9	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

	RARNUM	NAME	CONTACT	CONTACT INFO
Beach Access	3140	Beach Access Road 2		
Boat Ramp	RARNUM	NAME	CONTACT	CONTACT INFO
	2220	Wilsons Cut		nuecesnuecesrio@wilsonscut
	2222	Clems Marina and Fishing Pier		nuecesnuecesrio@clemsmarina
	2223	Billings Bait and Tackle		nuecesnuecesrio@billings
	2224	Marker 37		nuecesnuecesrio@marker37
Facility	RARNUM	NAME	CONTACT	CONTACT INFO
	1511	Fieldwood MU 883 Tank Battery	Terry Delahoussaye	337-354-8000
	1512	Mustang Island ST 428 & 436	Chris Cole	866-478-8770
	1513	TR North Pipeline System Battery	David Williams	800 333-9246
	1514	TR Tejas Gathering System Battery	David Williams	800 333-9246
	1519	TR South Mustang Island Separation Facility	David Williams	1-800-333-9246
	1520	Mustang Island 901 South Separation	Glen Flew	866-478-8770
	1521	Billing's Bait & Tackle	Eugene R. Gianotti	361-549-8227
	1522	Marina 37 Services L.L.C. DBA Marker 37	Matthew McNeill	3619494750
Heliport	RARNUM	NAME	CONTACT	CONTACT INFO
	6157	MUSTANG ISLAND	XS45	HOUSTON, TX 77042

Map # : 193

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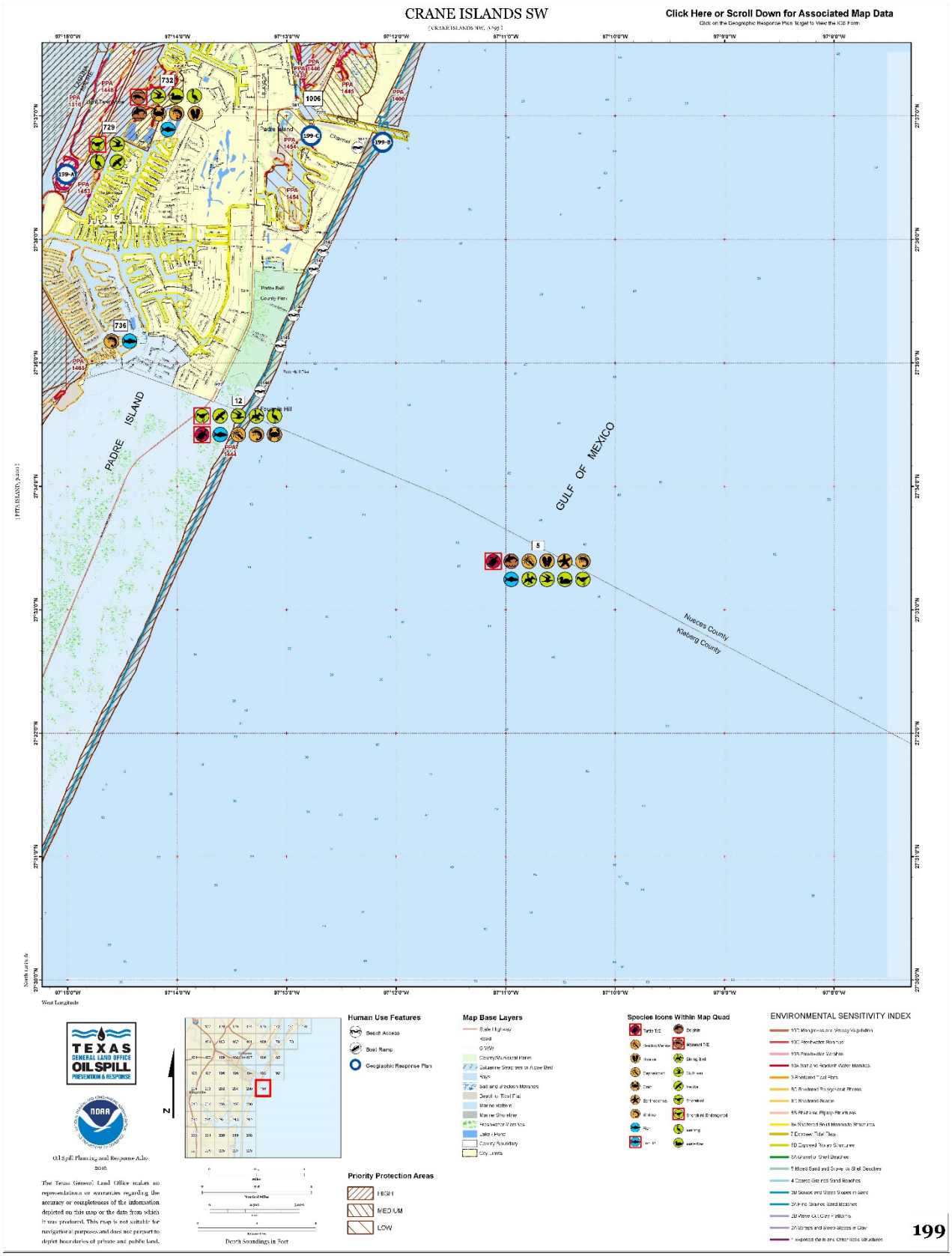
DIAGRAM ERAP 1.1.9.5-5

ESI 199, Crane Island SW



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Quadrant: CRANE ISLANDS SW

Map # :199

Biological Information for this quadrant represents known concentration areas of occurrance.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
PPA1400	HIGH	Mustang Island Gulf beach	HIGH	Heavy piping plover use, snowy plover, shorebirds, wading birds, reddish egret; sea turtles				
PPA1439	MEDIUM	Packery Channel	HIGH	foraging area for wading birds, reddish egret,shorebirds	Red drum,southern flounder,shrimp,green sea turtles,snappers,juvenile barracuda, tarpon,	HIGH	MEDIUM	Seagrass,black mangroves
PPA1444	HIGH	Padre Island Gulf beach	HIGH	Shorebirds, piping plover, snowy plover, terns, pelicans; sea turtles				
PPA1445	MEDIUM	Flats east of Route 361	MEDIUM	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM	MEDIUM	
PPA1446	HIGH	Flats east of Packery Channel	HIGH	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM		
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1453	HIGH	Western Padre Island flats	MEDIUM	Piping plover use	Nursery	HIGH	MEDIUM	Mud and algal flat, high and low marsh
PPA1454	LOW	South end of Packery Channel marsh			Some fishing	LOW	LOW	Fresh to brackish marsh (cattails, Batis)
PPA1465	HIGH	Laguna Madre	HIGH		Nursery	HIGH	HIGH	Seagrass (primarily Halodule)
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
732	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X				X	X	X					

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X		
	Snook				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X				
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	JAN-AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
732	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
736	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
732	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR–OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

Beach Access	RARNUM	NAME	CONTACT	CONTACT INFO
	3141	Zahn Road		
	3142	Whitecap Boulevard		
	3143	Beach Access Road 4		
	3144	Beach Access Road 5		
	3145	Padre Balli Park Road		
	3146	Beach Access Road 6		
Boat Ramp	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	2226	Packery Channel		

Map # : 199

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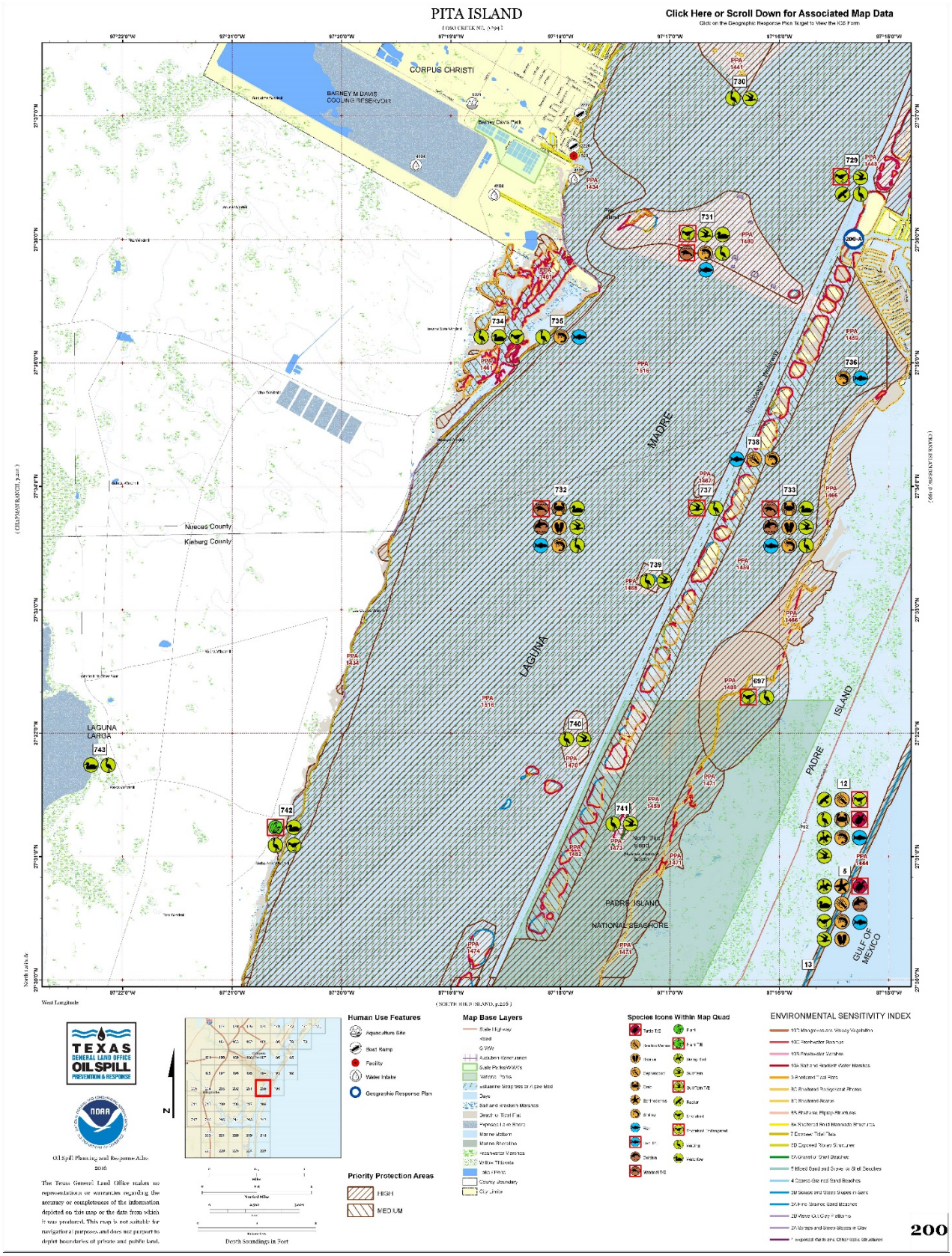
DIAGRAM ERAP 1.1.9.5-6
ESI 200, Pita Island



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Quadrant: PITA ISLAND

Map # :200

Biological information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
PPA1434	HIGH	Laguna Madre shoreline east of Flour Bluff and Laguna Shores Road	HIGH	Wading birds, piping plover, black skimmers on spits of land from mainland	Nursery area	HIGH	HIGH	Fringe marsh on shoreline
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1444	HIGH	Padre Island Gulf beach	HIGH	Shorebirds, piping plover, snowy plover, terns, pelicans; sea turtles				
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1459	HIGH	Laguna Madre	HIGH		Important nursery area and highly productive fishing (red and black drum, spotted seatrout); all juvenile fish, shrimp, crabs	HIGH	HIGH	Very extensive high-quality seagrass flats (Halodule); algal flats on shoreline, spoil islands
PPA1460	HIGH	Pita Island and nearby spoil islands	HIGH	Rookery (614-300) for gulls, many wading birds, terns; waterfowl, wading birds, reddish egrets	Important nursery	HIGH	HIGH	Seagrass flats (Halodule, some Syringodium), mid to high marsh on islands
PPA1461	MEDIUM	Marsh, flats southwest of Pita Island			Nursery	HIGH	HIGH	Mid to high marsh, small interspersed upland areas, diverse biota
PPA1462	MEDIUM	Spoil islands east of ICW	MEDIUM	Rookery (614-305), piping plovers,red knots, peregrine falcons	Nursery		HIGH	Seagrass
PPA1466	HIGH	West shore of north Padre Island	MEDIUM	Piping plovers	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1467	HIGH	Spoil island west of ICW (Marker 31-33)	HIGH	Colonial waterbird rookery (614-301),reddish egrets, black skimmers, Forster's terns				
PPA1468	HIGH	Spoil island rookery west of ICW (Marker 37-38)	HIGH	Marker 37-38 spoil island colonial waterbird rookery (614-302),reddish egrets,great blue herons,black skimmers				
PPA1469	HIGH	Flats northeast of North Bird Island	HIGH	Numbers of piping plover, snowy plover other shorebirds	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1470	HIGH	Spoil island bird rookery west of ICW (Marker 43)	HIGH	Marker 43 colonial waterbird rookery (614-304); Caspian terns,black skimmers				
PPA1471	HIGH	West shore of north Padre Island	MEDIUM	Piping plovers	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1473	MEDIUM	North Bird Island	MEDIUM	Intermittent rookery (614-306); gulls, reddish egret, terns, wading birds	Nursery		HIGH	Seagrass
PPA1474	HIGH	Spoil island west of ICW (Marker 37, Spoil NM 79)	HIGH	Colonial waterbird rookery,piping plovers,peregrine falcons				
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
697	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
730	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
731	Laughing gull			7038	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		16	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern			132	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern			31	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wilson's plover	C					X	X	X	X	X	X	X	X			MAR-AUG			
	Black-crowned night-heron			9	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill			70	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			146	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Cattle egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	APR-AUG
	Great egret			100	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Little blue heron			58	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret			50	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		26	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		112	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			4	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Black-necked stilt				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
732	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X					X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
733	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X					X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
734	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X					X	X	X	X				
735	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
737	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
739	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
740	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
741	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White-faced ibis				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
742	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
743	Sandhill crane				X	X	X	X					X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Remoras				X	X	X	X	X	X	X	X	X	X	X	X		
	Shads				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X				
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR AUG	JAN AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacks				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
731	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
733	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC MAY
735	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
738	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Code goby				X	X	X	X	X	X	X	X	X	X	X	X		MAY JUL

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
731	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
733	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
735	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
738	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
731	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
732	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR MAY	JUL AUG	JAN DEC	JAN DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
733	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

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Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR-OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

Aquaculture Site	RARNUM	NAME	CONTACT	CONTACT INFO
	5021	Texas A&M University Shrimp Mariculture		4301 Waldron Road, Corpus Christi, TX 78418 -
Boat Ramp	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	2227	Laguna Shores Resort and Marina		nuecesnuecesrio@lagunashores
	2228	Bluff's Landing Marina		nuecesnuecesrio@bluffslanding
Facility	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	1523	Bluff's Landing Marina Bait & Tackle	Mike Beers	512-632-1897/512-970-7831
Water Intake	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	4184	SOUTHWEST MARICULTURE INC		
	4185	TEXAS A&M UNIVERSITY		
	4186	CENTRAL POWER & LIGHT CO		

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DIAGRAM ERAP 1.1.9.6

Locations of Protection Strategies

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DIAGRAM ERAP 1.1.9.7

Key to Protection Strategies

Symbol	Definition
	Boom – Used to contain, divert, or exclude free-flowing oil from the water's surface from a site for recovery. This includes the necessary equipment and resources needed for the proper placement and maintenance of the equipment, including mooring, anchoring, shackles, etc.
	Permanent Boom – Also used to contain, divert, or exclude free-flowing oil from the water's surface. These booms have foam-filled floats that provide high visibility, high impact resistance, reserve buoyancy-to-weight ratio, wave conformance, and wind stability. Often left in place because they are not as susceptible to marine growth or ultraviolet rays.
	**Utility Boat –** support vessel used to deploy boom and/or skimmer configurations for containment and recovery, set anchor systems, and prop wash.
	**Boom Platform Boat –** response asset used for high speed on water delivery and deployment of shoreline protection boom to remote sensitive areas.deploy configurations, set anchor systems, and prop wash.
	**Boom Reel –** response asset for stationary and mobile boom storage.
	**Boat Launch Area** – location used to launch water craft.
	**Staging Area** – location used to store equipment, resources, and personnel to properly carry out a protection configuration.
	**Standard Navy Mooring System** –denotes the use of a 25- or 40-pound Danforth anchor with necessary recovery line and recovery buoy. Recovery line should be 5 feet longer than high tide depth. Proper Navy mooring systems are required with at least a 5-to-1 anchor line scope (anchor line length 5 times the water depth where the anchor is placed). Use of towing bridles at boom ends is highly recommended to distribute the load, and to keep the boom vertical when it's floating. When sufficient towing bridles are not available, securing the boom through the chain tension member should prevent damage due to tensile loading. Boats should have anchor lines rigged for running long before they are directed to attach the anchor system.
	Shore Attachment (white, yellow, or black) – denotes the use of a steel post driven into the shoreline above the high tide line and used to secure one end of the boom; may also include attachment to a tide-riser, buoy, or other fixed object (e.g., pier, wall, piling, tree, etc.)
	**Tide Riser or Bollard** (orange) – denotes the location of a pre-installed boom connection point (assembly) that allows for a permanent, rapid connection point for boom for the establishment of containment or recovery operations.
	Sorbent Boom (white or black) – shown as a thick, straight line
	Span Line – used to create a collection or recovery pocket for the floating product within the response configuration.
	Collection Point – An area or resource where oil is collected and stored for oil recovery/removal.

DIAGRAM ERAP 1.1.9.7

Key to Protection Strategies

Symbol	Definition
	**On-water Recovery –** The use of an on-water skimming system (rapid response skimmer [RRS]) to collect and remove oil floating on the water surface. In many of the areas designated as sensitive shorelines, the water depths are too shallow and submerged obstructions are numerous, so the use of the skimming system is not recommended.
	**Vacuum Truck or Hand-held Skimmer –** used for on water recovery close to shore.
	**Boom box (BB) or Conex Storage Container (CB) –** used to pre-stage the quantities of boom and other response resources necessary to ensure a rapid response by the facility response team for strategies identified in this guide.

DIAGRAM ERAP 1.1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) – Blind Oso	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

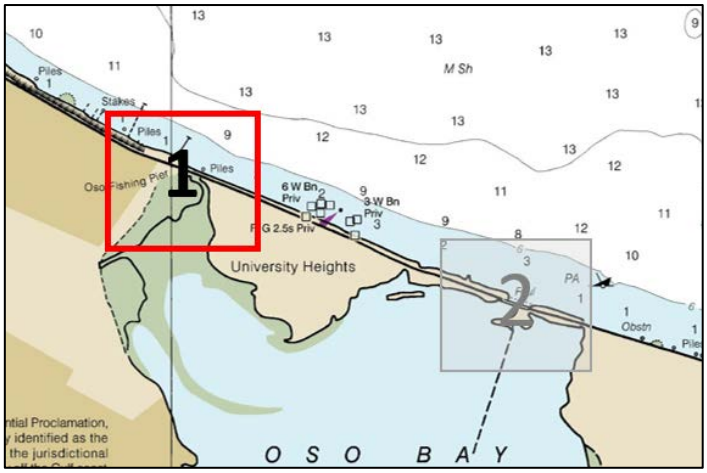
6. Assignments: **Image**

Both configurations of strategy (A1) were developed by the South Texas Coastal Area Committee – USCG Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp. This strategy was incorporated into NASCC's FRP/DPRP and retains the original nomenclature (A1) from the document referenced above.

1A - PRIMARY CONFIGURATION: Exclusion configuration to prevent further spread of oil west beyond location.

1B - SECONDARY CONFIGURATION (OPTIONAL): Exclusionary booming in a continuous length of boom in a shallow chevron configuration to address an easterly wind to redirect the oil away from the inlet.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil).



Aerial oblique view of Blind Oso Inlet

View of Blind Oso Back Bay

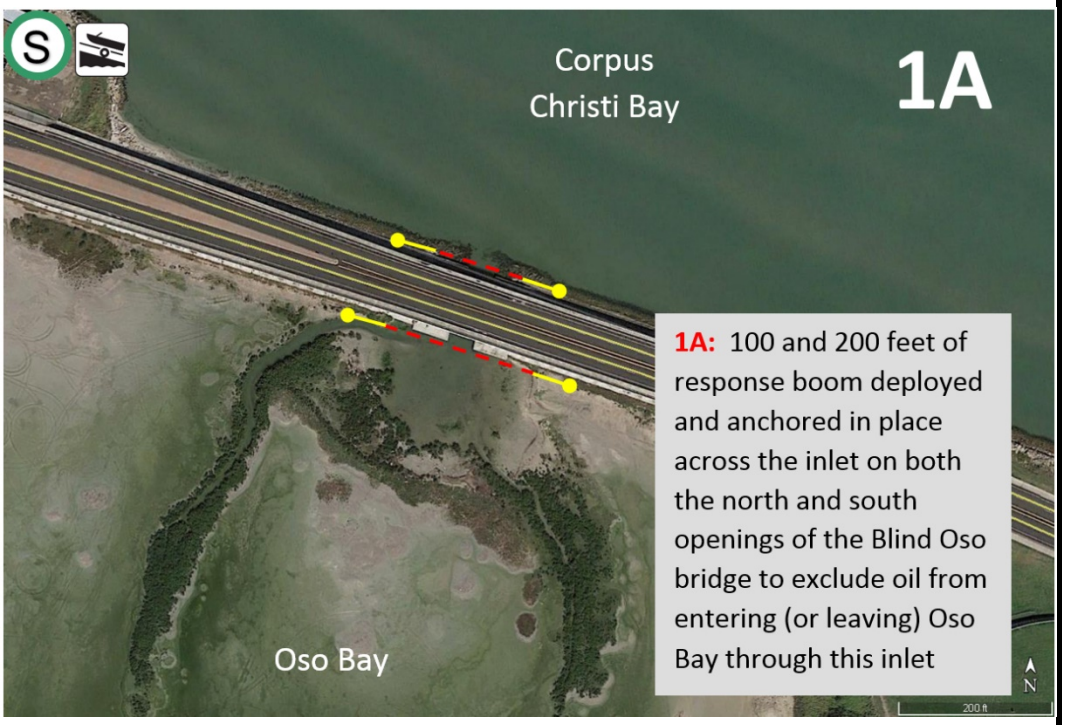
DIAGRAM ERAP 1.1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) – Blind Oso	

1A - PRIMARY CONFIGURATION – Exclusion

- 100 and 200 foot sections of 12 to 18-inch response boom deployed across the inlet mouth on both the north and south sides of Blind Oso bridge to exclude oil from entering Oso Bay through this inlet.
- Stake boom in place.



7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – Recommend two (2), shallow draft boats; possible to complete with only one			One (1) SeaArk River Runner and one (1) Jon Boat; or one (1) Jon Boat	Three (3) crew per boat	☐
Response Boom – 12- to 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			100 feet (north side) 200 feet (south side)	Two sections	☐
Shore Stakes – to attach boom to shoreline. Drive shore Stakes into ground above high tide line or tie off onto rocks/or other permanent structure			Four (4) or more, as needed		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate personal flotation devices (PFDs)			Two (2), two-man teams	Arrive by truck	☐

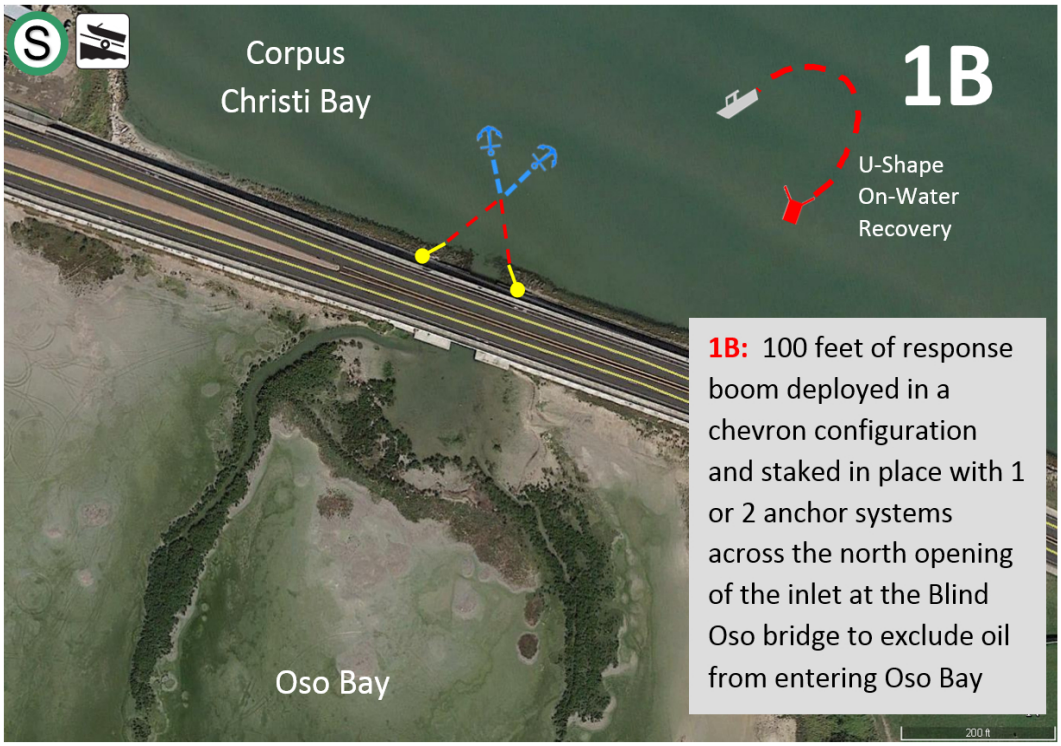
DIAGRAM ERAP 1.1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) – Blind Oso	

1B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion

- Deploy 100 feet of 18-inch boom in a continuous length in a chevron configuration to address an easterly wind to redirect the oil away from the inlet for Recovery.
- A good Easterly wind and the expected very low current under the span should keep oil moving on past.
- For an Easterly wind, the midpoint anchor should just hold the apex out slightly from a straight line – to prevent oil from collecting in the middle.
- But if oil is coming from the North, the more standard chevron drawn would be appropriate.



This configuration should only be needed to prevent current flowing in under the span from creating enough catenary to allow oil to collect in the middle or for oil moving in from the North.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats - Recommend two, shallow draft boats; possible to complete with only one			One (1) SeaArk River Runner and one (1) Jon Boat; or one (1) Jon Boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			100 feet		☐
Mooring Systems - Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

DIAGRAM ERAP 1.1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 1: (A1) – Blind Oso**	

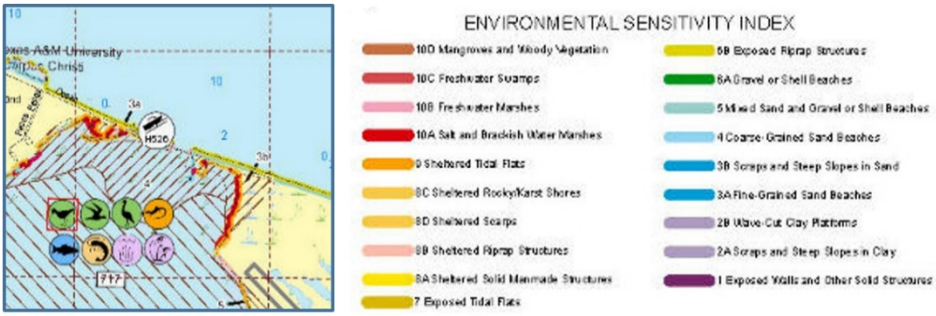
8. Special Instructions for Division/Group:	
Site Conditions:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and other personal protective equipment (PPE) (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is a brackish water inlet that is listed as an environmentally sensitive wetland characterized by wind/tidal flats. The tidal flats are free of water throughout the year but under certain high tide and wind conditions, the tidal flats have been known to flood. The Hans and Pat Suter Wildlife Area is habitat to many avian species and is a popular bird watching area. The inlet is approximately 33 feet wide with currents being wind driven. The seasonal tidal range is less than 1 foot. 
Potential Impacts:	Any discharge from or near the Seaplane basin could adversely affect this area with an easterly wind.
Operational Considerations:	Sufficient depth at the island piers and shorelines for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**1A - PRIMARY CONFIGURATION:** ½ inch chain on riprap or steel posts, as appropriate; attach boom; seal with sorbents/sandbags to minimize leaks. **1B - SECONDARY CONFIGURATION (OPTIONAL):** ½ inch chain on riprap or steel posts, as appropriate; seal with sorbents/sandbags to minimize leaks.
Water Attachment:	**1A - PRIMARY CONFIGURATION:** Two (2) shoreside mooring points consisting of chain shackled on riprap to tie off one end of the boom using the towing bridle on shore; **1B - SECONDARY CONFIGURATION (OPTIONAL):** Two (2) shoreside mooring points consisting of chain shackled around riprap to tie off one end of the boom using the towing bridle on shore plus one (1) anchor point forming the apex of the chevron (may need more than one anchor to achieve).
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Jon boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; SeaArk will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **1A - PRIMARY CONFIGURATION:** 30 minutes to 1 hour **1B - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour

DIAGRAM ERAP 1.1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 1: (A1) – Blind Oso**	

Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications

Medical _____ Evacuation _____ Other _____

`11. Prepared By: (Resources Unit Leader) **Date /Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

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DIAGRAM ERAP 1.1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

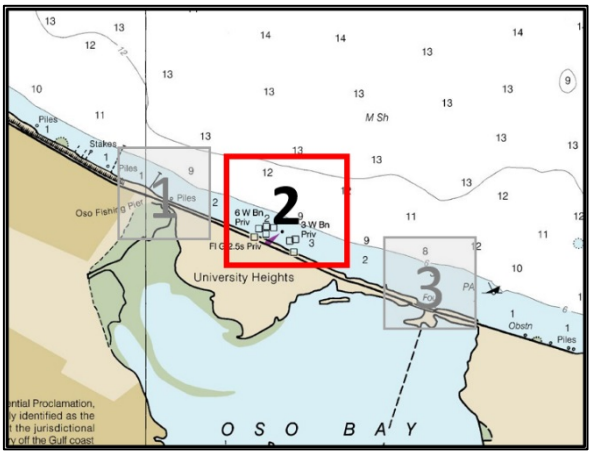
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

2A - PRIMARY CONFIGURATION: **Exclusion** boom to prevent further spread of oil west beyond location. This configuration is strategy (A2) of the South Texas Coastal Area Committee – Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp.

2B - SECONDARY CONFIGURATION (OPTIONAL): **Exclusion** booming with a continuous length of boom to completely encircle the beach to redirect the oil away from the beach. This optional configuration was developed for the NASCC FRP/DPRP.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil).



Aerial oblique view of TAMCC University Beach

View of TAMCC University Beach from land

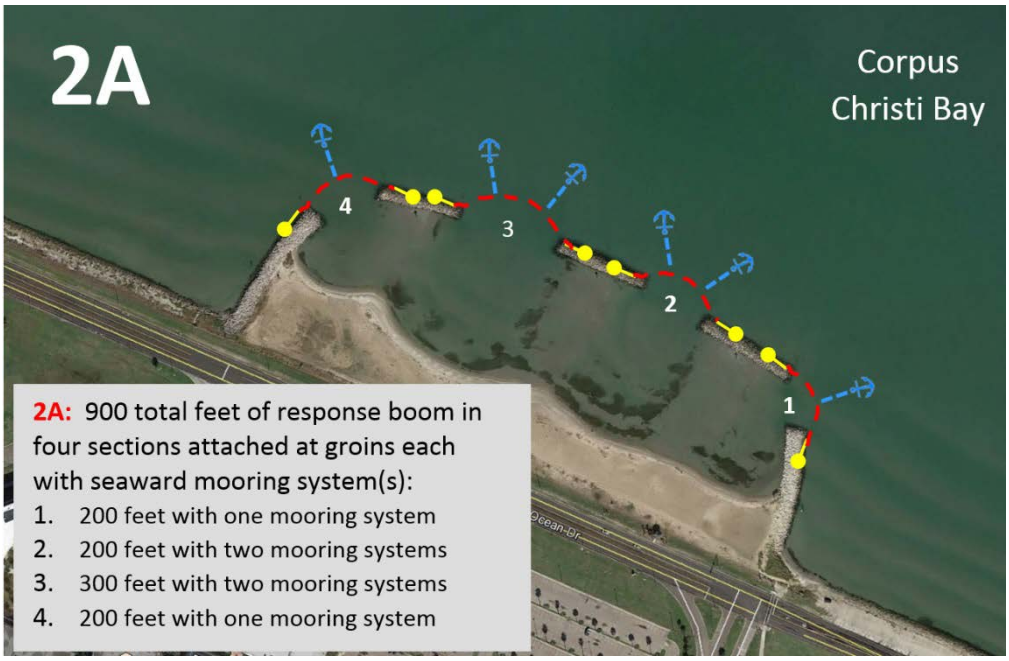
DIAGRAM ERAP 1.1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

2A - PRIMARY CONFIGURATION: Exclusion

- Boat 1 deploys boom from boom trailer from the eastern side of the groin; Shore crew establishes shoreline anchor point. Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.
- Boat 1 pulls boom off trailer and proceed to western anchor point where the boom is secured to the first breakwater.
- Boat 2 secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.



- Boat 2 then stretch out boom and deploy mooring mid-point mooring system(s) to complete shallow chevron configuration.
- Repeat for each Boom length section.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response Boom – 12- to 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			900 feet response boom: 1. 200 feet 2. 200 feet 3. 300 feet 4. 200 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per shoreline attachment		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

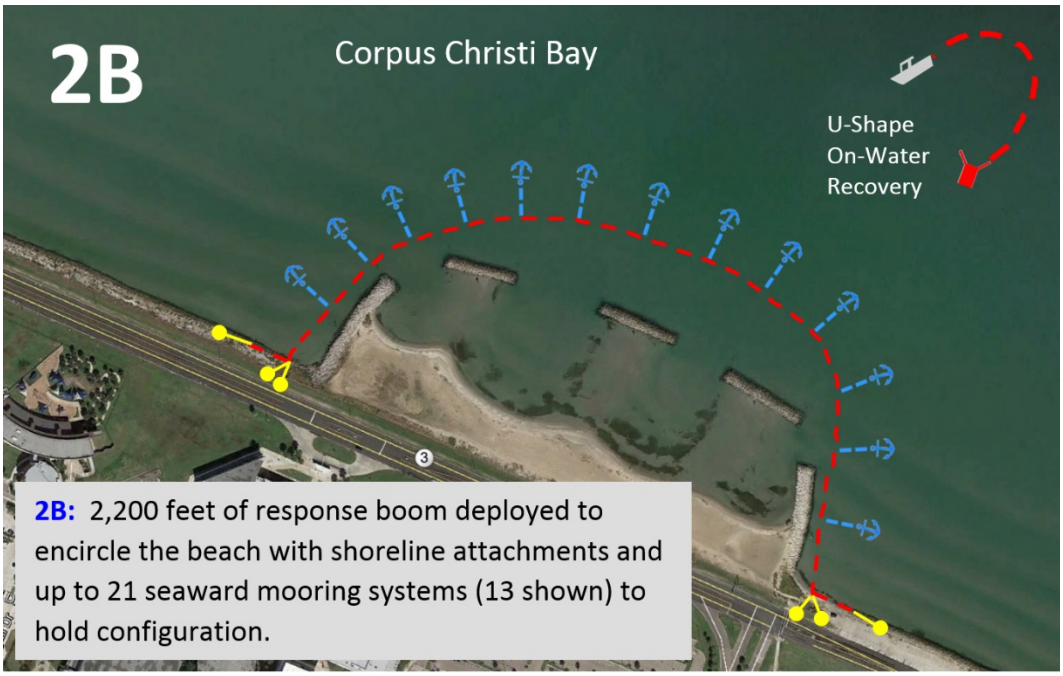
DIAGRAM ERAP 1.1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

2B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion

- Boat 1 deploys boom from boom trailer from the eastern side of the groin; Shore crew establishes shoreline anchor point. Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.
- Boat 1 pulls boom around University Beach seaward of the three breakwaters to western anchor point where the boom is secured to the last shoreline (around the westernmost breakwater). Shore crew establishes shoreline anchor point on the western end of this length.
- Boats 2, 3, and 4 secure mooring systems every 100 feet along the length of the boom run at the seaward anchor points.



Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Four (4), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			2,200 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per shoreline attachment		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

DIAGRAM ERAP 1.1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 2: (A2) – University Beach**	

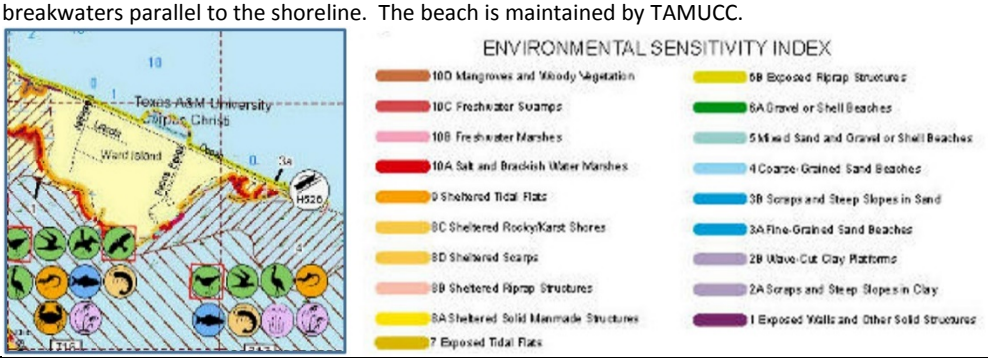
8. Special Instructions for Division/Group:	
Site Conditions:	Tie off the boom and seal as best we can with sorbents and sandbags on shorelines. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of a sandy public beach, approximately 1,300 feet long bordered to the east and west by riprap groins used to encircle the university beach. The overall average water depth is 2 to 3 feet, but is variable due to tidal fluctuations. Additionally, there are three very shallow sand bars behind three breakwaters parallel to the shoreline. The beach is maintained by TAMUCC. 
Potential Impacts:	This area has a low wildlife and habitat ESI/Atlas rating (fish, shrimp, crab, squid, foraging birds); however, it does provide significant socio-economic value as a public accessible beach and access point for recreation (fishing, kayaking).
Operational Considerations:	Sufficient depth for small boat and platform booming operations. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**2A - PRIMARY CONFIGURATION**: eight (8) shoreline mooring systems consisting of ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline; **2B - SECONDARY CONFIGURATION (OPTIONAL)**: - four (4) shoreline mooring systems consisting ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks;
Water Attachment:	**2A - PRIMARY CONFIGURATION**: six (6) mooring systems attached at the seaward anchor points at the apex of each boom section (may need more than one anchor to achieve) into the wind. **2B - SECONDARY CONFIGURATION (OPTIONAL)**: twenty-one (21) mooring systems attached at the seaward anchor points along the boom length.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **2A - PRIMARY CONFIGURATION**: 2.5 hours; **2B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 +hours
Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.

DIAGRAM ERAP 1.1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 2: (A2) – University Beach	

Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader)	Date/Time	12. Approved By (Planning Section Chief):	Date/Time

ASSIGNMENT LIST	JUNE 2017	ICS 204-OS

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DIAGRAM ERAP 1.1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

The configurations for strategy (A3) came directly from of the South Texas Coastal Area Committee – Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp.

3A - PRIMARY CONFIGURATION: **Exclusionary** boom to prevent oil from entering Oso Bay and keep the oil moving west.

3B - SECONDARY CONFIGURATION (OPTIONAL): **Exclusionary** boom in chevron configuration with **Recovery** system (Secondary) to keep the oil moving west away from the Oso Bay entrance. Recovery pockets may be established for deflecting oil for collection on both the east and western sides of the chevron.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil)

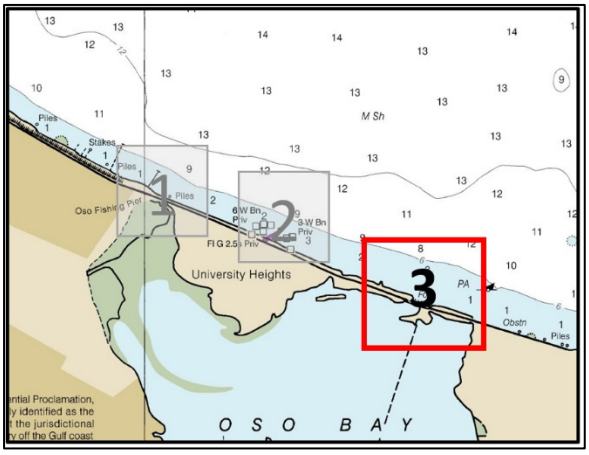


DIAGRAM ERAP 1.1.9.10

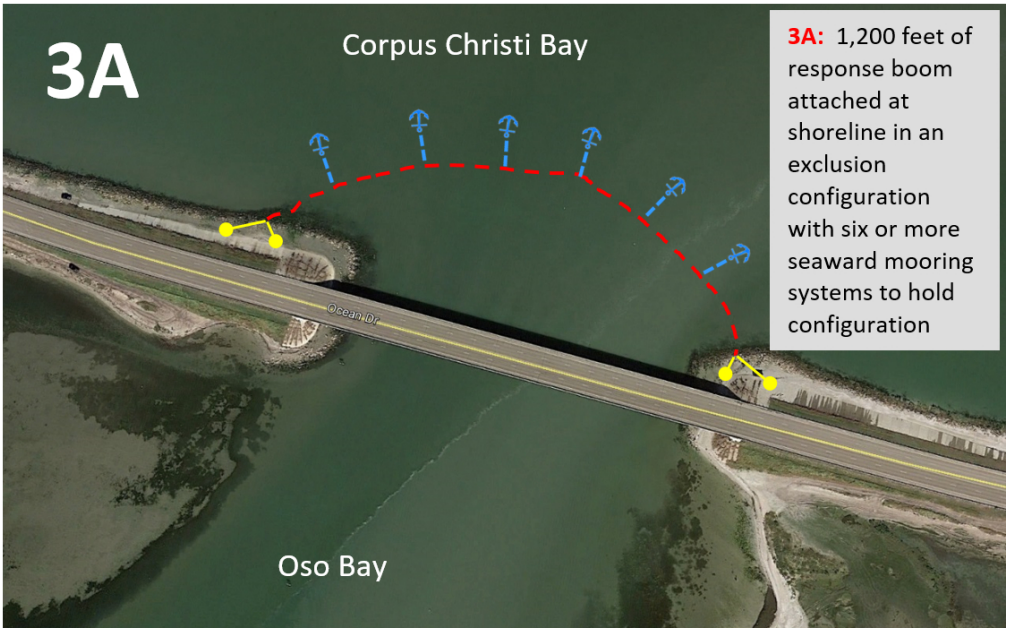
Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

3A - PRIMARY CONFIGURATION: Exclusion

Exclusion boom; 1,200 feet of 18-inch response boom in a continuous length of boom in a shallow arc configuration to address an easterly wind to redirect the oil away from the inlet.

- Have first boat deploy boom from boom trailer from the eastern side of the bridge.
- Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline.
- Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.
- Second boat then stretch out boom and deploy mooring the five (5) additional mid-point mooring system(s) to complete the configuration.



Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			1,200 feet response boom		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per shoreline attachment	Attached at the seaward anchor points along the configuration	☐
Anchor Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

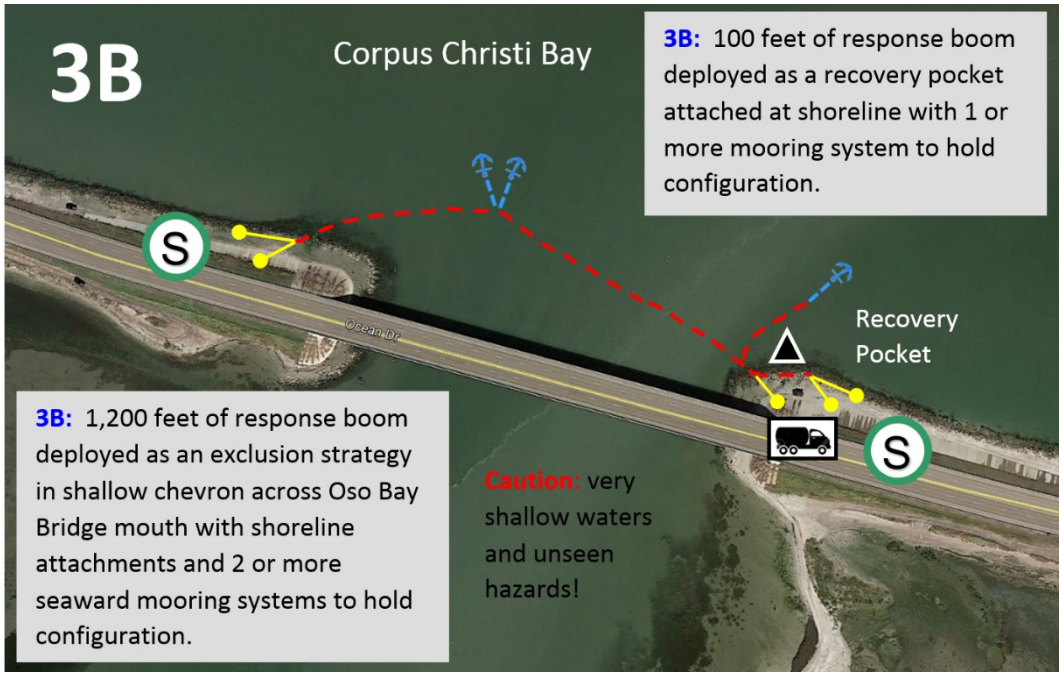
DIAGRAM ERAP 1.1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

3B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion with Recovery

Exclusion boom in a shallow chevron to redirect the oil moving away from the Ocean Drive Bridge inlet and for recovery (if possible) at shoreline prior to reaching the Ocean Drive Bridge at Oso Bay (primary configuration). A recovery pocket may be located just offshore in water depth sufficient for skimmer head operation at apex along shore to contain surface oil for recovery using Vacuum Truck with skimmer head.



- Have first boat deploy boom from boom trailer from the eastern side of the bridge.
- Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline.
- Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.
- Second boat then stretch out boom and deploy mooring mid-point mooring system(s) to complete shallow chevron configuration. ***The apex of the chevron needs to be pointed directly into the direction the oil is moving due to wind and/or currents***; if the wind shifts, the anchor point must be changed to appropriately change the chevron's direction.
- First Boat deploy boom from boom trailer to redirect oil to shore prior to reaching the bridge for recovery.
- First boat secures mooring system at the seaward end of the configuration to allow the development of a collection pocket. Shore crew secure shore side of configuration.
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline. Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place. If riprap chain anchor point is not sufficient to hold boom, provide a secondary mooring line to a shore stake wherever possible.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

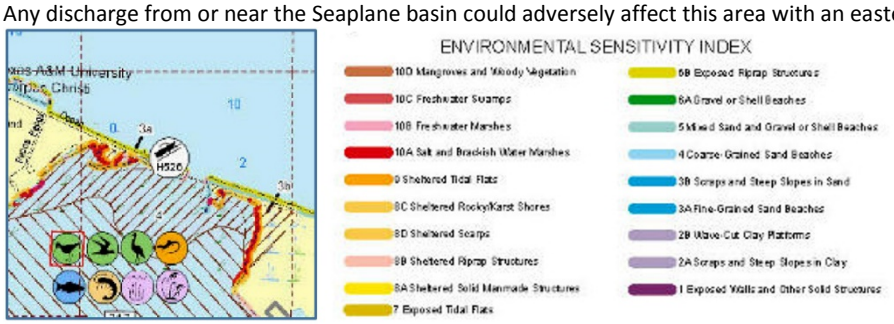
Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) or more, shallow draft boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			1,300 feet	100 feet used for recovery pocket	☐

DIAGRAM ERAP 1.1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 3: (A3) – Oso Bay Bridge**	

Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline	Five (5) or more, as needed per shoreline attachment		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines	Three (3) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐
Vacuum Truck – for removal of oil contained within recovery pocket	One (1), two-man team		☐

8. Special Instructions for Division/Group:	
Site Conditions:	Tie off the boom and seal as best you can with sorbents and sandbags on shorelines. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along Ocean Drive. The bridge separates the open Corpus Christi Bay from the Oso Bay which is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (nursery area, seagrass beds, and wetlands). This area is also highly utilized for shoreline fishing. Boat traffic is light but present. Any discharge from or near the Seaplane basin could adversely affect this area with an easterly wind. 
Potential Impacts:	Wildlife, habitat, and recreational fishing.
Operational Considerations:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**3A - PRIMARY CONFIGURATION:** Two (2) shoreside anchor points consisting of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring using a shoreside stake may be required to hold the **Exclusionary** boom configuration.

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Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 3: (A3) – Oso Bay Bridge	

	3B - SECONDARY CONFIGURATION (OPTIONAL): Shoreside Bitter end – towing bridle secured to a chain shackled around riprap; ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring using a shoreside stake may be required to hold the **Exclusionary** boom configuration and may be necessary for the Recovery pocket.
Water Attachment:	**3A - PRIMARY CONFIGURATION: Exclusion** – six (6) anchor systems attached at the seaward anchor points along the configuration. **3B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion** - One anchor point forming the apex of the chevron (may need more than one anchor to achieve). More than one mooring system (25 to 40 pound) may be required at the apex. **Recovery** - a 25 pound anchor to hold open the collection pocket on the seaward end will be required. An additional line (drawn in yellow in Option 2) tied to the seaward end of the pocket and anchored on shore will be required to maintain the configuration of the recovery pocket
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **3A - PRIMARY CONFIGURATION**: 2.5 hours; **3B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 hours
Oil Recovery:	Using vacuum truck with skimmer head and or sorbents as required from collection pocket. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

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Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 3: (A3) – Oso Bay Bridge**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**		

DIAGRAM ERAP 1.1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

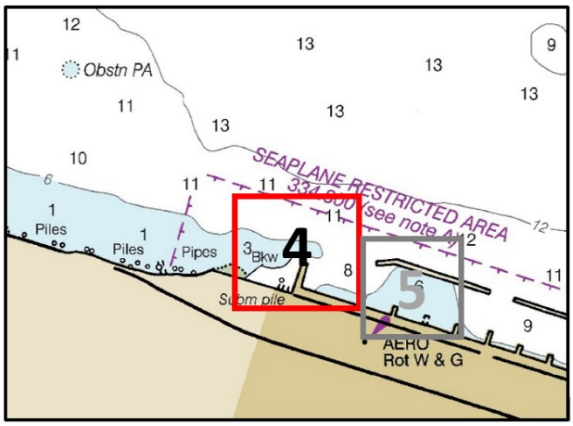
PRIMARY CONFIGURATION:

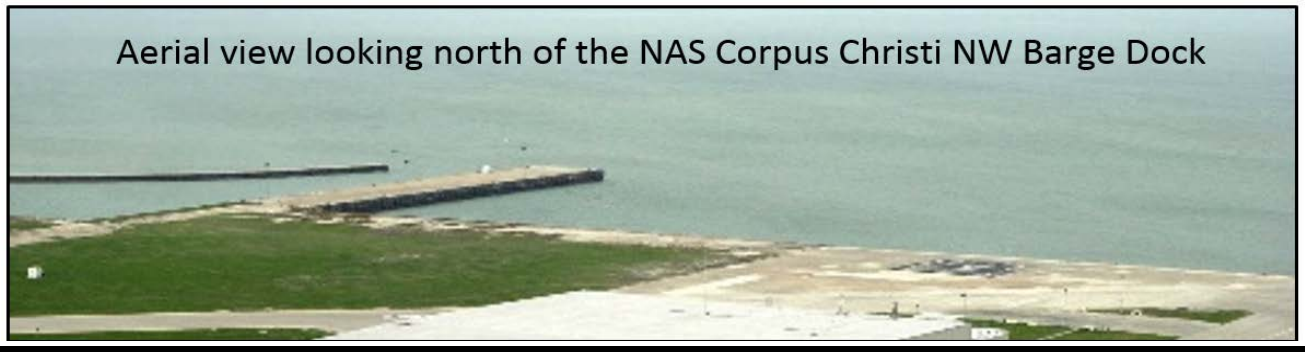
- **4A: Diversion** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for Recovery.

SECONDARY CONFIGURATIONS (OPTIONAL):

- **4B: Diversion** configuration to assist with diverting floating oil into the partially shielded cove between the pier and the seawall for Recovery.
- **4C: Diversion** configuration from the NE corner of the Barge Dock to divert floating oil into the SE corner of the Barge dock and the seawall for **Recovery**.
- **4D:** 500 feet of 18-inch boom in a **Diversion** configuration from the westernmost end of the seaplane breakwater to divert floating oil into the SE corner of the Barge Dock and the Seawall for **Recovery**.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil)





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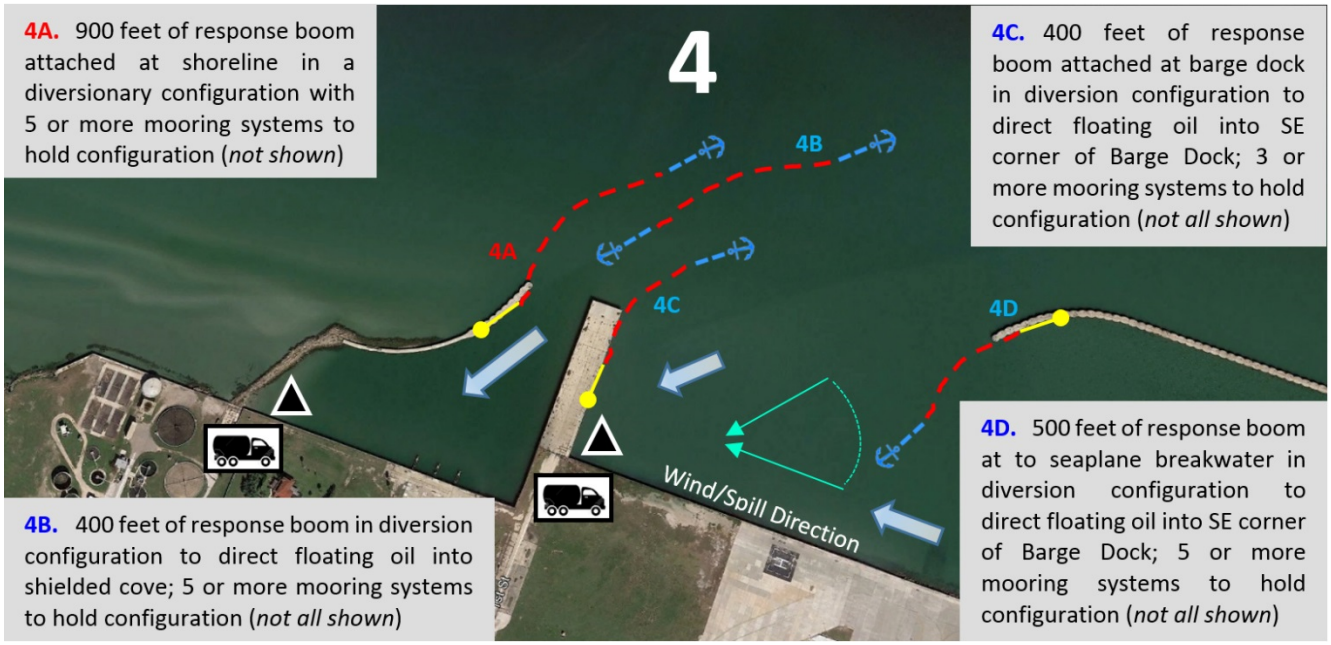
Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	



4A. 900 feet of response boom attached at shoreline in a diversionary configuration with 5 or more mooring systems to hold configuration (*not shown*)

4B. 400 feet of response boom in diversion configuration to direct floating oil into shielded cove; 5 or more mooring systems to hold configuration (*not all shown*)

4C. 400 feet of response boom attached at barge dock in diversion configuration to direct floating oil into SE corner of Barge Dock; 3 or more mooring systems to hold configuration (*not all shown*)

4D. 500 feet of response boom at to seaplane breakwater in diversion configuration to direct floating oil into SE corner of Barge Dock; 5 or more mooring systems to hold configuration (*not all shown*)

PRIMARY CONFIGURATION:

4A: 900 feet of 18-inch boom in a **Diversionary** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for **Recovery**.

SECONDARY CONFIGURATIONS (OPTIONAL):

4B: 400 feet of 18-inch boom in a **Diversion** configuration to assist with diverting floating oil into the partially shielded cove between the pier and the seawall for **Recovery**.

4C: 400 feet of 18-inch boom in **Diversion** configuration from the NE corner of the Barge Dock to divert floating oil into the SE corner of the Barge dock and the seawall for **Recovery**.

4D: 500 feet of 18-inch boom in a **Diversion** configuration from the westernmost end of the seaplane breakwater to divert floating oil into the SE corner of the Barge Dock and the Seawall for **Recovery**.

1. Deploy boom from boom trailer from the Barge Dock.
2. Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place. The chain is only required to prevent chafing of the mooring line on sharp or rough surfaces, like rip rap or concrete pilings with barnacles or shellfish. When sufficient towing bridles are not available, securing the boom through the chain tension member should prevent damage due to tensile loading.
3. Set mooring systems as described to hold configuration.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

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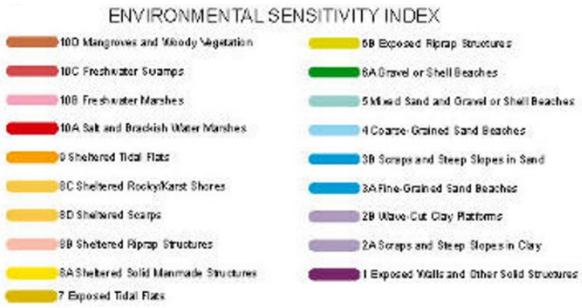
Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) work boats and one (1) jon boat	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			**4A** - 900 feet **4B** – 400 feet **4C** – 400 feet **4D** – 400 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per section	Attached at the seaward anchor points along the configuration	☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed to hold each configuration	25 to 40 pound anchors	☐
Vacuum Truck – to recover floating oil diverted to collection points			One (1), two-man team		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

Site Conditions:	Where present, heavy riprap armoring along sea walls, piers, and pilings can interfere with placement of boom. To attach boom to shoreline using chain around pilings with shackle; attach boom. Once tested and refined, leave permanent chain anchor points in position for future use. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for position boom and setting anchors.
General Sensitivity:	This location is composed of extensive riprap and man-made bulkhead and pier structures. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge within the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.  
Potential Impacts:	Oiling of pier, bulkhead and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.

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Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 4 – NASCC NW Barge Dock**	

Operational Considerations:	Heavy riprap armoring along the pier, bulkheads, and other structures interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION -** shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**4A - PRIMARY CONFIGURATION:** Two (2) shoreside mooring points consisting of ½ inch chain shackled around riprap to tie off the end of the boom through a towing bridle on shore; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring may be required to hold the **Diversion** configuration. Attach boom; seal with sorbents/sandbags to minimize leaks. **4B, 4C, 4D - SECONDARY CONFIGURATIONS (OPTIONAL):** Shoreside Bitter end—towing bridle secured to a chain shackled around riprap; ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring may be required to hold the **Diversion** configuration for configuration **C** and **D**. NOTE: It is highly recommended that a permanent tide risers be installed for connection points at the pier (assuming the pier face is solid); this will provide a better "seal" for the configuration and will minimize the quantity of boom required to deploy an effective configuration. As a substitute, heavy weights hung from cleats can be used in place of permanent tide risers as shore attachment points.
Water Attachment:	**4A - PRIMARY CONFIGURATION:** Two (2) 25 pound or one 40 pound anchor(s) with standard boom mooring systems may be required for the seaward end of the boom attachment point. Five (5) additional mooring systems, spaced evenly along the 100 foot intervals at connection points. **NOTE**: The total number of mooring systems identified in this configuration seems excessive and may be adjusted for the incident-specific conditions. **SECONDARY CONFIGURATIONS (OPTIONAL):** **4B:** Two (2) 25 pound or one (1) 40 pound anchor(s) with standard boom mooring systems will be required at the seaward end of the boom configuration; one (1) mooring system to secure the shoreward end of the configuration. Three (3) additional mooring systems, spaced evenly along the 100 foot intervals at the connection points to maintain the configuration will be required. **NOTE**: The total number of mooring systems identified in this configuration seems excessive and may be adjusted for the incident-specific conditions. **4C:** Two (2) 25 pound or one (1) 40 pound anchor(s)s with standard boom mooring systems may be required for the seaward end of the boom attachment point. Two (2) additional mooring systems spaced at the 100 foot intervals at connection points to maintain the configuration. The remaining 100 feet of boom is secured to the barge dock. **4D:** Two (2) 25 pound or one (1) 40 pound anchor(s) with standard boom mooring systems may be required for the shoreward end of the boom attachment point. Three (3) additional mooring systems, spaced at the 100 foot intervals at connection points to maintain the configuration. The remaining 300 feet of boom is secured to the westernmost seaplane area breakwater.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Jon boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; SeaArk will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location. **PRIMARY CONFIGURATION** **4A:** – 1 hour

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Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 4 – NASCC NW Barge Dock	

	SECONDARY CONFIGURATIONS (OPTIONAL): **4B:** 1.5 hours **4C:** 1.5 hours **4D:** 1.5 hours
Oil Recovery:	Vacuum truck positioned on pier with skimmer head inserted in the collection apex for all configurations. Using vacuum truck with skimmer head and or sorbents as required from collection pocket. **CAUTION** - Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader)	Date/Time	12. Approved By (Planning Section Chief):	Date/Time

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

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DIAGRAM ERAP 1.1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 5 – NASCC Stormwater Outfall H-1	

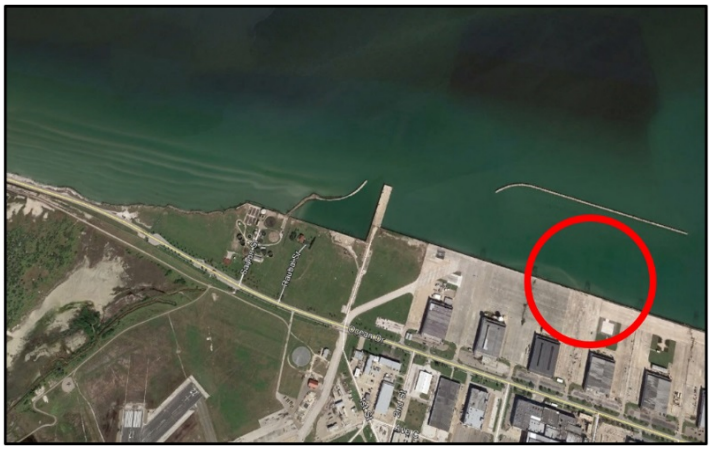
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

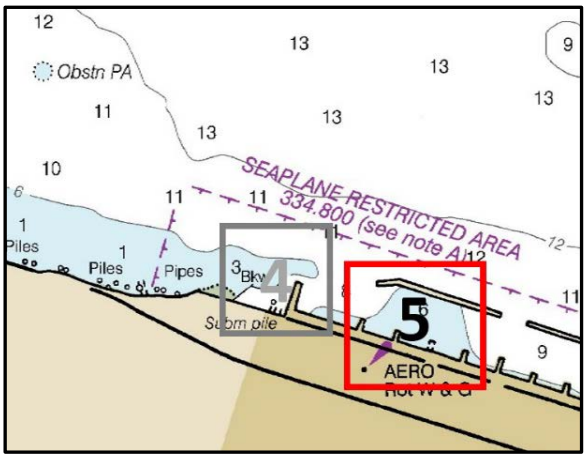
6. Assignments: **Image**

5A - PRIMARY CONFIGURATION: **Containment** booming to prevent further spread of oil beyond the stormwater outfall.

5B - SECONDARY CONFIGURATION (OPTIONAL): **Containment** booming with a continuous length of boom to completely encircle the primary strategy to further contain the oil, preventing its spread.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; Preservation oil, Varsol, turbine oil).



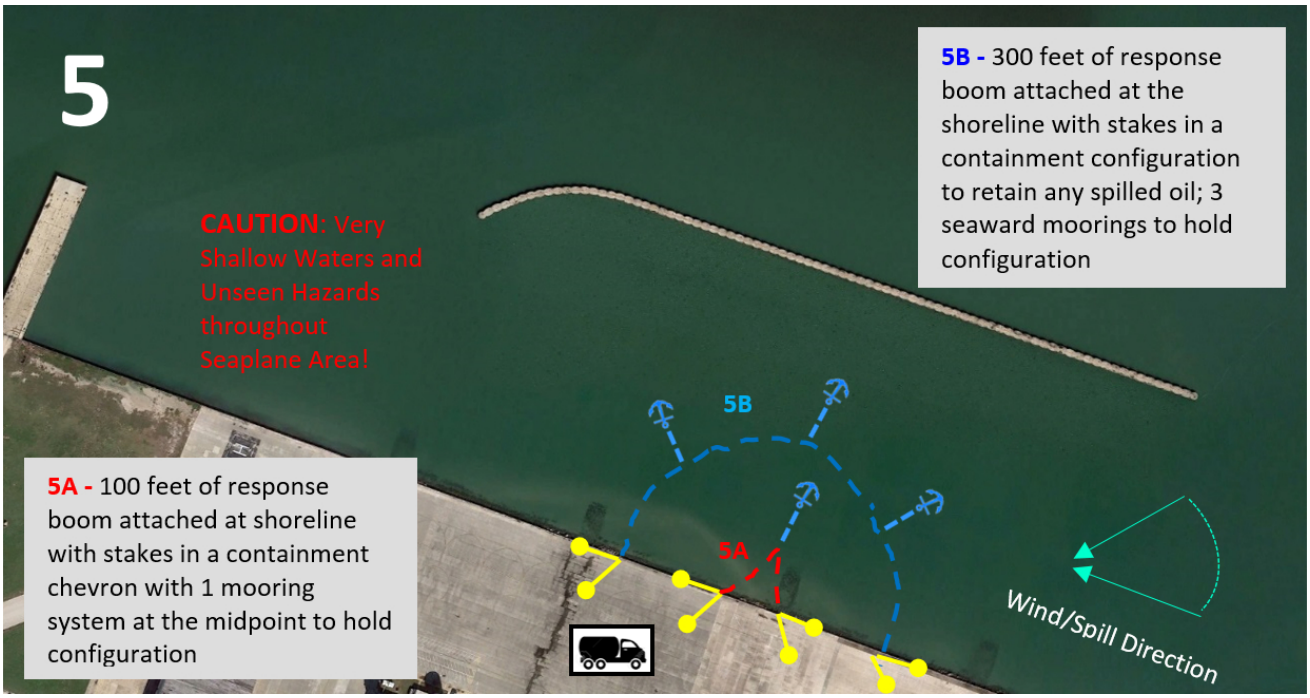


Aerial view looking south to the NAS Corpus Christi Stormwater Outfall H-1

DIAGRAM ERAP 1.1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 5 – NASCC Stormwater Outfall H-1	



5A - PRIMARY CONFIGURATION: 100 feet of boom in a **Containment** configuration to prevent further spread of oil beyond the stormwater outfall H-1.

- Deploy boom from boom trailer pier side in vicinity of outfall.
- Tie off the boom and seal with sorbents and sandbags to prevent loss of oil from containment.
- Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place.
- Use vacuum truck to recovery any oil within containment; U-shaped on water recovery can also be used if recoverable quantities of oil remain in the seaplane area.

5B - SECONDARY CONFIGURATION (OPTIONAL): 300 feet of boom in a continuous length for a **Containment** configuration to completely encircle the primary configuration to further contain the oil and preventing its spread.

- Deploy boom from boom trailer pier side in vicinity of outfall.
- Tie off the boom and seal with sorbents and sandbags to prevent loss of oil from containment.
- Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place.
- Sorbent boom should be deployed between the primary and secondary boom configurations to passively recover any floating oil.
- Use vacuum truck to recovery any oil within containment; U-shaped on water recovery can also be used if recoverable quantities of oil remain in the seaplane area.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

DIAGRAM ERAP 1.1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			5A - 100 feet 5B - 300 feet		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Eight (8) total; four (4) or more, as needed, per strategy		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			5A – one (1) system 5B – three (3) or more systems	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐
Vacuum Truck with Skimming System – to recover floating oil within the configuration; all personnel must wear appropriate PFDs			One (1), two-man team		☐

8. Special Instructions for Division/Group:

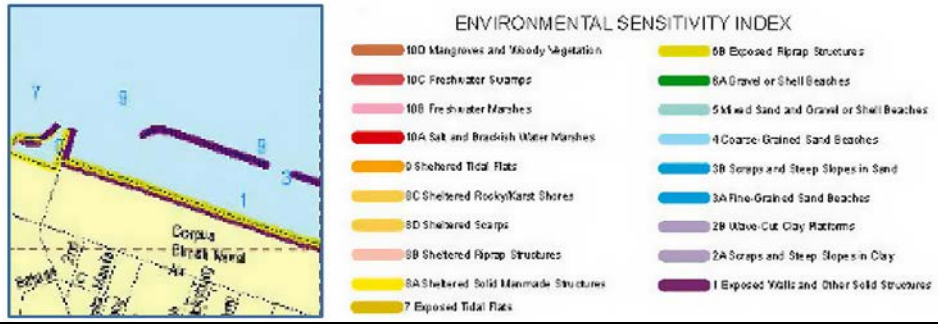
Site Conditions:	Heavy riprap armoring at base of sea wall interferes with placement of boom against the sea wall. Secure the boom and seal at shoreline with sorbents and sandbags **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of extensive riprap and man-made bulkhead and pier structures. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge escaping the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present. 
Potential Impacts:	Oiling of pier, bulkhead and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening. Any oil that escapes the **containment** configuration(s), could impact sensitive areas offsite. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.

DIAGRAM ERAP 1.1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

Operational Considerations:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal at shoreline with sorbents and sandbags. Sufficient depth for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**5A -- PRIMARY CONFIGURATION**: ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional backup stakes or alternate anchoring may be required to hold the **Containment** configuration. **5B - SECONDARY CONFIGURATION (OPTIONAL)**: ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup stakes or alternate anchoring may be required to hold the **Containment** configuration. **NOTE:** It is highly recommended that permanent attachment points at or near the high tide water level (tide-risers, installed connection points on riprap) are highly recommended for this location as it would speed the boom deployment process. It would not be easy to install shore stakes in the concrete or amongst the riprap permanent tide risers.
Water Attachment:	**5A - PRIMARY CONFIGURATION**: One (1) or more standard boom mooring system will be attached at the seaward anchor points (may need more than one anchor to achieve) into the wind. Additional mooring systems, at intermediate boom anchor points may also be required depending on prevailing wind and current conditions. **5B - SECONDARY CONFIGURATION (OPTIONAL)**: Three (3) or more standard mooring systems attached at the seaward anchor points along the boom length. Additional mooring systems, at intermediate boom anchor points may also be required depending on prevailing wind and current conditions.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. Boats can also be deployed from the Paradise Cove Marina on base; all boats can be launched from this location (20+ minute transit time). **5A - PRIMARY CONFIGURATION**: 2.5 hours **5B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 +hours
Oil Recovery:	If recoverable oil is present, on water recovery operations could be deployed using a Vacuum truck or U-shape skimming configuration for recoverable oil that has escaped containment. **CAUTION** – Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

DIAGRAM ERAP 1.1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST	**JUNE 2017**	**ICS 204-OS**

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DIAGRAM ERAP 1.1.9.13

Strategy 6 – NASCC Fishing Pier

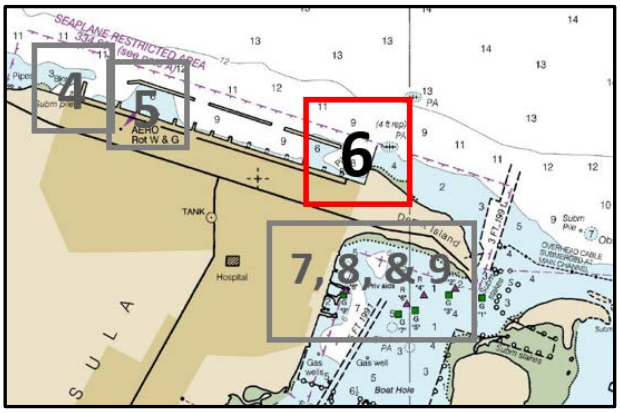
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 6 – NASCC Fishing Pier	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATION: Diversion configuration using vacuum truck with skimmer head for **Recovery**; appropriate with winds from the West.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street (F-24; preservation oil, Varsol, turbine oil) or other source traveling within the Seaplane area during a westerly wind.



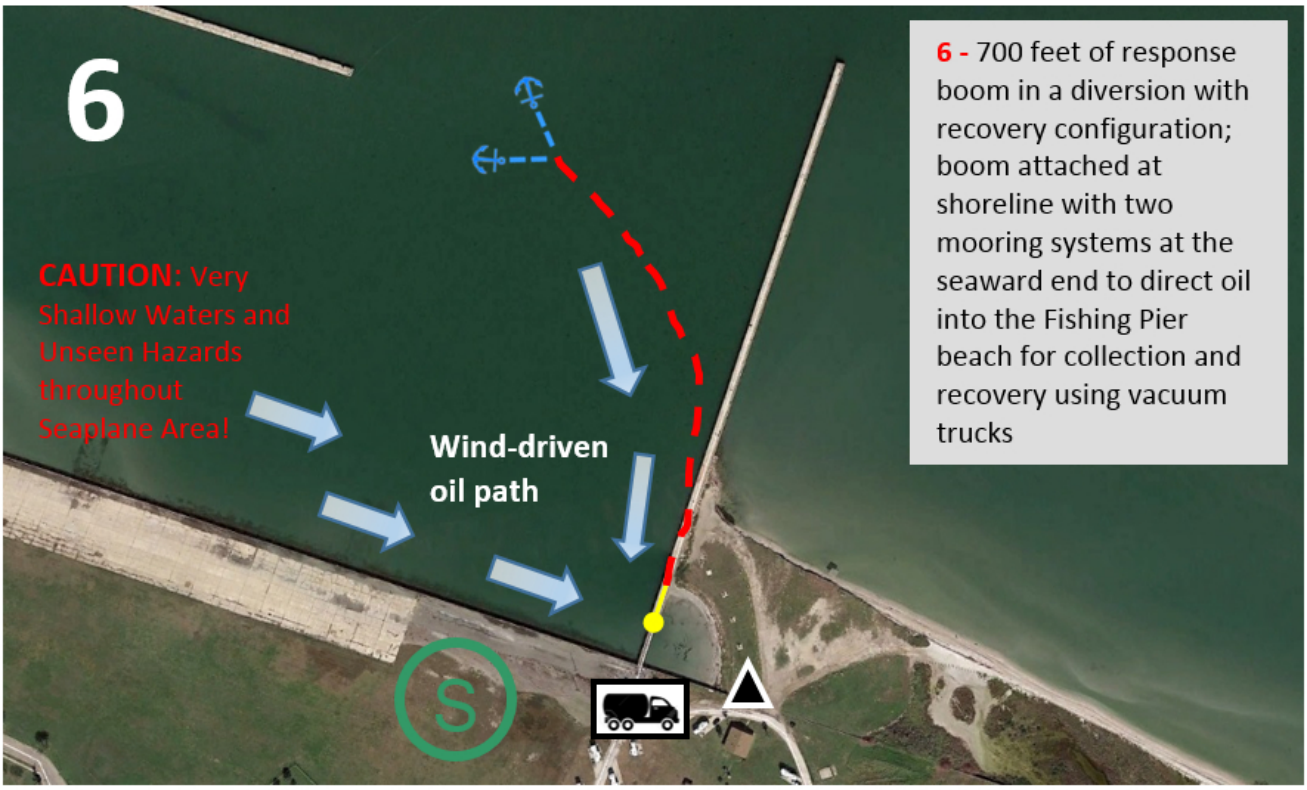
View of NAS Corpus Christi Fishing Pier strategy area

A – entrance to the fishing pier sensitive area, looking north; *B* – view of sensitive shoreline and opening to seaplane area, looking west

DIAGRAM ERAP 1.1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 6 – NASCC Fishing Pier	



PRIMARY CONFIGURATION:

700 feet of boom in a **Diversion** configuration using a vacuum truck with skimmer head for oil **Recovery**.

- Deploy boom from boom trailer pier side in vicinity of fishing pier.
- Secure the shoreside end of the boom to a fishing pier piling that will result in diversion of oil moving east into the designated recovery area.
- Boom should NOT be secured to chain anchor point through towing bridle or anchor point on the bottom tension chain when the boom is floating – this will result in the boom losing its vertical orientation (it will lay over on the water). The chain prevents chafing of the mooring line on rough concrete, barnacles, etc.
- Position vacuum truck on fishing pier or adjacent to cove with skimmer head inserted in the downwind apex of the primary configuration. Evaluate options for removal and recovery using sorbents.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) work boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			700 feet response boom		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at connection points			As needed		☐

DIAGRAM ERAP 1.1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 6 – NASCC Fishing Pier**	

Shoreline Attachment – to attach boom to shoreline using chain around pilings with shackle; attach boom Once tested and refined, leave permanent chain anchor points in position for future use	One (1) or more, as needed, per strategy	Seal with sorbents to minimize leaks at shoreline	☐
Mooring Systems – attach seaward to hold configuration; check water depth with fathometer and adjust recovery/anchor lines; scope minimum 5 to 1 on anchor lines	Two (2) or more systems, as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration on the Fishing Pier; all personnel must wear appropriate PFDs	One (1), two-man team	Arrive by truck	☐
Vacuum Truck with Skimming System – to recover floating oil within the configuration; all personnel must wear appropriate PFDs	One (1), two-man team		☐

8. Special Instructions for Division/Group:

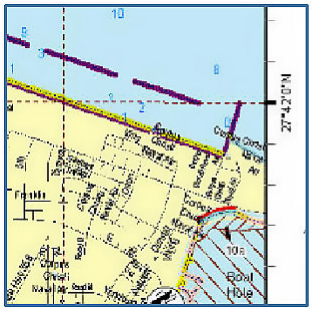
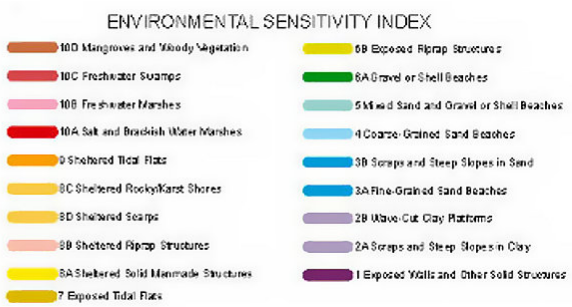
Site Conditions:	Concrete walls of the fishing pier sea wall may adversely impact the boom. Constant observation of boom condition and maintenance is required. Tie off the boom and seal with sorbents at connection points on shoreline.
General Sensitivity:	This location is composed of man-made bulkhead, pier structures and beach shoreline. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge escaping the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present within the seaplane basin.  
Potential Impacts:	Oiling of pier, bulkhead, beach, and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening; oil on beach surfaces may lift and refloat with the changing tides. Any oil that escapes the **Diversion** configuration could impact sensitive areas offsite. Failure to divert, contain, and recover the oil here could result in impacts to sensitive areas elsewhere.
Operational Considerations:	Sufficient depth for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	**PRIMARY CONFIGURATION**: ½ inch chain around pier piling with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional attachments may be required to hold the **Diversion** configuration. **NOTE:** Permanent attachment points at or near the high tide water level (pre-installed connection points on pier pilings) are highly recommended for this location as it would speed the boom deployment process.
Water Attachment:	**PRIMARY CONFIGURATION**: Two (2) standard mooring systems attached at the seaward anchor point of the boom (may need more than two anchors to achieve) into the wind to hold the deflection angle.

DIAGRAM ERAP 1.1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 6 – NASCC Fishing Pier**	

Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina on base (20+ minute transit time). **PRIMARY CONFIGURATION**: 60 minutes
Oil Recovery:	Vacuum truck position on pier with skimmer head inserted in the downwind apex of the primary boom configuration. Recovery along shoreline can also be considered. Evaluate options for removal and recovery using sorbents.
Sorbent Boom:	If appropriate, use sorbents as required to seal boom at shoreline, passively recover surface oiling on water or along shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM ERAP 1.1.9.14

Strategy 7 – NASCC Army Corps of Engineers (ACOE) Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 7 – NASCC ACOE Sensitive Area	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

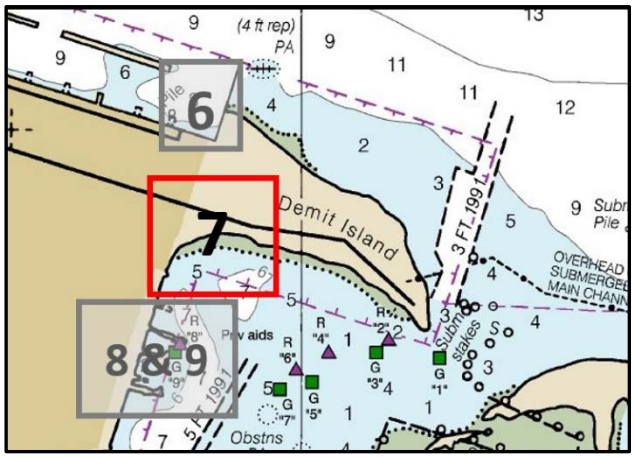
PRIMARY CONFIGURATION:

- **7A:** deploy up to 1,600 feet of response boom in an **Exclusion** configuration to keep oil out of this sensitive area.

SECONDARY CONFIGURATION (OPTIONAL):

- **7B:** evaluate site to determine if two (2) or more small sections of boom would be sufficient at high tide to exclude oil from this sensitive area in lieu of the full 1,600-foot deployment.

Likely source of pollution is from the Paradise Cove Marina.



View of NAS Corpus Christi Army Corps of Engineers Sensitive area

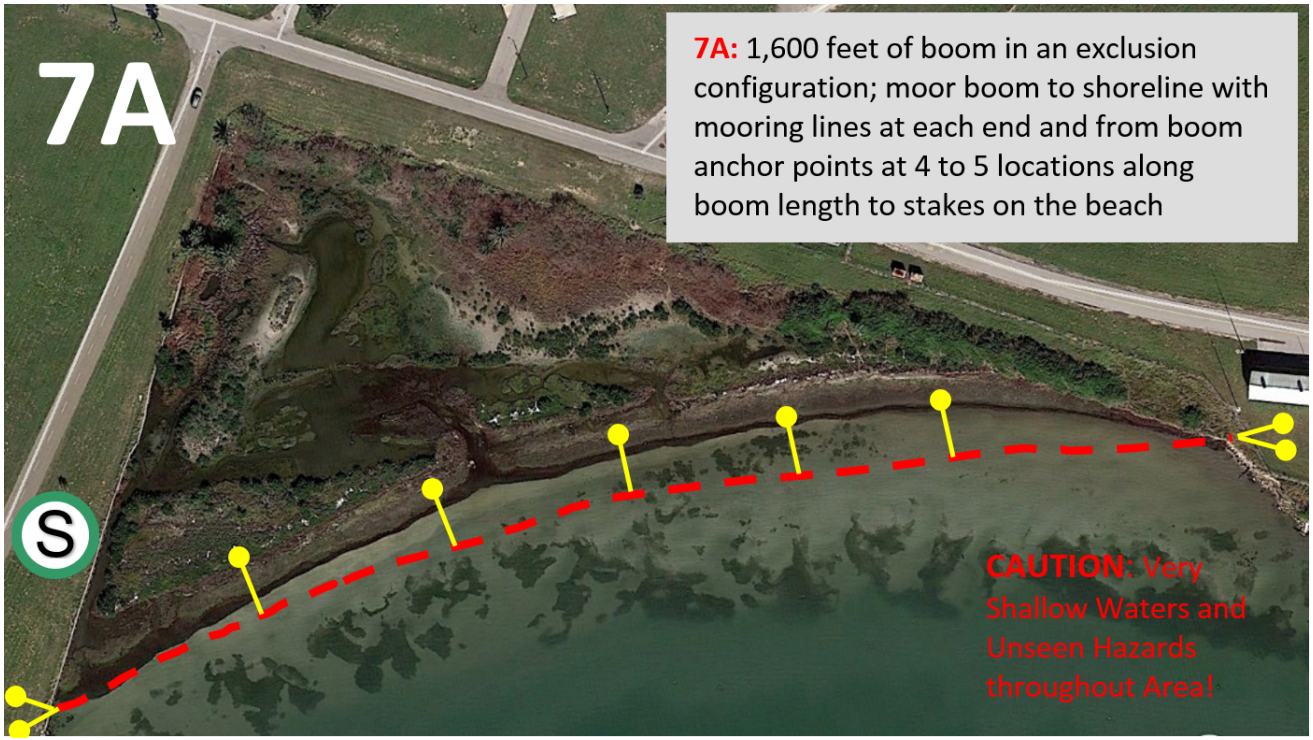
A – view of sensitive area from Wise Owl Lane, looking SSE towards Paradise Cove Marina;

B – aerial view of ACOE sensitive habitat

DIAGRAM ERAP 1.1.9.14

Strategy 7 – NASCC Army Corps of Engineers (ACOE) Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 7 – NASCC ACOE Sensitive Area	



7A - PRIMARY CONFIGURATION:

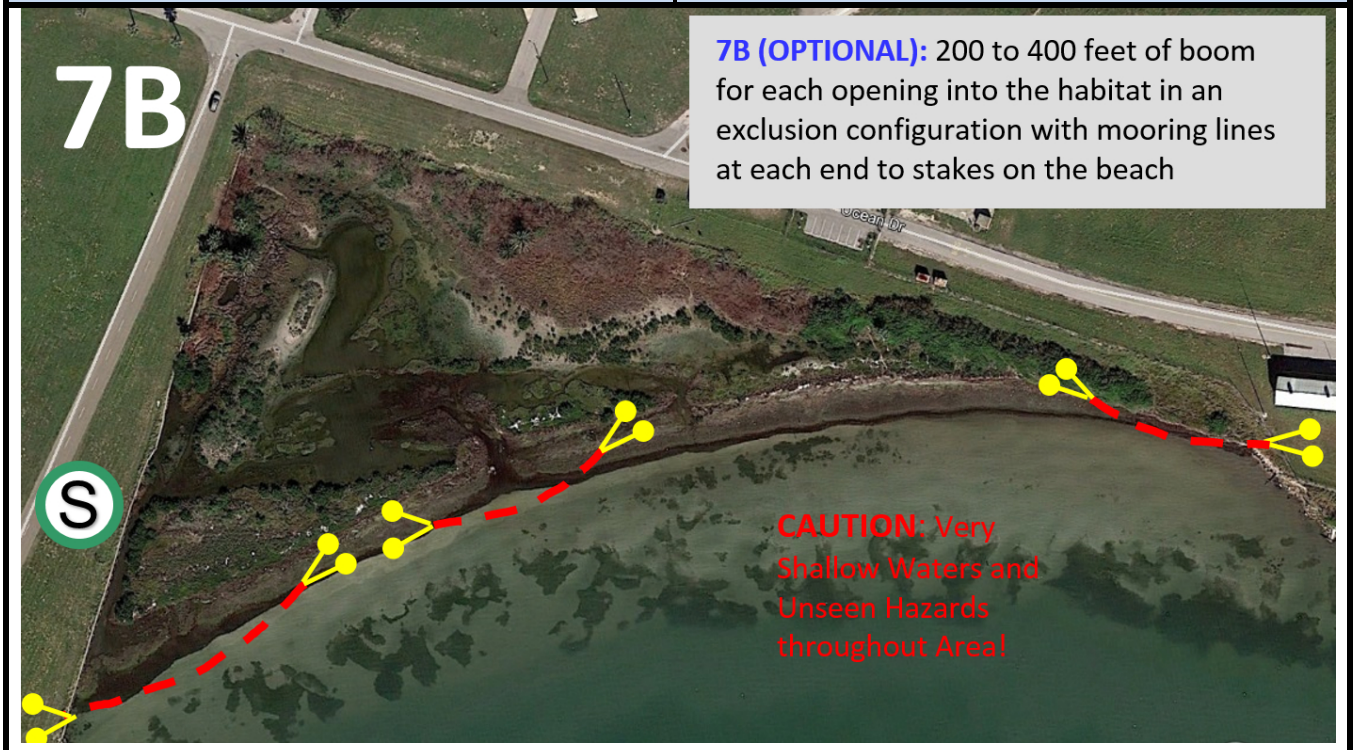
1,600 feet of response boom deployed in an **Exclusion** configuration to exclude the entire area from spilled oil on water from entering and impacting the ACOE sensitive area site.

- Deploy boom from boom trailer in the vicinity of the site from Wise Owl Lane or along Ocean Drive on Dimmick Island (access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) may be required due to shallow water conditions.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Use mooring lines to moor the boom in to the beach from boom anchor points at 4 to 5 locations along the configuration to prevent the boom from swinging outward due to wind or ebb tide or possibly getting hung up on bottom obstructions. Attach mooring lines to shore stakes on the beach.

DIAGRAM ERAP 1.1.9.14

Strategy 7 – NASCC Army Corps of Engineers (ACOE) Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 7 – NASCC ACOE Sensitive Area	



7B - SECONDARY CONFIGURATION (OPTIONAL):

Two (2) or more (200- to 400-foot section) lengths of response boom, each with two (2) shore mooring points on each end to protect creek mouth entrances from oil entering this area at high tide.

- Deploy boom from boom trailer in the vicinity of the site from Wise Owl Lane or along Ocean Drive on Dimmick Island (access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) may be required due to shallow water conditions.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Set mooring systems as described to hold configuration.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; manual deployment (wading) may be required due to shallow water conditions	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shoreline mooring points			**7A:** 1,600 feet **7B:** 1 to 3 sections, each 200 to 400 feet in length		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐

DIAGRAM ERAP 1.1.9.14

Strategy 7 – NASCC Army Corps of Engineers (ACOE) Sensitive Area

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 7 – NASCC ACOE Sensitive Area**	

Shore Stakes – to attach boom to shoreline; seal with sorbents to minimize leaks at shoreline	**7A:** Eight (8) or more, as needed **7B:** Two (2) to four (4) per section		☐
Shore Crew – to assist with setting configuration at the ACOE sensitive area site; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:	
Site Conditions:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. Water depth at low tide should be sufficient to float the boom with a vertical skirt; i.e., boom not aground. Tie off the boom and seal with sorbents at connection points on shoreline. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is lined with riprap and man-made bulkhead structures. It is located in an active military operations site. The sensitivity of the actual area is high as this location has been set aside and established by the ACOE. Any discharge from the marina has the potential to adversely affect this sensitive location with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	Oiling of wildlife, plants, and habitat throughout, as well as bulkhead and riprap along the exterior borders of the property. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.
Operational Considerations:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp on base have a 5+ minute transit time. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. **7A PRIMARY CONFIGURATION and 7B SECONDARY CONFIGURATION (OPTIONAL)**: Use mooring lines to anchor the boom in to the beach from boom anchor points at 4 to 5 locations along the configuration to prevent the boom from swinging outward due to wind or ebb tide or possibly getting hung up on bottom obstructions. Attach mooring lines to shore stakes on the beach.

DIAGRAM ERAP 1.1.9.14

Strategy 7 – NASCC Army Corps of Engineers (ACOE) Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 7 – NASCC ACOE Sensitive Area	

Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	All boats can be launched from the Paradise Cove Marina on base (5+ minute transit time). Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **7A - PRIMARY CONFIGURATION:** 2 hours **7B - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour per location
Oil Recovery:	Use a vacuum truck and skimmer head if possible, or at least sorbents, to remove any oil collected on the boom or the boom ends.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shoreline. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader)	Date/Time	12. Approved By (Planning Section Chief):	Date/Time

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

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DIAGRAM ERAP 1.1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

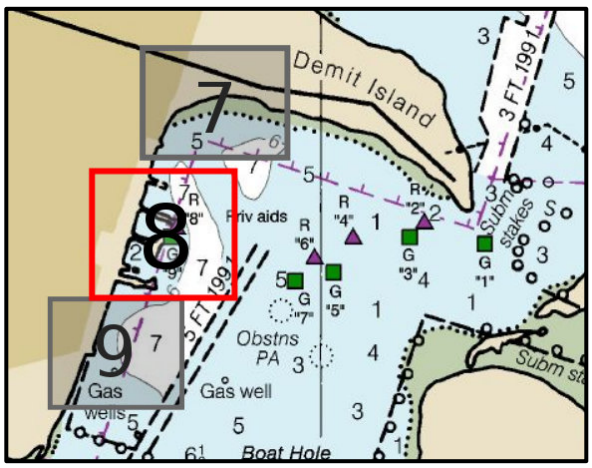
PRIMARY CONFIGURATION: Containment

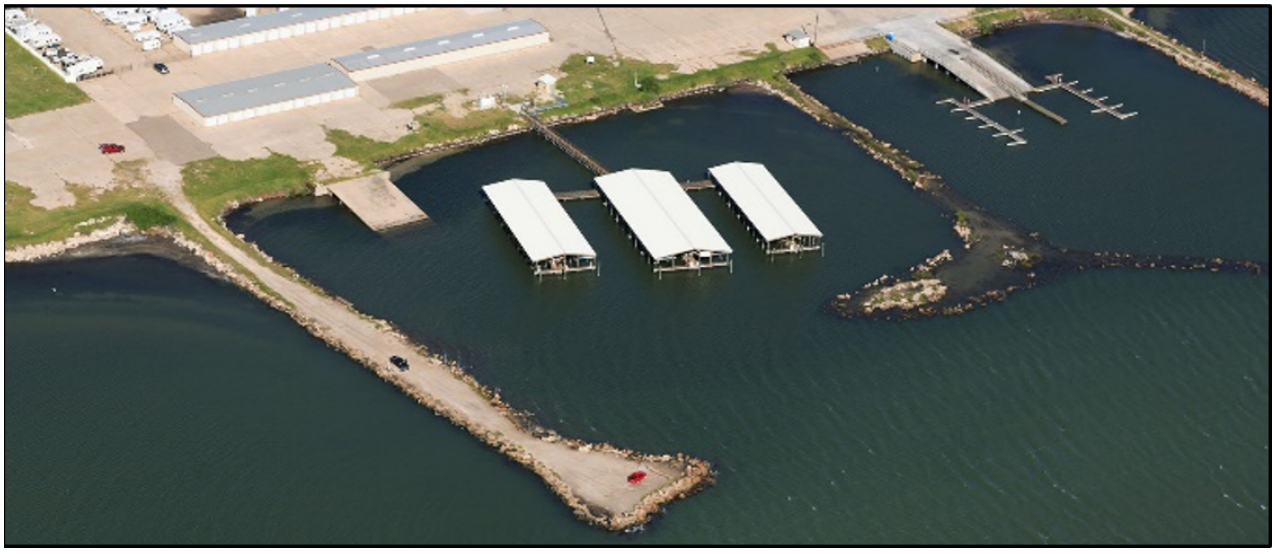
- **8A:** deploy 50 to 100 feet of 18-inch response boom in a **Containment** configuration to contain spilled oil at the fueling location at the marina; recovery with sorbent pads or boom. DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.

SECONDARY CONFIGURATION (OPTIONAL): Containment or Exclusion

- **8B**: To further isolate the affected marina section (or entire marina) to contain discharge and allow for evaporation. Can also be used as an **exclusion** configuration to prevent oil from outside the marina from penetrating its boundaries.

Likely source of pollution is from the Paradise Cove Marina. **NOTE**: Because most discharges will be gasoline from the fueling operations, all response operations should be under the direction of the F&ES.





Oblique aerial view of the Paradise Cove Marina

DIAGRAM ERAP 1.1.9.15

Strategy 8 – NASCC Paradise Cove Marina

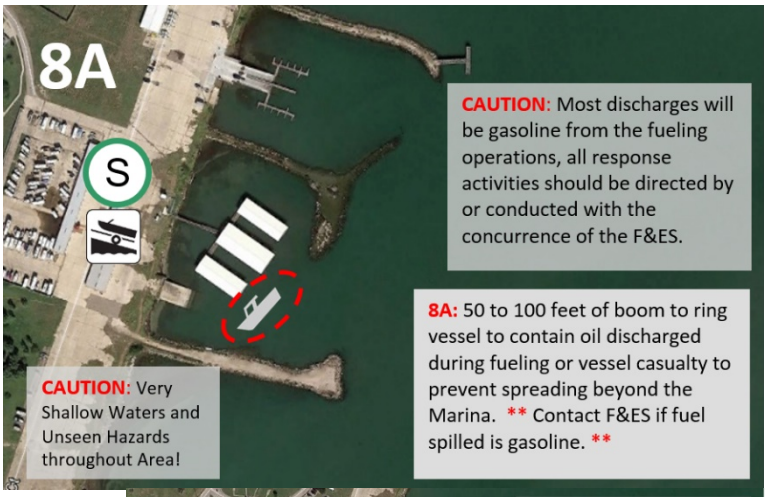
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

View of the Paradise Cove Marina from shore; gasoline refueling facility is in the right-most docking bay, bay-side

8A - PRIMARY CONFIGURATION:

50 to 100 feet of response boom deployed in a **Containment** configuration to prevent oil from fueling or from vessel casualty from spreading beyond the area.

- All response operations should be directed by F&ES.
- Secure the bitter ends of the boom to the shoreline using ½ inch chain around riprap or other permanent structure with shackle; attach boom.
- Seal with sorbents and/or sand bags at connection to minimize leaks.
- DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.



8B - SECONDARY CONFIGURATIONS (OPTIONAL):

500 or 1,000 foot lengths of response boom, with one shore mooring points (or more as needed) on each end to contain spilled oil within marina.

- Deploy boom from Marina.
- Secure the bitter ends of the boom to the shoreline as shown using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Set mooring systems as described to hold configuration.
- DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.
- Can also be used as an **Exclusion** strategy to prevent oil from entering the Marina.

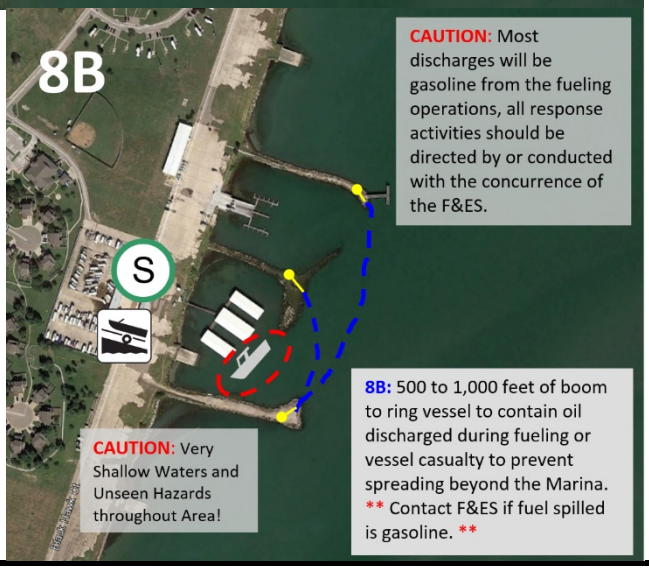


DIAGRAM ERAP 1.1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 8 – NASCC Paradise Cove Marina	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; manual deployment	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shoreline mooring points			**8A:** 50 to 100 feet **8B:** 500 or 1,000 feet		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks.			**8A:** none **8B:** 2 to 4		☐
Shore Crew – to assist with setting configuration at the Paradise Cove Marina; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

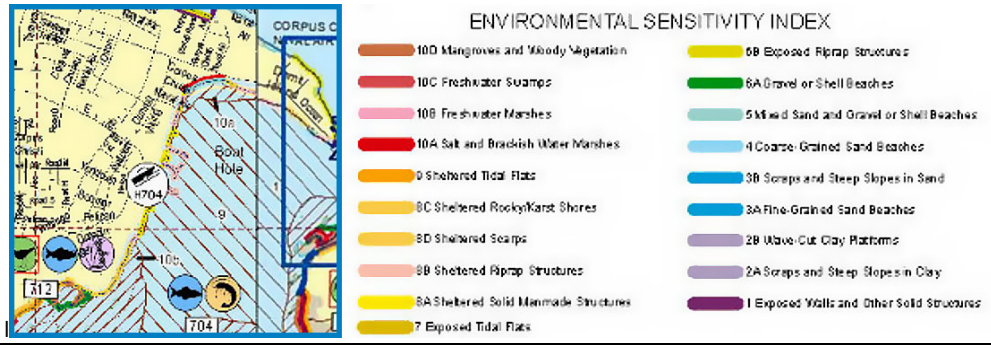
Site Conditions:	This location is a public marina. The existing area is lined with riprap and man-made bulkhead structures. It is located in an active military base. The sensitivity of the actual marina area is relatively low; the sensitivity of the surrounding area is high due to the extensive habitat and resources located in Laguna Madre. Any discharge from the marina fueling facility or from a small craft casualty has the potential to impact more sensitive areas in and around Laguna Madre. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is lined with riprap and man-made bulkhead structures. It is located in an active military operations site. The sensitivity of the actual area is high as this location has been set aside and established by the ACOE. Any discharge from the marina has the potential to adversely affect this sensitive location with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	There are significant health & safety concerns from a gasoline discharge. Environmental impacts are typically associated with the acute toxicity and volatility/flammability concerns for the product. Review the product Safety Data Sheet (SDS) and the United States (U.S.) Department of Transportation (DOT) Emergency Response Guide for more information (health & safety as well as response considerations) on gasoline responses. Significant bird and dolphin populations are known to be present in and around this area. Oiling of wildlife, plants, and habitat throughout, as well as bulkhead and riprap along the exterior borders of the property. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.

DIAGRAM ERAP 1.1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

Operational Considerations:	Laguna Madre is a VERY SHALLOW area; stay in marked channels – water depths of 6 inches or less are not uncommon at low tide in many areas. Manual deployment of boom at water's edge may be the best option. Tie off the boom and seal with sorbents and sandbags to prevent entrainment of oil behind the boom. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. **8A** - Use mooring lines to anchor the boom in to the marina. Attach mooring lines to ½ inch chain around riprap with shackle.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	All boats can be launched from the Paradise Cove Marina on base. Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats can also be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **8A - PRIMARY CONFIGURATION**: 30 minutes **8B - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour
Oil Recovery:	Allow natural evaporation under fire department direction/coordination due to volatility issues. **CAUTION** – Use of vacuum recovery or sorbents on discharged gasoline is NOT recommended due to flammability/volatility issues.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shoreline. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

DIAGRAM ERAP 1.1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 8 – NASCC Paradise Cove Marina**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST	**JUNE 2017**	**ICS 204-OS**

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DIAGRAM ERAP 1.1.9.16

Strategy 9 (A9) – NASCC Southern Pier

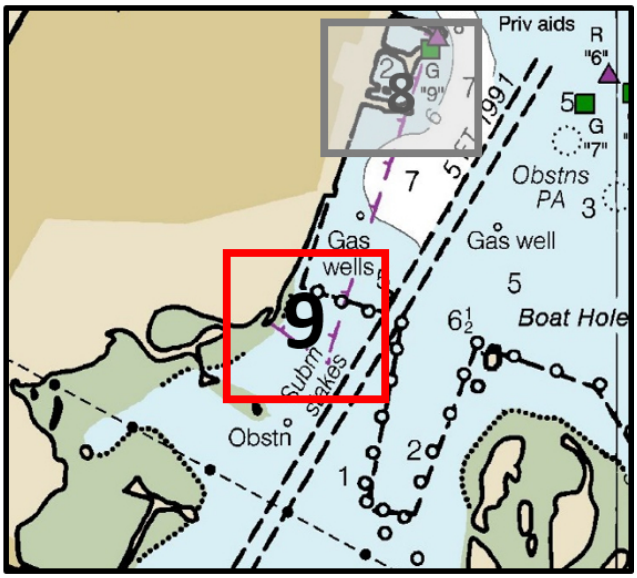
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATION: **Diversion** configuration with collection pocket at the south end of the seawall for **Recovery** by sorbent boom or allow to evaporate in place (secure all ignition sources); appropriate with winds from the North/Northeast

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the North/Northeast. **NOTE:** Because the most discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the F&ES.



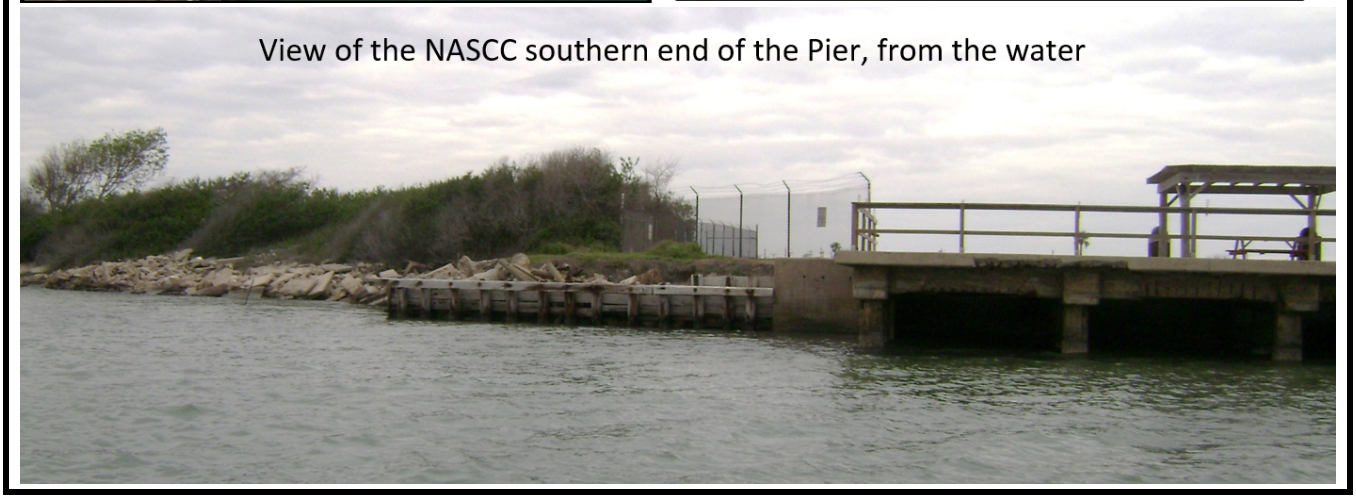


DIAGRAM ERAP 1.1.9.16

Strategy 9 (A9) – NASCC Southern Pier

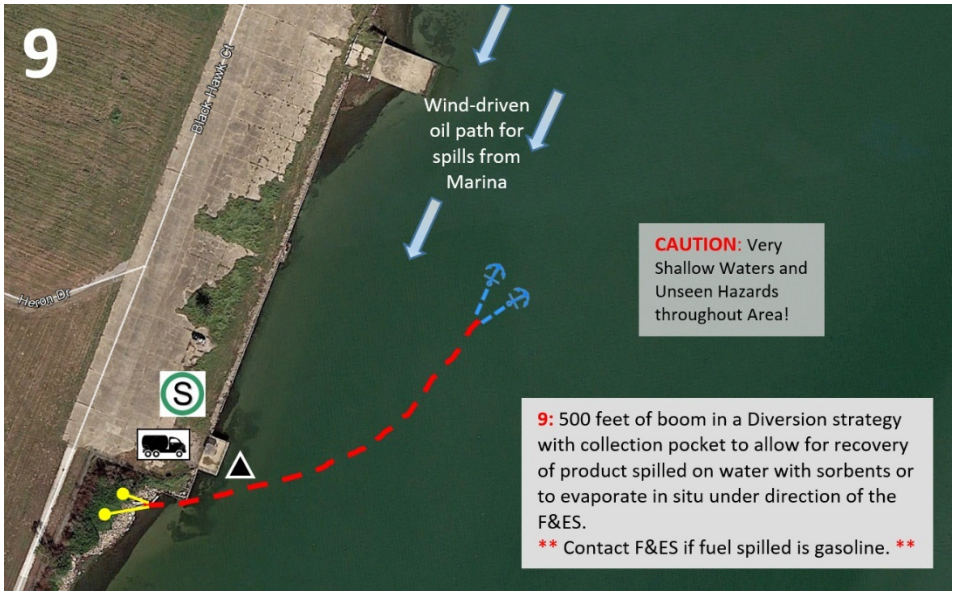
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

PRIMARY CONFIGURATION:

Diversion with Recovery

500 feet of 18-inch boom in a **Diversionary** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for **Recovery**.

- Deploy boom from boom trailer from the Pier or tow boom to site from Paradise Cove Marina.
- Secure the bitter ends of the boom to the shoreline using ½ inch chain around riprap shore stakes, or other permanent structure with shackle; attach boom.
- Seal at shoreline with sorbents and/or sandbags at connection to minimize leaks.



- Set mooring systems as described to hold configuration.
- DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES. For diesel fuel or other heavier oils, recover with vacuum truck if recoverable quantities are present.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats w/tow posts, adequate hp	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline anchor points			500 feet response boom		☐
Anchor Chain – to attach boom to riprap or pier pilings with shackle; secure boom; seal with sorbents/sandbags to minimize leaks at shoreline			As needed		☐
Sorbents and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Mooring Systems – position seaward at intermediate anchor points. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2), 25 pound or one (1), 40 pound anchor(s)	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			One (1), two-man team		☐

8. Special Instructions for Division/Group:

Site Conditions:	The boom may be damaged by contact with the seawall, pilings, or rip rap. Constant observation of boom condition and maintenance is required. **CAUTION** - difficult footing on riprap; PFD and buddy system required.

DIAGRAM ERAP 1.1.9.16

Strategy 9 (A9) – NASCC Southern Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

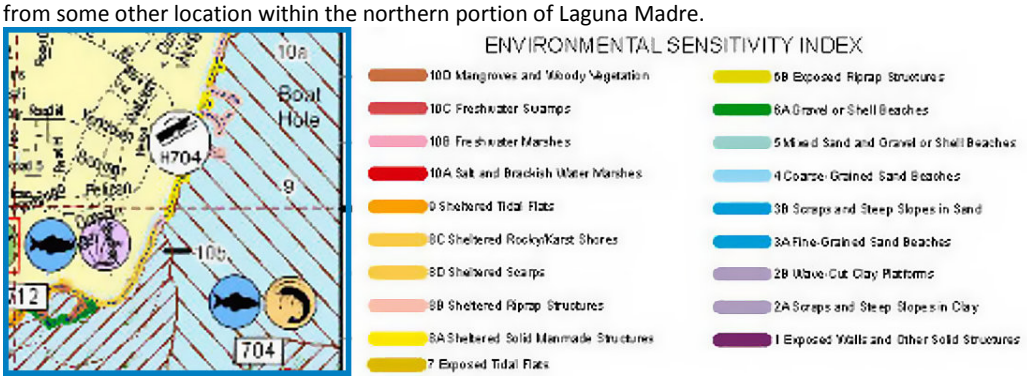
	CAUTION – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of man-made bulkhead and pier structures. The area directly to the south is armored by riprap. It is an active military operations site. The sensitivity of the actual area is high due to the extensive habitat and resources located in Laguna Madre. This configuration assumes that the winds are from the north/northeast following a release from the Marina or from some other location within the northern portion of Laguna Madre. 
Potential Impacts:	There are significant health & safety concerns from a gasoline discharge. Environmental impacts are typically associated with the acute toxicity and volatility/flammability concerns for the product. Review the product SDS and the U.S. DOT Emergency Response Guide for more information (health & safety as well as response considerations) on gasoline responses. Significant bird and dolphin populations are known to be present and may be impacted by spilled gasoline.
Operational Considerations:	The boom may be damaged by contact with the seawall, pilings, or rip rap. Constant observation of boom condition and maintenance is required. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	On location; Paradise Cove Marina can also provide staging area.
Shore Attachments:	**PRIMARY CONFIGURATION:** ½ inch chain around riprap or pier pilings with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where appropriate
Water Attachment:	**PRIMARY CONFIGURATION**: 1 to 2 standard mooring systems attached at the seaward anchor point of the boom (may need more than two anchors to achieve) into the wind to hold the deflection angle. **NOTE:** Permanent attachment points at or near the high tide water level (pre-installed connection points on pier pilings) are highly recommended for this location as it would speed the boom deployment process.
Boom Sources:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Boats can be deployed from the Paradise Cove Marina. Small boats can be deployed from the boat ramp at Ocean Drive and at the Oso Bay Bridge; or from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **PRIMARY CONFIGURATION**: 1 hour
Oil Recovery:	With Gasoline, allow natural evaporation under F&ES direction/coordination due to volatility issues. For diesel fuels or other persistent fuels, position Vacuum truck on pier with skimmer head inserted in the downwind apex of the Primary boom configuration. Evaluate options for removal and recovery using sorbents. **CAUTION** – Use of vacuum recovery or sorbents on discharged gasoline is NOT recommended due to flammability/volatility issues.
Sorbent Boom:	Use sorbents to seal boom at shorelines as required. Any oiled sorbent material will be manually removed and bagged for disposal.

DIAGRAM ERAP 1.1.9.16

Strategy 9 (A9) – NASCC Southern Pier

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 9: (A9) – NASCC Southern Pier**	
Secondary Booming:	Not applicable.	
Other:	Once this system has been tested and refined, leave permanent anchor points in position for future use.	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM ERAP 1.1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 10 – NASCC Stormwater Outfall R-1	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

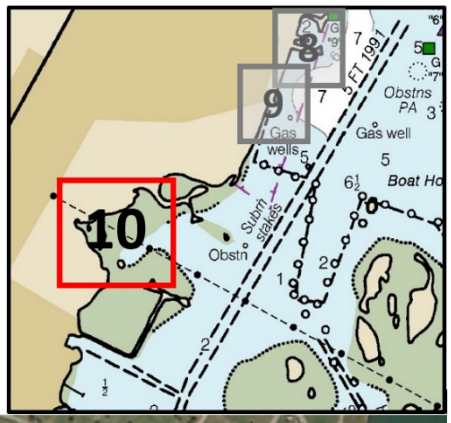
6. Assignments:

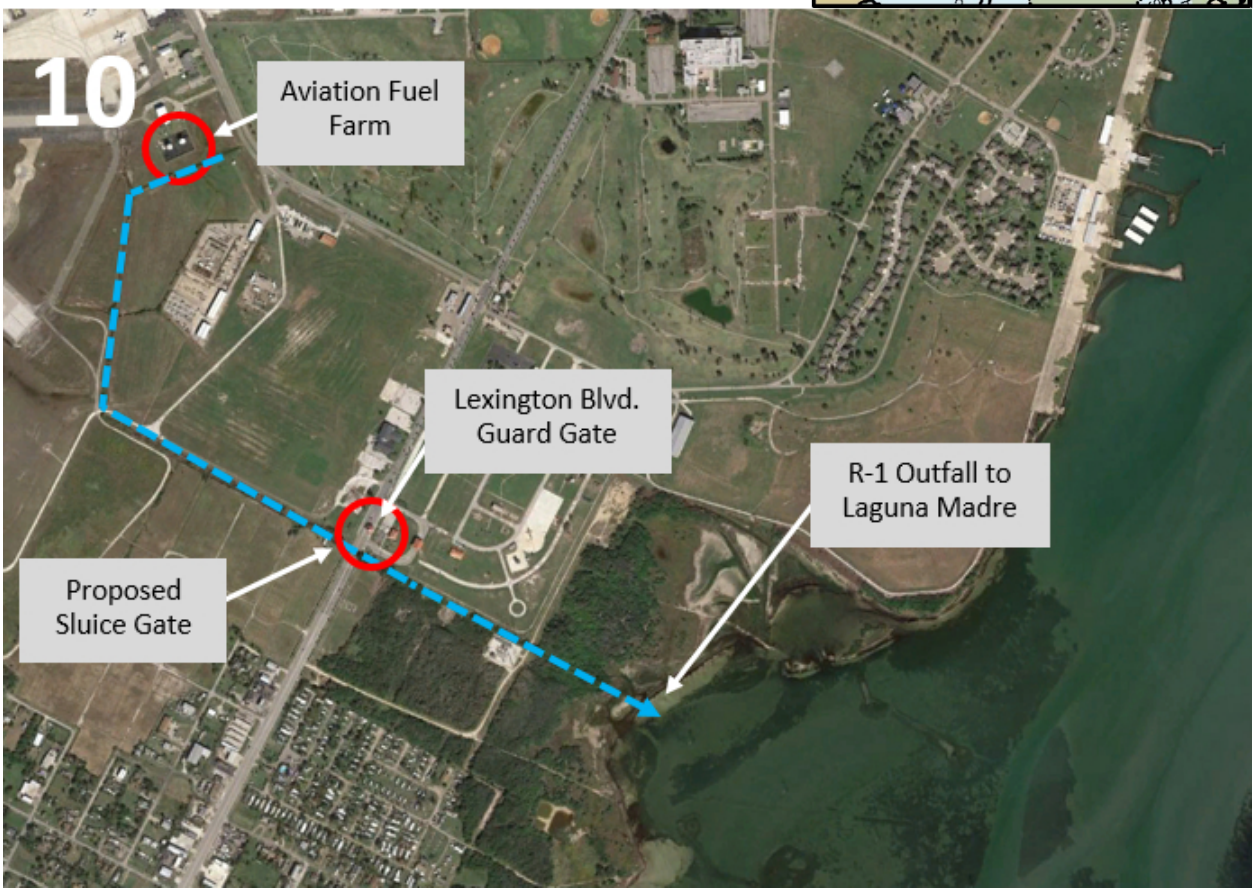
PRIMARY CONFIGURATION: Diversion with Recovery: This configuration is designed to contain any discharge/release BEFORE it reaches navigable waters. A sluice gate or gates should be installed along the drainage pathway from the Aviation Fuel Farm to stop the spread of oil downflow.

Most likely oil type encountering this drain field and outfall would be from a catastrophic loss of either one of the 272,000-gallon F-24 storage tanks (contractor operated) or from an accidental discharge on the flightline.

Access to the discharge site along the drainage pathway is through the Held Industrial Tract, a 77 acre undeveloped property owned and maintained by Nueces County. The pictures below identify the location for access to the site from land. Access from the water is **NOT** recommended as this area is very shallow and has unseen obstructions. Contact the Nueces County Coastal Parks (361-949-8121) for access.

Image



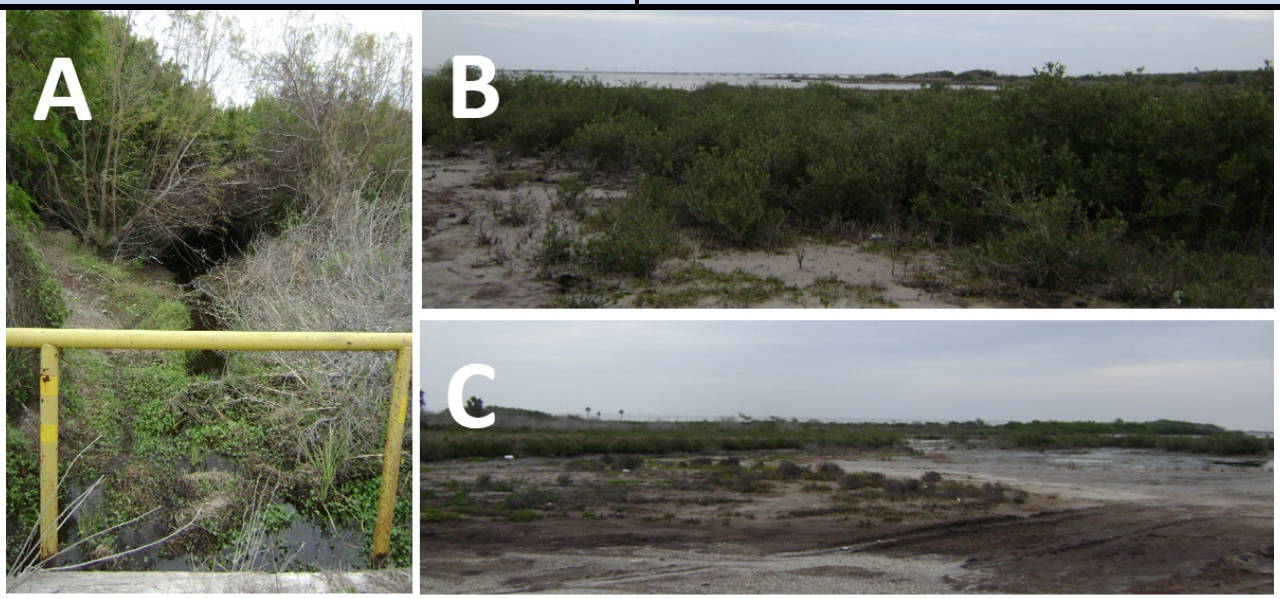


Likely spill path for a significant Aviation Fuel Farm tank loss.

DIAGRAM ERAP 1.1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 10 – NASCC Stormwater Outfall R-1	

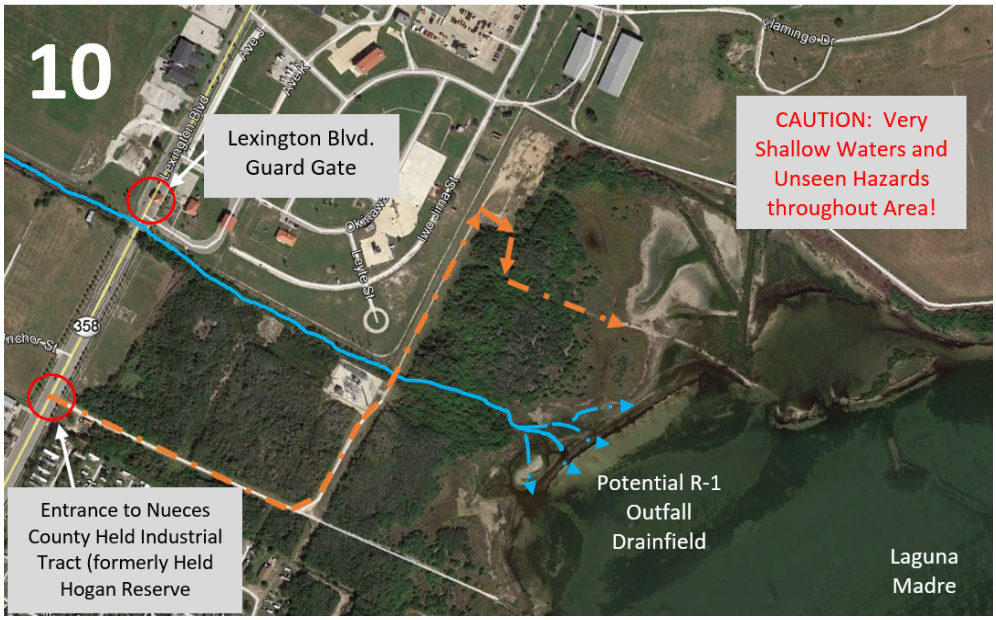


View of the NASCC R-1 Outfall Drainage; A – initial discharge site for Outfall R-1;
B – R-1 drainfield through the scrub, outfall path not visible, Laguna Madre in the distance;
C – R-1 drainfield into Laguna Madre

PRIMARY CONFIGURATION:

Stopping and containing the discharge BEFORE it reaches navigable water.

- The installation of a sluice gate along the drainage pathway (blue) or rapid blocking of the drainfield with earthen works is recommended.
- Sorbent boom anchored in place could be placed along the drainage field before the discharge reaches the outfall. Regular monitoring and replacement/disposal would be required.



- **Containment** and **recovery** operations once any oil reaches the riparian shrub/scrub drain field that empties directly into Laguna Madre will be difficult if not impracticable. Access from the water is NOT recommended as this area is very shallow and has unseen obstructions. Contact the Nueces County Coastal Parks (361-949-8121) for access.

DIAGRAM ERAP 1.1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 10 – NASCC Stormwater Outfall R-1**	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐
Sorbent Boom – placed along drainage field to passively recover spilled product			As needed	Stake in place	☐
Shore Stakes – to hold sorbent boom in place			As needed		☐

8. Special Instructions for Division/Group:

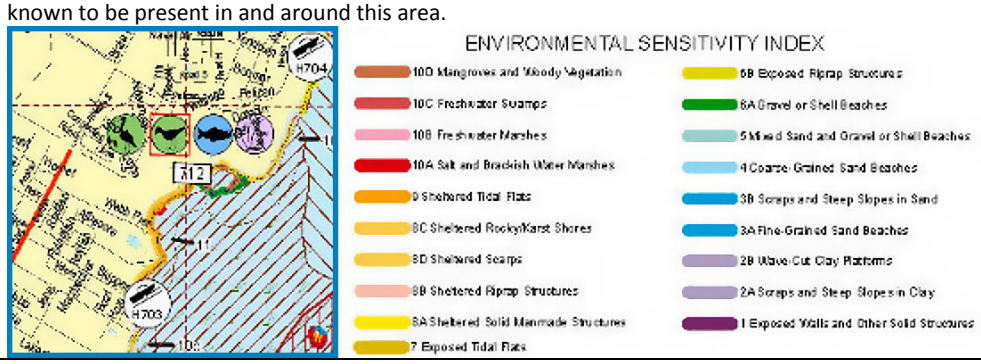
Site Conditions:	The drainage ditch that will allow flow from the Government-Owned/Contractor-Operated (GOCO) tank farm is a heavily overgrown freshwater riparian habitat that runs along the edge of large grassy field areas. The area is being monitored by Environmental as providing significant habitat to natural resources on base. Access to the drainage ditch is easily accomplished by truck or by foot. The coastal zone area of the drain field is a VERY SHALLOW wildlife habitat area.
General Sensitivity:	The area along this drainage pathway is composed of riparian habitat with freshwater plants and associated wildlife. The sensitivity of the actual area is high as this location has been set aside and established by the Nueces County. Any discharge from the GOCO tanks, flightline, or other discharge source that drains into this area has the potential to adversely affect this sensitive location. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	Oiling of riparian habitat, freshwater plants and animals along the expected drainage flow, and the natural habitat of the Nueces County Held-Industrial Tract. This area provides shelter and habitat for many animal species. Oiling of this area would likely have long-term impacts to the natural resource community associated with this habitat.
Operational Considerations:	This is a VERY SHALLOW wildlife habitat area. Limited access. Contact Nueces County Coastal Parks (361-949-8121) for access. Access from on water is not recommended. Limited foot traffic in area. **CAUTION** - difficult footing in areas; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present restrict operating small boats.
Staging Area:	Nueces Industrial Tract Parking undeveloped parking lot.
Shore Attachments:	Stakes in the ground to hold sorbent boom in place; on water strategies not applicable.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Within 5 minutes following notification for sluice gate closure (if installed) Less than 1 hour for manual earthmoving equipment.

DIAGRAM ERAP 1.1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 10 – NASCC Stormwater Outfall R-1**	

Oil Recovery:	Vacuum truck positioned on near sluice gate with skimmer head inserted in the drainage ditch for product recovery.
Sorbent Boom:	Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Installation of a sluice gate (s) along the drainage ditch just west of the Guard gate on Lexington Blvd. A second sluice gate could be installed on the eastern side of Lexington Blvd within easy access by the gate guards. In the event that a sluice gate is not installed, use earthmoving equipment to transport sand/soil to block the drainage ditch ahead of the spill discharge. Pre-placement of sand/soil or pre-identification of a ready source of sand/soil for blocking the drainage ditch needs to be worked out in advance of an incident.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM ERAP 1.1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 11 – NASCC Stormwater Outfall W-1	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

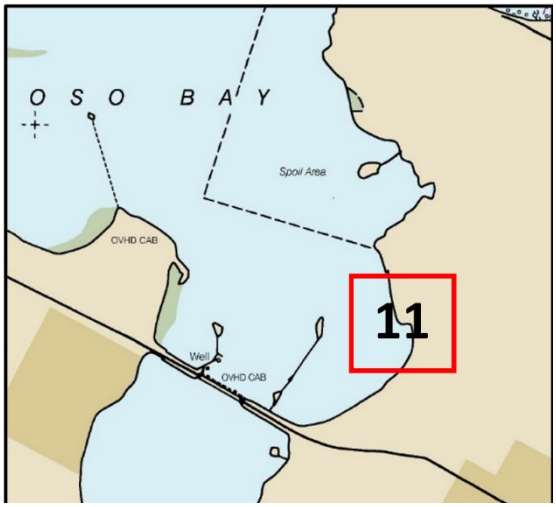
PRIMARY CONFIGURATION:

- **11A: Containment strategy:** deploy up to 100 feet of 18-inch boom to keep oil contained within the vicinity of this outfall and protect this sensitive area and OSO Bay from impacts.

SECONDARY CONFIGURATION (OPTIONAL):

- **11B:** Secondary strategy would be to block the drainage ditch using earthmoving equipment to dam drainage ditch with sand/dirt for removal/recovery with vacuum truck and skimmer head or sorbents. However, installation of a permanent sluice gate would prevent discharge from reaching Oso Bay (recommended construction).

Most likely oil type encountering this drainfield and outfall would be from a catastrophic loss of either one of the 272,000 F-24 storage tanks gravity flow via the stormwater drainage system (Contractor operated) or from an accidental discharge on the flightline.



View of the W-1 Outfall drain field, from the Flightline Boundary Road

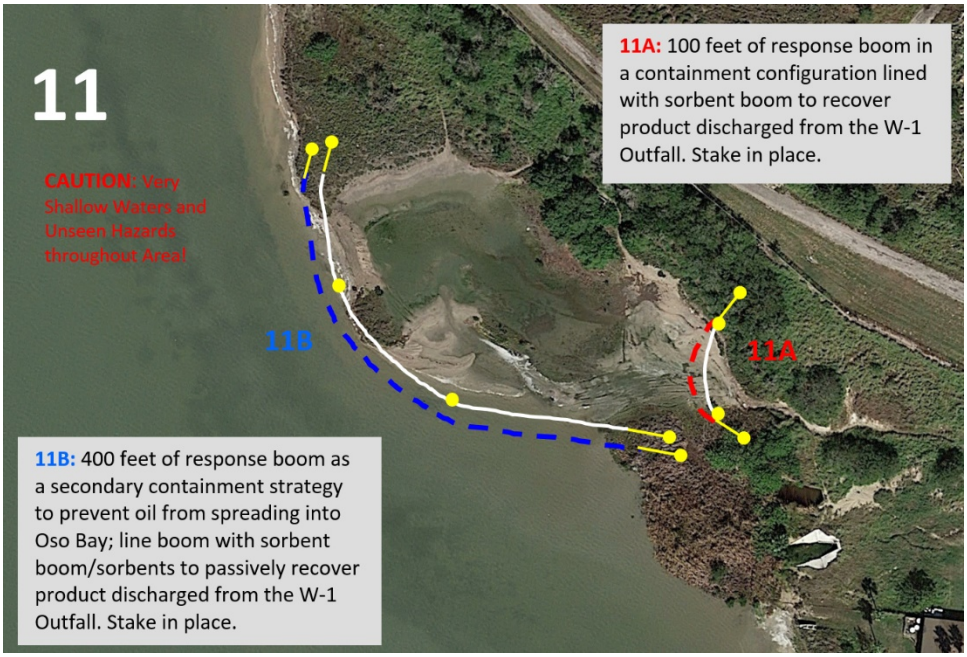
DIAGRAM ERAP 1.1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 11 – NASCC Stormwater Outfall W-1	

11A - PRIMARY CONFIGURATION:

100 feet of response boom lined with sorbent boom deployed in a **containment** configuration to prevent any oil discharged from the W-1 Outfall from leaving the base, entering this sensitive area and ultimately OSO Bay.



- Deploy boom adjacent to the W-1 Outfall (flightline/security access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) will be required due to shallow water conditions. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Line area with sorbent boom; secure in place using shore stakes.

11B - SECONDARY CONFIGURATION (OPTIONAL):

- Deploy 400 feet of response boom from along the outer edge of the outfall drainage area. Tie off the boom and seal with sorbents and sandbags. Manual deployment (wading) may be required due to shallow water conditions.
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) will be required due to shallow water conditions. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Line the containment area with sorbent boom; secure in place using shore stakes to maintain configuration.
- Due to site conditions, damage to boom may occur and must be monitored and adjusted/replaced as required. Sorbents and sorbent boom should be evaluated for replacement and disposal.

NOTE: An access gate needs to be installed in the fence along the flightline for entry to the site.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck with boom trailer	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			**11A:** 100 feet **11B:** 400 feet	Provided by Tier 1 OSRO	☐
Sorbents, Sorbent Boom – used to passively recover floating oil be and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom, seal with sorbents/sandbags to minimize leaks at shoreline			As needed to maintain configuration		☐

DIAGRAM ERAP 1.1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 11 – NASCC Stormwater Outfall W-1**	

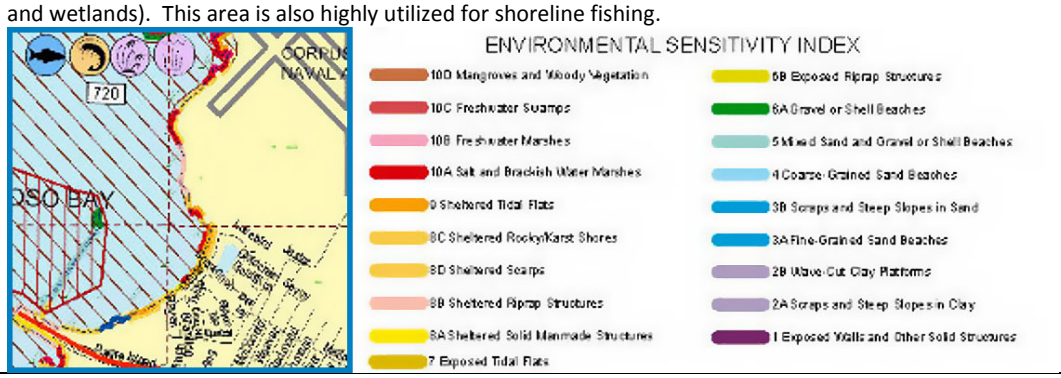
8. Special Instructions for Division/Group:	
Site Conditions:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. Water depth at low tide should be sufficient to float the boom with a vertical skirt; i.e., boom not aground. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions may present when setting boom or anchors.
General Sensitivity:	This location is adjacent to the flight line. This area is a sensitive habitat with sensitive habitat and man-made bulkhead structures, riprap and debris. It is located in an active military operations site. Oso Bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (nursery area, seagrass beds, and wetlands). This area is also highly utilized for shoreline fishing. 
Potential Impacts:	Oiling of wildlife, plants, and the shallow-water habitat in this area and beyond in Oso Bay. Exposed riprap covered in algal growth is present along the shoreline and presents a slip, trip and fall hazard to shoreline crews and vessels working nearshore. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.
Operational Considerations:	Access approval from Flightline/security required. This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Flightline Boundary road (with access and approval by flightline and security).
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap or piling with shackle; attach boom; seal with sorbents/sandbags to minimize leaks.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom
Execution Time:	**11A:** 30 minutes **11B:** 1 hour
Oil Recovery:	Use a vacuum truck and skimmer head if possible, or at least sorbents, to remove any oil collected on the boom or the boom ends for Configurations 1 and 2.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to passively recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent anchor points in position for future use. **NOTE**: Installation of a permanent access gate adjacent to the outfall is recommended.

DIAGRAM ERAP 1.1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 11 – NASCC Stormwater Outfall W-1**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

DIAGRAM ERAP 1.1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 12: (A11) – Crane Islands	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

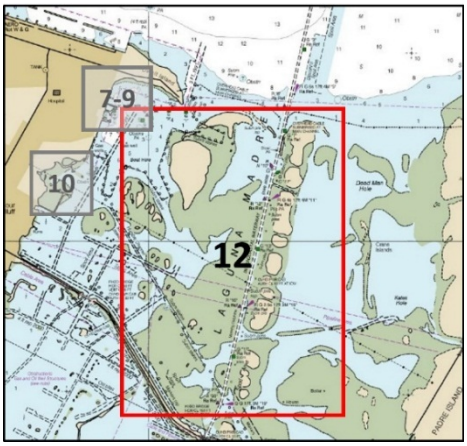
6. Assignments: **Image**

This strategy was provided to address the sensitive area designation (A11) by the South Texas Coastal Area Committee – Sector Corpus Christi 2014 Geographic Response Plan available from http://www.glo.texas.gov/ost/acp/corpus/oldsectorcorpuschristiacp.pdf.

PRIMARY CONFIGURATION: Exclusion with passive recovery

Sorbent boom used to encircle island and prevent further spread of oil from impacting these shallow water sensitive area habitats in the northern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the North/Northeast. **NOTE:** Because the most likely discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the F&ES.



Views of the Crane Islands and spoil areas within Laguna Madre; this area is marked with extreme shallow waters, seagrass beds, emergent grasses and shurb scrub that provides necessary habitat for fish and wildlife.

DIAGRAM ERAP 1.1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 12: (A11) – Crane Islands	

PRIMARY CONFIGURATION:

Likely source of pollution will be a gasoline discharge from a fueling or vessel casualty associated with the Paradise Cove Marina. Consult with F&ES if significant gasoline discharge occurs.

1. Shallow draft boats transport boom and shore crews to location.
2. Shore crews, using lengths of sorbent boom to encircle islands to prevent spilled product from impacting these shorelines; stake in place to hold configuration.
3. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
4. Continue with encircling staking the area for areas considered at risk from the discharge.

5. Regular boom tending will be required to ensure that the sorbent boom is not broken loose or is pushed inland on the island, resulting in additional damage to the habitat; any oiled sorbent material will be manually removed and bagged for disposal.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for sorbent boom and mooring system deployment			Shallow draft boats as needed	Three (3) crew per boat	☐
Sorbent Boom			As needed		☐
Shore Stakes – to attach boom to shoreline shore stakes pounded into the ground; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more as needed per sorbent boom section used		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams per site	Must be transported to site	☐

8. Special Instructions for Division/Group:

Site Conditions:	This location is located in upper Laguna Madre adjacent to an active military operations site. The entire bay is an extensive, extremely shallow water area habitat with designated traffic channels and submerged obstructions throughout the area outside of the established vessel travel pathways. Any discharge from the marina has the potential to adversely affect these locations. Significant bird and dolphin populations are known to be present in and around this area. Residential and recreational boat traffic is also high since the Intracoastal Waterway runs right through these habitats. **CAUTION** – shallow water and submerged obstructions present when operating small boats or when installing/positioning sorbent boom. **NOTE:** Consultation and coordination with state and Federal Fish &

DIAGRAM ERAP 1.1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 12: (A11) – Crane Islands	

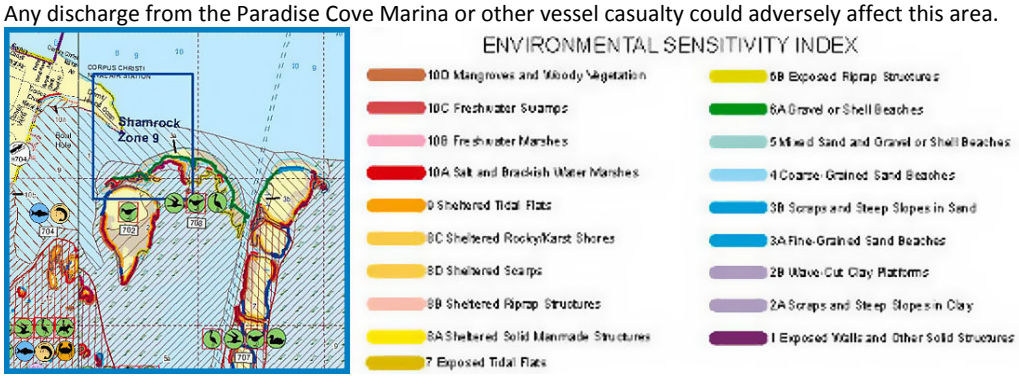
	Wildlife agency personnel will be required to determine the sensitivity and likely impacts to the habitat and the wildlife utilizing these shallow islands.
General Sensitivity:	The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Any discharge from the marina has the potential to adversely affect these sensitive locations with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. Residential and recreational boat traffic is also significant since the Intracoastal Waterway run right through these habitats. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. Significant seagrass beds throughout the area. A significant portion of the world population (75%) of redhead ducks overwinters in Laguna Madre. Any response operations will likely affect regular boat travel. **NOTE:** Consultation and coordination with state and Federal Fish & Wildlife agency personnel will be required to determine the sensitivity and likely impacts to the habitat and the wildlife utilizing these shallow islands. This consultation is critical if threatened or endangered species are known to inhabit these areas. **Exclusionary** booming may not be allowed depending on season and life stages present for resources at risk.
Operational Considerations:	Extreme shallow waters and submerged obstructions are found throughout the area. Tidal heights at low tide can vary of ½ inch to several feet in depth; often transitioning depths within several feet. The average depth of the lagoon is 3 feet with many areas having an average 6- to 18-inch depth.
Staging Area:	NASCC Paradise Cove Marina
Shore Attachments:	**PRIMARY CONFIGURATION**: Anchor the sorbent boom with shore stakes to protect the shoreline and resources at risk from oiling. **NOTE:** Regular boom tending will be required to ensure that the sorbent boom is not broken loose or is pushed inland on the island, resulting in additional damage to the habitat. **NOTE:** Coordinate with state and Federal Fish & Wildlife personnel on best management practices for placement and removal of the sorbent boom.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Dependent on the number of sites to be protected and the length of sorbent boom to be installed.
Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION** - Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	Sorbents are expensive to procure and dispose of; make storage and waste disposal arrangements in advance. Coordinate with state and Federal Fish & Wildlife personnel best management practices for placement and removal of the sorbent boom.
Secondary Booming:	Not applicable.
Other:	None.

DIAGRAM ERAP 1.1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 12: (A11) – Crane Islands**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM ERAP 1.1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

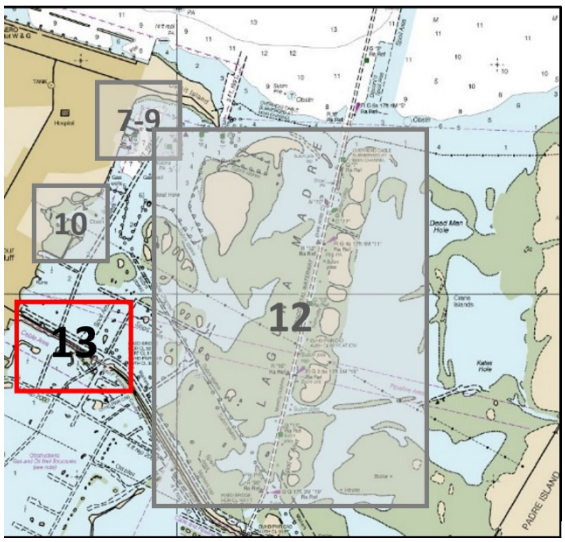
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATIONS: **Exclusionary** boom established along the J.F. Kennedy Causeway bridge pilings to prevent any spilled oil from entering the southern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the north/northeast. **NOTE**: Because the most likely discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the responding fire department. **NOTE**: Permission from USCG required before initiating strategy.



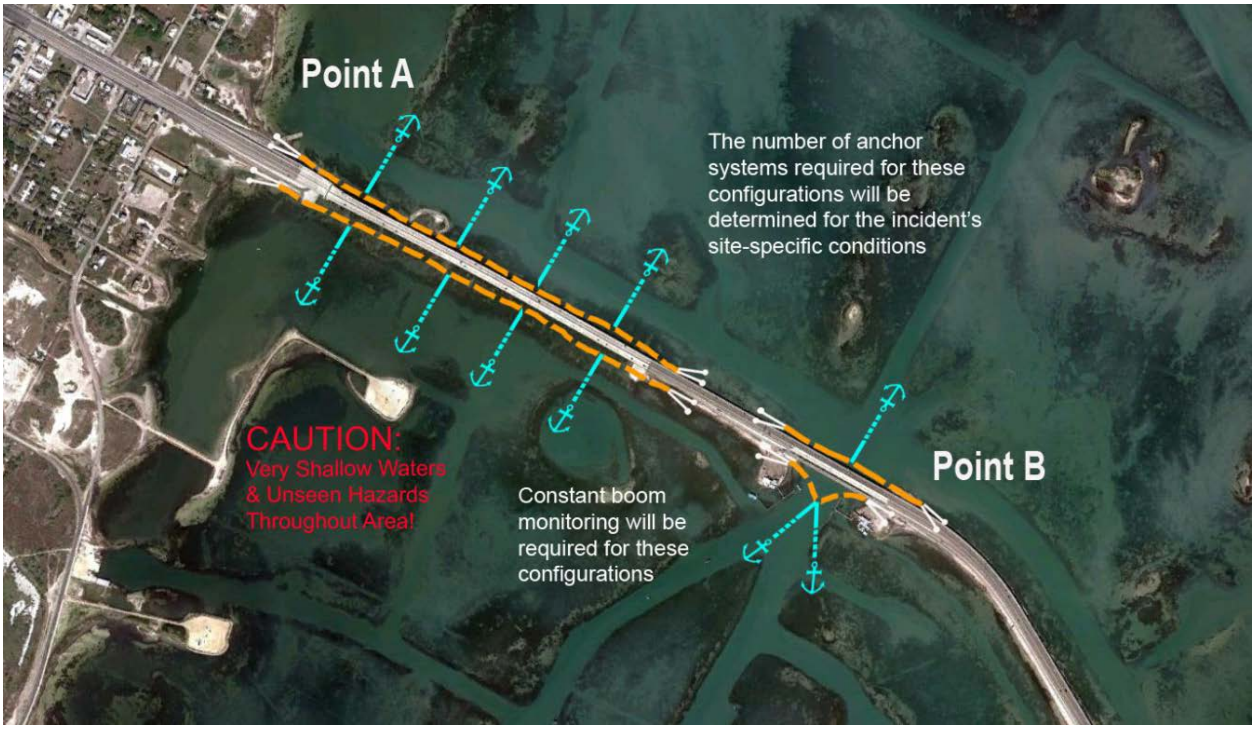
Photos of the JFK Bridge (*left*) – Looking west towards Point A - North; (*right*) looking across inlet at Point B – south side

DIAGRAM ERAP 1.1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

PRIMARY CONFIGURATION: Exclusion



- Have first boat deploy boom from boom trailer from the eastern side of the bridge. [**NOTE**: for safety reasons, all boom deployment may be best served by deploying boom from the pier facilities accessible on the south side of the causeway bridge at **Point B**.]
- **Point A** (**north of bridge**) - Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline. Repeat for **Point A south** and **Point B** (**north side**) side of bridge.
- **Point A** (**north and south**) and **Point B** (**north side**) Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew. For the **Point B** (**south side**) configuration, ***the apex of the chevron needs to be pointed directly into the direction the oil is moving due to wind and/or currents***; if the wind or current shift, the anchor point must be changed to appropriately change the chevron's direction.
- Second boat then stretch out boom and deploy mooring the 3 to 5 additional mid-point mooring system(s) to complete the configurations (north and south of the bridge).
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.

NOTE: constant boom maintenance will be required to ensure an effective configuration. Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required. **NOTE**: USCG permission will be required BEFORE initiating strategies.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐

DIAGRAM ERAP 1.1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points	**A, North** –3,200 feet **A, South** –3,200 feet **B, North** – 1,300 feet **B, South** – 1,000 feet		☐
Sorbent Boom – or sandbags used to passively recover floating oil and prevent/minimize leaks at shoreline	As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline	Four (4) or more, as needed, per strategy		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines	**A - North** –4 to 6 systems **A - South** –4 to 6 systems **B – North** –1 or more system **B – South** –2 or more systems	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

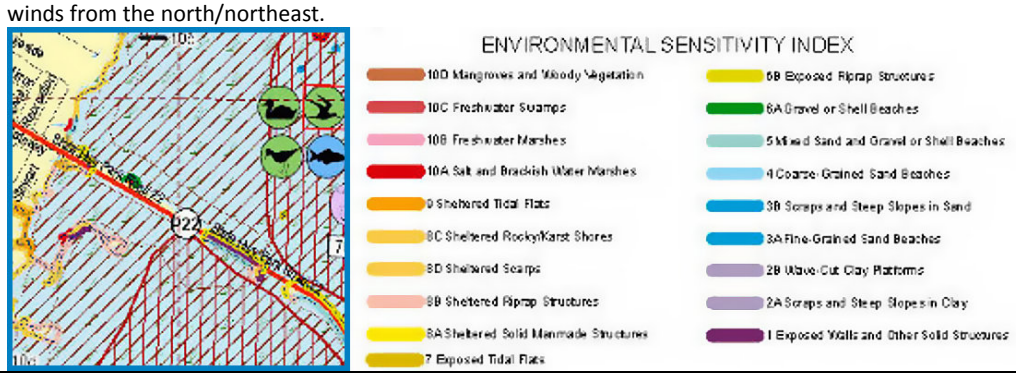
Site Conditions:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** – difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along the J.F. Kennedy Causeway. The bridge separates the northern Laguna Madre Bay from the Southern Laguna Madre Bay. The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Residential and recreational boat traffic is significant. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area with winds from the north/northeast. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. Coordination with the USCG will be required if the Point B configurations are deployed as this will exclude regular boat travel along this path.
Operational Considerations:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. USCG permission will be required BEFORE initiating strategies.

DIAGRAM ERAP 1.1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

	CAUTION – difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Paradise Cove Marina or marina at point B on J.F. Kennedy Causeway bridge.
Shore Attachments:	Two (2) or more shoreside stakes as anchor points at each end of the boom length. Additional shoreside attachment points may be required. They would consist of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where the boom leaves the water.
Water Attachment:	**Point A - North:** 4 to 6 mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point A - South:** 4 to 6 mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point B – North:** 1 or more anchor point(s) mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point B – South:** 2 or more anchor point(s) forming the apex of the chevron configuration. More than one mooring system (25 to 40 pound) may be required at the apex.
Boom Source:	Provided by Tier 1 OSRO contractor
Execution Time:	**PRIMARY CONFIGURATION – Point A – North side:** 2 hours **PRIMARY CONFIGURATION – Point A – South side:** 2 hours **PRIMARY CONFIGURATION – Point B – North side:** 1 hour **PRIMARY CONFIGURATION – Point B – South side:** 2.5 hours
Oil Recovery:	Using vacuum truck with skimmer head and/or sorbents as required.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

DIAGRAM ERAP 1.1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST	**JUNE 2017**	**ICS 204-OS**

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DIAGRAM ERAP 1.1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

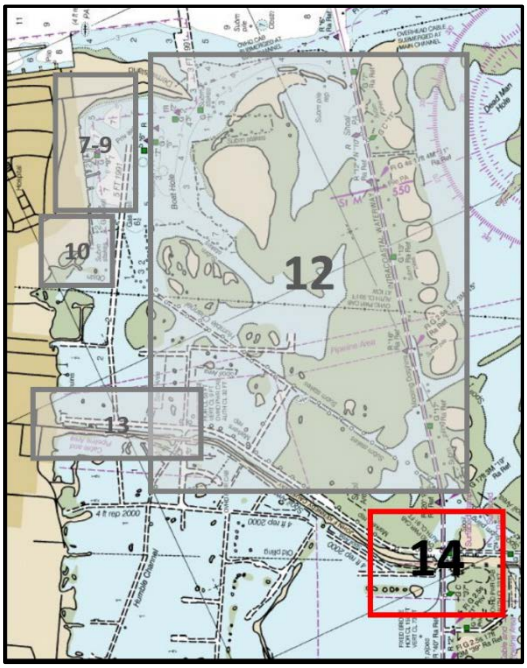
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATIONS: **Exclusionary** boom with **Recovery** System established along the J.F. Kennedy Causeway bridge at the Intracoastal Waterway to prevent any spilled oil from entering the southern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the north/northeast. **NOTE**: Because the most discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the responding fire department.

CAUTION - Deployment of this boom configuration in high current will be difficult and requires highly skilled and experienced crew. **NOTE:** USCG Approval required BEFORE strategy initiation.



View of (*left*) the JFK Causeway at Point C, looking west from access road;
(*right*) view of Point C looking east towards South Padre Island.

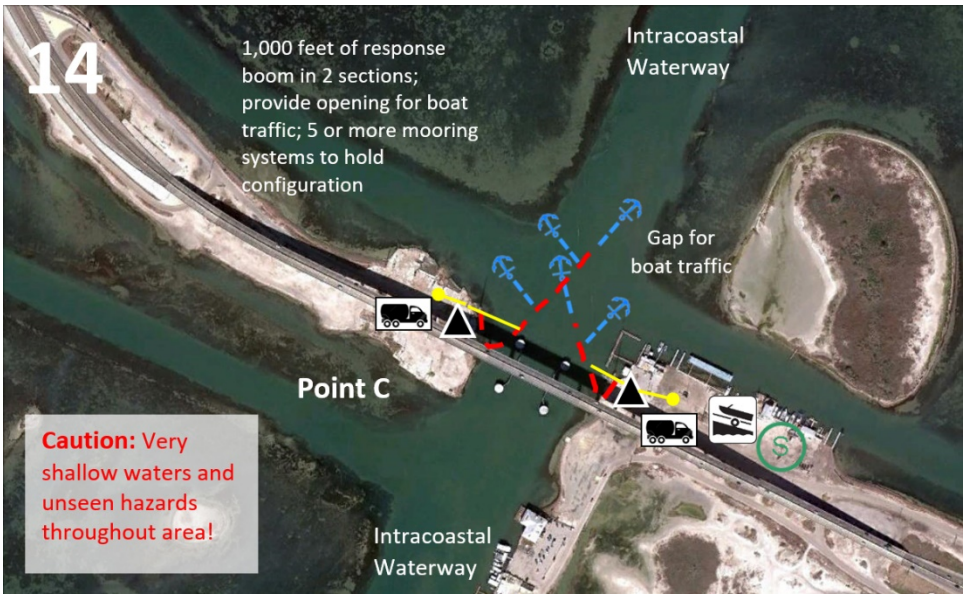
DIAGRAM ERAP 1.1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

PRIMARY CONFIGURATION:

Exclusion with Recovery



- Have first boat deploy all 1,000 feet of boom from boom trailer from the eastern side of the bridge. Secure boom leg to shore and deploy boom by backing down.
- Proceed to opposite shoreline at bridge and have shore crew secure boom with shore stakes. The
- Break at 400-foot end connector and anchor in place; wait until the eastern side of boom is secured to shoreline by shore crew. ***This configuration needs to allow for boat traffic at the intracoastal waterway; the 400-foot leg should be on the eastern side of the configuration and 600-foot leg should be on the western end and should extend beyond the opposite side.***
- Second boat then stretch out boom the remaining 600 feet and deploy 3 to 5 additional mid-point mooring system(s) to complete the configuration.
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.

NOTE: constant boom maintenance will be required to ensure an effective configuration. Due to site conditions, damage to boom is to be expected and must be monitored and replaced as required. **NOTE:** USCG permission is required BEFORE initiating strategy.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats	Three (3) crew per boat	☐
Response Boom – 18- to 24-inch height with tow bridles and line on bitter ends for shoreline mooring points			1,000 feet in two sections, 400 and 600 foot legs		☐
Sorbent Boom – used to passively recover floating oil and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more as needed		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Five (5) or more as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

Site Conditions:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags.

DIAGRAM ERAP 1.1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

	CAUTION - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along the J.F. Kennedy Causeway at the Intracoastal Waterway. The bridge separates the northern Laguna Madre from the Southern Laguna Madre Bay. The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Boat traffic is significant. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area with winds from the north/northeast. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. **NOTE:** Coordination with the USCG will be required if the Point C configuration is deployed as this will restrict/exclude regular boat travel along this path.
Operational Considerations:	Boat traffic is significant. Intracoastal waterway; USCG permission required BEFORE initiating strategy. Significant current along the intracoastal waterway. ***This configuration needs to allow for boat traffic at the intracoastal waterway; the 400-foot leg should be on the eastern side of the configuration and 600-foot leg should be on the western end and should extend beyond the opposite side.*** **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Paradise Cove Marina or northern boat landing area at the South Padre Island Drive (JFK Causeway Point C) configuration.
Shore Attachments:	Two (2) or more shoreside stakes as anchor points at each end of the boom length. Additional shoreside attachment points may be required. They would consist of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where the boom leaves the water.
Water Attachment:	Develop inverted V with a 400 and a 600-foot leg. Two (2) 25 pound anchors or one (1) 40 pound. anchor at water end and two (2) 25 pound systems on outboard side.
Boom Source:	Provided by Tier 1 OSRO contractor.
Execution Time:	**PRIMARY CONFIGURATION:** 2 hours.
Oil Recovery:	Using vacuum truck with skimmer head to recovery oil at collection points; use sorbents as required.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

DIAGRAM ERAP 1.1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 14 – South Padre Island Drive (JFK Causeway Point C)**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

1.2 Facility Information

According to the NASCC Integrated Natural Resources Management Plan, NASCC "was commissioned in 1941 and has served as headquarters for the Naval Air Advance Training since 1948. In 1941, 800 instructors provided training for more than 300 cadets a month, with training nearly doubling at this site after the beginning of U.S. involvement in World War II. By the end of World War II, more than 35,000 naval aviators had received training at the Installation. Currently, the Installation produces approximately 500 newly qualified aviators each year." The Air Station is home to Training Air Wing FOUR which provides training to potential Naval and Marine aviators as well as students from other allied nations. NASCC is also home to one of the Army's major repair hubs for rotary wing aircraft – the Corpus Christi Army Depot (CCAD).

The Air Station is located 10 miles southeast of downtown Corpus Christi, Texas. NASCC is situated on 2,630 acres of land in Nueces County, Texas. There are several outlying areas associated with NASCC, including: Naval Outlying Landing Field (NOLF) Cabaniss, NOLF Goliad, NOLF Waldron, and Peary Place Transmitter Site. These outlying areas are not covered by this FRP/DPRP. The Air Station is located in the Texas coastal plains which are characterized by flat coastal prairies, chaparral pastureland, and farmland. Terrain is extremely flat and slightly sloped eastward toward the coast.

NASCC is a non-transportation-related (NTR) facility that stores 630,458 gallons of petroleum products in aboveground storage tanks (ASTs), transfers fuel over-water to small craft, and is an EPA designated substantial harm facility. NASCC is in close proximity to natural areas such as the Padre Island National Seashore, Mustang Island State Park, Corpus Christi Bay, Oso Bay, Laguna Madre, and the Crane Islands. Consequently, NASCC is subject to EPA's response planning regulations described in 40 CFR 112, Subpart D. NASCC does not transfer over-water to vessels with capacities greater than 250 barrels (10,500 gallons) and is not regulated by U.S. Coast Guard (USCG) regulations (i.e., 33 CFR 154, Subpart F). NASCC does not operate an on-shore petroleum pipeline and is thus not regulated by 49 CFR 194. NASCC is located east of the Coastal Facility Designation line and is regulated by 31 TAC 19, Oil Spill Prevention and Response. In accordance with 31 TAC 19, the MWR Marina is classified as a Small Facility due to the fact that it transfers fuel in piping less than 4 inches in diameter. The MWR Marina maintains Small Facility Certification 30270 from the Texas General Land Office to support this classification. The certification expires on 24 July 2018. Fifty-nine ASTs are located at the Air Station. For a full description of the amounts and types of storage containers at NASCC, refer to Table FRP 1.4.1.1 and the NASCC SPCC Plan.

The major fuel storage facility at NASCC is the GOCO Aviation Fuel Farm, which includes a Loading/Unloading Area. The Refueler Parking Area is located 0.8 miles northwest of the Aviation Fuel Farm. The Aviation Fuel Farm contains two 272,000-gallon single-walled, field-constructed ASTs that store F-24. These ASTs represent the bulk of POL storage in one central location. Adjacent to the ASTs is a loading/unloading area where commercial tanker trucks offload F-24 and military refuelers receive F-24. The MWR Marina consists of one 2,000-gallon double-walled, shop constructed AST that stores gasoline. Gasoline is transferred from the AST to the dispenser at the end of Pier Charlie via double-walled piping. NASCC has several other high-hazard areas, including the Navy Exchange (NEX) Gas Station, the CCAD Fuel Farm, and the GOV Gas Station. High-hazard areas are those where there is a higher risk of spills due to factors including the type of operations, frequency of petroleum transfers, or location to sensitive receptors. In addition to high-hazard areas, NASCC has many other ancillary storage tanks for water heaters, boilers, emergency generators, and vehicle maintenance operations.

NASCC's FRP/DPRP details methods for managing and implementing a cohesive response procedure considering aspects of guiding regulatory documents (40 CFR 112 and OPNAV M-5090.1D). For NTR operations, a discharge response is associated with the Aviation Fuel Farm. Table FRP 1.2.1.1 provides general information related to NASCC.

TABLE FRP 1.2.1.1
Facility Information Form

Facility		
Facility	Name	NASCC
	Address	Commanding Officer 11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	County	Nueces
	Phone Number	(361) 961-2332 (DSN: 861)
	Latitude	27° 42' 30" N
	Longitude	97° 17' 30" W
	Wellhead Protection Area	No
Owner	Name	U.S. Navy
	Address	11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	County	Nueces
	Phone Number	(361) 961-2332 (DSN: 861)
Operator (if not Owner)	U.S. Navy	
Facility Incident Commander (FIC)		
FIC	Position	Commanding Officer (CO)
	Work Address	11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-2332 (DSN: 861)
	Fax Number	(361) 961-3402
	24-Hour Emergency Phone	(361) 961-2082
Alternate FIC	Position	Executive Officer (XO)
	Work Address	11001 D Street Suite 143 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-2331 (DSN 861)
	Fax Number	(361) 961-3402
	24-Hour Emergency Phone	(361) 961-2082
Qualified Individual (QI)		
QI	Position	Public Works Officer (PWO)
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-3665, DSN 861
	Fax Number	(361) 961-4628
	24-Hour Emergency Phone	(361) 961-2082

TABLE FRP 1.2.1.1
Facility Information Form

Alternate QI	Position	Deputy PWO
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-3664, DSN 861
	Fax Number	(361) 961-4628
	24-Hour Emergency Phone	(361) 961-2082
Alternate QI	Position	NASCC Fire Chief
	Work Address	1000 D Street Corpus Christi, Texas 78419-5021
	Work Phone	(361) 533-3074
	Fax Number	(361) 961-1722
	24-Hour Emergency Phone	911
Alternate QI	Position	IEPD
	Work Address	8851 Ocean Drive Building 19 Corpus Christi, Texas 78419-5021
	Work Phone	(361) 961-5353
	Fax Number	(361) 961-3798
	24-Hour Emergency Phone	(361) 961-2082
Regional Qualified Individual (QI)		
Regional QI	Position	FOSC-R
	Address	NAVFAC –SE Langley and Yorktown Building 903 Jacksonville, FL 32212
	Work Phone	Direct: (904) 542-6981 (DSN: 942) Mobile: (904) 482-8397
	Fax Number	(904) 542-6345
	24-Hour Emergency Phone	(904) 542-3118 (DSN: 942)
Miscellaneous		
Date of Oil Storage Startup	March 12, 1941	
Current Operations	North American Industrial Classification System Code – 92811 Major fuel storage and transfer operations include the Air Station's Aviation Fuel Farm, Refueler Parking Area, government-owned vehicle (GOV) Gas Station, and the CCAD Fuel Farm. There is one location where fuel is dispensed over-water, from a fixed tank into small craft: the MWR Marina. There is one NEX Gas Station at the Air Station. NASCC has many other ancillary ASTs that are used for emergency generators, oil-filled operational equipment, and used oil collection. NASCC receives and uses F-24, gasoline, and diesel fuel. The average monthly throughputs are: F-24 – 412,227 gallons Gasoline – 1,116 gallons Diesel Fuel – 5,388 gallons The Aviation Fuel Farm consists of two 272,000-gallon, single-walled, field-constructed ASTs. Adjacent to the ASTs is a loading/unloading area with two bays where commercial tanker trucks are unloaded and military refuelers are loaded. The Refueler Parking area is located 0.8 miles northwest, at Building 28. The MWR Marina consists of one 2,000-gallon double-walled, shop-constructed AST. Gasoline is transferred via double-walled piping from the AST to a dispenser at the end of Pier Charlie.	

TABLE FRP 1.2.1.1
Facility Information Form

Date(s) and Type(s) of Substantial Expansion(s)	1941 – Commencement of operation 1986 – Installation of NEX underground storage tanks 1987 – Installation of field-constructed ASTs at the Aviation Fuel Farm 1996 – Installation of ASTs of CCAD Fuel Farm 2014 – Installation of over-water fueling at the MWR Marina Refer to the NASCC SPCC Plan for information on specific storage containers and fuel storage/transfer areas.

1.3 Emergency Response Information

This section describes emergency response-related procedures, staff, and resources available to NASCC and response personnel in the event of a discharge of petroleum product. The section is divided into subsections that:

1. Describe the notification procedures that must be followed in the event of a petroleum product discharge
2. Provide lists of available response equipment at NASCC that may be used in the event of a petroleum product discharge
3. Describe testing and deployment schedules necessary to ensure response equipment is in working condition
4. List response personnel/organizations at NASCC (the FRT and the IMT) as well as available OSROs
5. Provide evacuation plans for NASCC that should be followed if the petroleum discharge necessitate evacuations of specific areas of the station
6. Detail the duties to be completed by the QI (or appointed alternate)

This information should be used by the FRT, IMT, and the EOC for any response that requires activation of NASCC's FRP/DPRP.

1.3.1 Notification

All petroleum discharges should be reported immediately to the Regional Dispatch Center at 911. Mobile Phone callers must notify the dispatcher that they are at NASCC. Petroleum spills that reach storm drains or navigable waters must be reported to the NRC at (800) 424-8802 and the TGLO at (800) 832-8224.

Form FRP 1.3.1.1 describes notifications required in the event of a petroleum discharge that requires activation of the FRP/DPRP. Personnel who make the discovery of a discharge must notify F&ES, through the Regional Dispatch Center as described above. F&ES will respond as the FRT and ascertain whether additional resources, support, and the response framework in the FRP/DPRP are required. This would include discharges generating more than one or two 55-gallon drums of cleanup material, medium (maximum most probable) and WCDs, or discharges that have the potential to migrate outside of the Air Station's boundaries. If any of these conditions are met, the IMT will be stood up and additional response resources will be requested through the CNRSE ROC. If the IMT is activated, the IC will notify NASCC Environmental to make appropriate regulatory notifications in Form FRP 1.3.1.1. NASCC Environmental will also conduct Navy reporting through the PWO and CO or XO. All Air Station organizations are required to report through the Navy chain of command. If the discharge is capitalized fuel (i.e., owned by DLA-E), then NAVSUP and DLA-E will conduct concurrent reporting through their chain-of-command. If the discharge is a federal, state, or local reportable quantity, NASCC Environmental will notify the NRC and associated organizations using Form FRP 1.3.1.1. The NASCC Emergency Manager will make community notifications (for example, LEPC, hospitals, or utilities) in Nueces County. The NASCC Public Affairs Officer will notify local news outlets, as required.

For recordkeeping purposes, NASCC Environmental will maintain a master copy of Form FRP 1.3.1.1 for each discharge event. All Air Station organizations with reporting duties will provide the dates and times of required notifications to NASCC Environmental representative. NASCC Environmental will maintain all records, in paper or electronic form, of events that require the use of Form FRP 1.3.1.1.

This list is identical to that provided in Form ERAP 1.1.2.1 and Form RED 1.1.

Following notification of the NRC, additional information should be collected to complete the Spill Response Notification Form (Form FRP 1.3.1.2).

FORM FRP 1.3.1.1

Emergency Notification Phone List Whom to Notify

Reporter's Name: **Facility Name:** **Owner Name:**	 NASCC U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
National Response Center (NRC)	800-424-8802 (24 hr)		
Facility Incident Commander (FIC): Commanding Officer (CO)	(361) 961-2332 (Day) (361) 961-2082 (24 hr)		
Alternate FIC: Executive Officer (XO)	(361) 961-2331 (Day) (361) 961-2082 (24 hr)		
Qualified Individual (QI): Public Works Officer (PWO) **Alternate QI** Deputy PWO **Alternate QI** F&ES Fire Chief **Alternate QI** IEPD	(361) 961-3665 (Day) (361) 961-2082 (24 hr) (361) 961-3664 (Day) (361) 961-2082 (24 hr) (361) 533-3074 (Day) (361) 961-2082 (24 hr) (361) 961-5353 (Day) (361) 961-2082 (24 hr)		
Command Duty Officer (CDO)	(361) 533-7953 (24 hr)		
Regional Qualified Individual (Regional QI): FOSC-R	(904) 542-6981 (Direct) (904) 482-8397 (Mobile) (904) 542-3118 (24 hr)		
Company Response Team: NASCC Fire & Emergency Services	 911		
Federal On-Scene Coordinator (FOSC): USCG Sector Corpus Christi	 (361) 888-3162		
Oil Spill Response Organizations (OSROs): Tier 1: Miller Environmental Tier 2: ES&H Tier 3: United States Navy Supervisor of Salvage and Diving (SUPSALV) Note – additional OSROs are listed in Appendix B	 (361) 289-9800 (512) 904-0401 (202) 781-3889		
Local Response Teams: **Fire Departments:** NASCC Fire and Emergency Services City of Corpus Christi Fire Department **Local Emergency Planning Committee (LEPC):** Texas Division of Emergency Management: Region 3 Texas Department of Public Safety: District 20 Corpus Christi/Nueces County Emergency Management	 911 or (361) 961-1706 911 or (361) 826-3932 (361) 438-5388 (361) 698-5613 (361) 888-0513		
Local Police: City of Corpus Christi Police Department Nueces County Sherriff's Office	 911 or (361) 886-2600 911 or (361) 887-2222		
State Emergency Response Commission (SERC): Texas Commission on Environmental Quality (TCEQ)* *As part of the Texas SERC Notification of TCEQ counts as SERC notification	 (800) 832-8224		
State Police: Texas Highway Patrol	 911 or (512) 698-5500		

FORM FRP 1.3.1.1

Emergency Notification Phone List Whom to Notify

Reporter's Name:			
Facility Name:	NASCC		
Owner Name:	U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
Wildlife:			
TCEQ, Region 14	(361) 825-3100		
Texas Parks and Wildlife Department (TPWD), South Texas Plains Wildlife District Supervisor	(830) 569-7806		
National Oceanic and Atmospheric Administration (NOAA) Fisheries Service	(713) 861-9453 (800) 853-1964 (24 hr)		
United States Fish and Wildlife Service (USFWS), Region 2	(505) 248-6652 (505) 480-5368 (24 hr)		
USFWS Endangered Species Program	(703) 358-2171		
Water Utilities (waste/potable water)			
Corpus Christi Water Utilities	(361) 826-1800 (361) 826-1888 (24 hr)		
NASCC Wastewater Treatment Plant	(notification through Public Works)		
Weather Report:			
National Weather Service – Corpus Christi	(361) 289-0753		
Local Television/Radio Stations:			
Television			
KEDT	(361) 855-2213		
KIIITV	(361) 855-6397		
KORO	(361) 883-2823		
KRISTV	(361) 883-7070 or (361) 884-6666		
KZTV10	(361) 884-6666		
Radio	(361) 593-2137		
KEDT-FM	(361) 855-2213		
KZFM-FM	(361) 883-3516		
KPUS-FM	(361) 814-3800		
KBSO-FM	(361) 289-0999		
KFTX-FM	(361) 883-5987		
KKBA-FM	(361) 560-5927		
KLTG-FM	(361) 883-1600		
KKPN-FM	(361) 814-1023		
KLHB-FM	(361) 883-1600 or (361) 882-5483		
KAJE-FM	(361) 814-3800		
KKTX-AM	(361) 289-0111		
KEYS-AM	(361) 883-3516		
Print			
Corpus Christi Caller-Times	(361) 884-2011		
Texas A&M University – Corpus Christi – Island Waves Newspaper	(361) 825-5862		
The Public Affairs Office (PAO) maintains an exhaustive list of new resources outside of the planning distance.			
Hospitals and Clinics:			
San Antonio Military Medical Center	(210) 916-4141		
University Hospital San Antonio	(210) 358-4000		
Naval Health Clinic Corpus Christi	(361) 961-2668		
Corpus Christi Memorial Hospital	(361) 902-4000		
Corpus Christi Medical Center (all facilities)	(361) 761-1000		
Driscoll Children's Hospital	(361) 694-5000		
CHRISTUS Spohn Shoreline Hospital	(361) 881-3000		
CHRISTUS Spohn South Hospital	(361) 985-5000		

FORM FRP 1.3.1.1

Emergency Notification Phone List Whom to Notify

Reporter's Name:			
Facility Name:	NASCC		
Owner Name:	U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
Chemical and Hazardous Material Technical Support:			
CHEMTREC	(800) 424-9300		
Company Reporting:			
CNRSE ROC	(904) 542-3118		
Federal Notifications:			
EPA, Region VI	(800) 887-6063 (866) 372-7745		
National Park Service, Intermountain Region	(303) 969-2500		
NOAA Office of Ocean and Coastal Resource Management – Texas Program	(713) 702-0767		
Padre Island National Seashore	(361) 949-8068		
State and Local Notifications:			
Port of Corpus Christi - Harbormaster	(361) 885-6152		
Corpus Christi Parks and Recreation	(361) 826-3464		
Nueces County Parks and Recreation	(361) 387-5904		
Corpus Christi Department of Consumer Health Protection	(361) 826-4415		
Texas A&M University, Corpus Christi	(361) 825-5700		
Flour Bluff School District	(361) 694-9800		
Corpus Christi Area Oil Spill Control Association	(361) 221-9317		
Nueces County Coastal Parks	(361) 949-8121		

* Unless otherwise noted, all numbers are 24-hour

IMPORTANT: Call the NRC as soon as a reportable spill occurs. *Then* begin completing the form. This form can also be found as Form RED 2.1 and Form ERAP 1.1.3.1.

FORM FRP 1.3.1.2

Spill Response Notification Form

(Do NOT delay spill notification pending collection of all information)

Reporter Information	
Name (Last, First, MI)	
Position	
Daytime Phone	
Evening Phone	
Company	U.S. Navy
Organization Type	Military
Address	NASCC 11001 D Street, Suite 143 Corpus Christi, Texas 78419-5021
Were Materials Discharged?	☒ Yes ☐ No
Confidential?	☐ Yes ☒ No
Meeting Federal Obligations to Report?	☒ Yes ☐ No
Calling for Responsible Party?	☒ Yes ☐ No
Date Called	
Time Called (24-hour time)	
Incident Description	
Source and/or Cause of Incident	
Date of Incident	
Time of Incident (24-hour time)	
Incident Address/Location	
Nearest City	Corpus Christi
State	Texas
County	Nueces
Zip	78419
Distance from City (include units)	Located 8 miles from Corpus Christi, Texas.
Direction from City	Southeast
Section(s)	N/A
Township	N/A
Range	N/A
Borough	N/A
Container Type	
Tank Oil Storage Capacity (include units)	
Facility Oil Storage Capacity (include units)	
Facility Latitude	27° 42’ 30” N
Facility Longitude	97° 17’ 30” W

FORM FRP 1.3.1.2

Spill Response Notification Form

(Do NOT delay spill notification pending collection of all information)

Chemical Hazards Response Information System (CHRIS) Code	☐ GAS (Unleaded Gasoline) ☐ GAT (MOGAS) ☐ GAV (AVGAS) ☐ OHY (Hydraulic Oil) ☐ OMT (Motor Oil) ☐ OTF (Transformer Oil) ☐ OTW (Diesel No. 2 Fuel – F-76) ☐ OTB (Turbine Oil) ☐ ODS (Diesel) ☐ OON (Diesel No. 1 Fuel) ☐ OWA (Waste Oil) ☐ Other: _____
Discharged Quantity (include units)	
Material Discharged in Water?	☐ Yes ☐ No
Quantity Discharged in Water (include units)	
Response Actions	
Actions Taken to Correct, Control or Mitigate Incident	
Impact	
Number of Injuries	
Number of Deaths	
Were there Evacuations?	☐ Yes ☐ No
Number Evacuated	
Was there any Damage?	☐ Yes ☐ No
Damage in Dollars (approximate)	
Medium Affected	
Description	
More Information about the Medium	

FORM FRP 1.3.1.2

Spill Response Notification Form

(Do NOT delay spill notification pending collection of all information)

Additional Information		
Any information about the incident not reported elsewhere in the report		
Caller Notifications		
EPA?	☐ Yes	☐ No
USCG?	☐ Yes	☐ No
State?	☐ Yes	☐ No
Other?	☐ Yes Describe:	☐ No

1.3.2 Response Equipment List

Tables FRP 1.3.2.1 through FRP 1.3.2.9 contain spill response equipment available to personnel at NASCC. The tables include equipment stored in response vehicles, at the NASCC Fire Stations, and the NASCC Environmental Storage Building. Spill response kits are also stored at various locations throughout the NASCC. These tables are duplicates of those found in the ERAP (Section 1.1.4).

TABLE FRP 1.3.2.1
Skimmers/Pumps*

Type/Model	Year	Number	Capacity (gpm)	Daily Effective Recovery Rate^	Storage Location	Date Fuel Last Changed	Status
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Skimmers and pumps are available through the OSRO. Refer to Appendix B for more information on OSRO resources.

^ Daily Effective Recovery Rate is measured in gallons per day (gpd). Note that it may not be feasible to operate the listed equipment continuously for 24 hours.

N/A – not applicable; gpm –gallon per minute

TABLE FRP 1.3.2.2
Boom*

Type	Model^	Year	Number (segments)	Size (feet)	Containment Area (ft^2)	Storage Location	Status
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Boom is available through the OSRO(s). Refer to Appendix B for more information on OSRO resources.

^ Various models/brands of boom are maintained, including New Pig, Elastec, CSC, Applied Fabrics, Slickbar, and Oilstop

N/A – not applicable; ft^2 – square foot

TABLE FRP 1.3.2.3
Chemicals Stored (Dispersants Listed on EPA's National Contingency Plan Product Schedule)

Type	Amount	Date Purchased	Treatment Capacity	Storage Location
N/A	N/A	N/A	N/A	N/A
Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the ACP, where applicable? No dispersants are stored at NASCC and are not allowed for use unless approved by the Regional Response Team.				
Name and State of On-Scene Coordinator authorizing use: N/A.				
Date Authorized: N/A				

N/A – not applicable

TABLE FRP 1.3.2.4
Dispersant Dispensing Equipment*

Type	Year	Capacity	Storage Location	Response Time (Minutes)	Status
N/A	N/A	N/A	N/A	N/A	N/A

* Dispersant-dispensing equipment is not stored at NASCC. Dispersants are not allowed for use unless approved by the Regional Response Team.

N/A – not applicable

TABLE FRP 1.3.2.5
Sorbents*

Type	Year	Amount	Absorption Capacity (gal/unit)	Storage Location	Status
Absorbent socks (PIG205)	N/A	5 boxes	0.25 gal/sock	Building 22	Available
Super absorbent socks (PIG210)	N/A	5 boxes	1 gal/sock	Building 22	Available
Absorbent pillows (PIL201)	N/A	5 boxes	2 gal/pillow	Building 22	Available
Oil only absorbent booms (BOM414)	N/A	6 boxes	12 gal/boom	Building 22	Available
Blue absorbent socks (PIG217)	N/A	1 box	8 gal/sock	Building 22	Available
Absorbent mat pads (MAT251)	N/A	10 boxes	0.1 gal/mat	Building 22	Available
Super absorbent sock (PIG214)	N/A	2 boxes	2 gal/sock	Building 22	Available
Super absorbent pillows (PIL205)	N/A	5 boxes	1 gal/pillow	Building 22	Available
Loose peat absorbent-bagged (PLP404)	N/A	2 bags	8 gal/bag	Building 22	Available
Delux Variety Pack (KIT254)	N/A	1	17 gal/kit	Building 22	Available
Absorbent pillows (PIL204)	N/A	1 box	0.5 gal/pillow	Building 22	Available
Absorbent mat pads (MAT240)	N/A	10 boxes	0.22 gal/pad	Building 22	Available
Absorbent universal pillow (GPIL1818)	N/A	6 boxes	2.3 gal/pillow	Building 22	Available
Absorbent poly blend pillow (YPIL1818)	N/A	6 boxes	2.91 gal/pillow	Building 22	Available
Oil plus heavy pad absorbent (OPO50)	N/A	4 bales	0.82 gal/pad	Building 22	Available
Acid Spill Kit	N/A	1 kit	Unknown	Special Ops Truck	Available
Assorted universal absorbent pads/pillows/socks	N/A	Assorted	Unknown	Special Ops Truck	Available
Large bag Dry Sweep	N/A	10 bags	Unknown	Special Ops Truck	Available
Assorted universal absorbent pads/pillows/socks	N/A	Assorted	Unknown	Fire Station – In Reserve	Available
Large bag Dry Sweep	N/A	26 bags	Unknown	Fire Station – In Reserve	Available
Universal loose absorbent (OCF1BALE)	N/A	150 bags	2 gal/lb	Building 22	Available

* The OSRO maintains additional inventory of sorbents. Refer to Appendix B for more information on OSRO resources.

Note: The table above describes the NASCC's minimum stocking goals. NASCC may stockpile additional resources. Product numbers are provided for similar items to determine item absorption capacity. Actual absorption capacity may vary.

N/A – not applicable; UNK – unknown; FD – Fire Department; gal – gallon; HazMat – hazardous material

TABLE FRP 1.3.2.6
Hand Tools

Type	Year	Quantity	Storage Location	Status
Chemical-resistant shovels	N/A	4	Special Ops Truck	Available
Chemical-resistant brooms	N/A	4	Special Ops Truck	Available
Combustible gas detector	N/A	4	Special Ops Truck	Available
MultiRae Plus 5-gas detector: O_2, LEL, HCN, CO, PID	N/A	2	Special Ops Truck	Available
MultiRae Lite 6-gas detector: O2, LEL, H2S/CO, HCN, PID	N/A	3	Special Ops Truck	Available
MiniRae 2000, 110-012062 (PID with 10.6eV lamp)	N/A	1	Special Ops Truck	Available
MiniRae 3000, 592-901806 (PID with 10.6eV lamp)	N/A	1	Special Ops Truck	Available
AHURA First Defender (Raman Handheld Chemical Identifier)	N/A	1	Special Ops Truck	Available
Fisher Tru Defender (FTIR Handheld Chemical Identifier)	N/A	1	Special Ops Truck	Available
Ludlum M 2241-2ERK Radiation Survey Meter	N/A	1	Special Ops Truck	Available
Canberra ERKADV Radiation Survey Meter	N/A	1	Special Ops Truck	Available
Brass tool kit	N/A	1	Special Ops Truck	Available
Brass tool kit	N/A	1	Fire Station – In Reserve	Available

N/A – not applicable; FD – Fire Department; HazMat – hazardous material

Communication is an important aspect of emergency response situations. NASCC response organizations (e.g., Air Operations, F&ES, Naval Security, Public Works (including Environmental), and Safety) all maintain a robust inventory of Enterprise Land Mobile Radios (ELMRs), mobile phones, and supporting equipment. Communication with outside entities (e.g., if booming must be conducted outside of NASCC) will be conducted via the UCS and will be accomplished by NASCC personnel using phones in the EOC or mobile phones at the Mobile Command Post.

During a response, the communications equipment listed in Table FRP 1.3.2.7 would be deployed as necessary. Generally, personnel are able to communicate between all organizations at the Air Station. For example, F&ES can contact Naval Security via ELMR. Direct communication between the Mobile Command Post and EOC is conducted via ELMR or mobile phone.

F&ES will manage communications in accordance with their documented response procedures. The EOC will manage communications in accordance with NASCC's Emergency Management Plan (NASCCINST 3440.17 dtd 12 JUN 2013). A full communications plan is available through the NASCC EOC.

In response situations, the primary method of communication outside of the response zone (the "cold zone") will be via ELMR, with mobile phones providing backup. For health and safety reasons, and to minimize ignition sources within the response zone (the "hot zone"), primary communication will be via voice or hand signals. Communication between the cold zone and the EOC will be conducted via ELMR with mobile phones serving as backup.

TABLE FRP 1.3.2.7
Communication Equipment

Type	Year	Quantity	Storage Location	Status
ELMR	Varies	68	F&ES	Available
ELMR	Varies	111	Security	Available
ELMR	Varies	39	Air Operations	Available
ELMR	Varies	28	Public Works	Available
ELMR	Varies	34	N6	Available

Note: ELMRs used by NASCC Environmental are counted as part of the Public Works inventory
ELMR – Enterprise Land Mobile Radio; F&ES – Fire and Emergency Services; N6 – Communications

TABLE FRP 1.3.2.8
Fire Fighting and Personal Protective Equipment

Type	Year	Quantity	Storage Location	Status
Pierce Saber Engine – Suppression Vehicle	2015	1	Station 1	Available
Pierce Contender Engine – Suppression Vehicle	2009	1	Station 2	Reserve
Pierce Velocity Quint/Ladder Truck	2007	1	Station 2	Available
Ford F-450 Ambulance	2012	1	Station 1	Available
E-ONE ARFF T-3000	2012	1	Station 2	Available
Oshkosh ARFF T-1500	2006	1	Station 2	Available
IH 7400 Twin Agent Unit	2015	2	Station 2	Reserve
Pierce Velocity HDR Hazmat/Heavy Rescue	2011	1	Station 1	Available
Wells Cargo EW2024W Enclosed Utility Trailer	2007	1	Station 1	Available
RKO RKO1000FS Foam Trailer	2008	1	Station 2	Available
Bauer TCOM SCBA Trailer	2008	1	Station 1	Available
Chevrolet Tahoe SUV Command Vehicle	2009	1	Station 1	Available
Chevrolet Tahoe SUV Admin Vehicle	2006	1	Station 1	Reserve
Ford Expedition SUV Goliad Support Vehicle	2010	1	Station 1	Available
Chevrolet Tahoe SUV Goliad Support Vehicle	2009	1	Station 1	Available
Chevrolet Silverado, Fire Inspection Vehicle	2010	1	Station 1	Available
Ford F-250, Fire Inspection Vehicle	2010	1	Station 1	Available
Ford F-150, Fire Inspection Vehicle	2010	1	Station 1	Available
Butyl & Nitrile Gloves (SM, MD, LG, XL)	N/A	16 pairs	Fire Station – In Reserve	Available
Kappler Z500 fully encapsulated level “A” protective suits	N/A	8	Fire Station – In Reserve	Available
Lankland Chemax level “B” protective suits	N/A	8	Fire Station – In Reserve	Available
Silver Shield gloves (XL)	N/A	8 pairs	Fire Station – In Reserve	Available
Butyl & Nitrile Gloves (SM, MD, LG, XL)	N/A	16 pairs	Special Ops Truck	Available
Chemical-resistant boots (various sizes)	N/A	Multiple sets	Special Ops Truck	Available
Kappler Z500 fully encapsulated level “A” protective suits	N/A	8	Special Ops Truck	Available
Lankland Chemax level “B” protective suits	N/A	8	Special Ops Truck	Available
Silver Shield gloves (XL)	N/A	8 pairs	Special Ops Truck	Available

Note: certain resources (e.g., waders) suggested in response strategies may not be in stock with the FRT
N/A – not applicable; HazMat – hazardous material

TABLE FRP 1.3.2.9
Other (Heavy Equipment, Boats, and Motors)*

Type	Year	Quantity	Storage Location	Status
5 gal buckets plug n’ dike	N/A	3	Bldg. 2742	Available
2 qt plug n’ dike	N/A	1	Bldg. 2742	Available
95 gallon spill kit/overpack drum	N/A	2	Bldg. 2742	Available
Chlorine “A” Kit	N/A	1	Fire Station – In Reserve	Available
Chlorine “B” Kit	N/A	1	Fire Station – In Reserve	Available
Chlorine “C” Kit	N/A	1	Fire Station – In Reserve	Available

TABLE FRP 1.3.2.9
Other (Heavy Equipment, Boats, and Motors)*

Type	Year	Quantity	Storage Location	Status
55-gallon overpacks	N/A	4	Fire Station – In Reserve	Available
Large roll of heavy plastic	N/A	4	Fire Station – In Reserve	Available
Zumro 10'x15' Inflatable Decon Shelter/System	N/A	1	Fire Station – In Reserve	Available
pH Paper	N/A	1 kit	Special Ops Truck	Available
Fluorine Paper	N/A	1 kit	Special Ops Truck	Available
Advent Pro Strip 5 Biological Detection Kit (Detects Anthrax, Ricin Toxin, Botulinum Toxin, Y pestis, SEB)	N/A	1 kit	Special Ops Truck	Available
WeatherPak MTR	N/A	1 kit	Special Ops Truck	Available
EntryLink Search Camera	N/A	1	Special Ops Truck	Available
Pelican Lights	N/A	2	Special Ops Truck	Available
Large Drip Pans	N/A	2	Special Ops Truck	Available
50' garden hose	N/A	2	Special Ops Truck	Available
Hose manifold	N/A	1	Special Ops Truck	Available
Hazmat repair putty	N/A	1	Special Ops Truck	Available
Salvage covers	N/A	4	Special Ops Truck	Available
Chlorine "A" Kit	N/A	1	Special Ops Truck	Available
Chlorine "B" Kit	N/A	1	Special Ops Truck	Available
Chlorine "C" Kit	N/A	1	Special Ops Truck	Available
C-1 leak control kit	N/A	1	Special Ops Truck	Available
C-2 leak control kit	N/A	1	Special Ops Truck	Available
AE leak control kit	N/A	1	Special Ops Truck	Available
5-gallon overpacks	N/A	4	Special Ops Truck	Available
Chemical-resistant large drain covers	N/A	4	Special Ops Truck	Available
Assorted chemical-resistant plugs	N/A	1 kit	Special Ops Truck	Available
Large roll of heavy plastic	N/A	4	Special Ops Truck	Available
Trident One Mass Decon Kit	N/A	1 kit	Special Ops Truck	Available

N/A – not applicable

1.3.3 Response Equipment Testing and Deployment

Response equipment testing and deployment is conducted at NASCC to ensure that response equipment is operational and the personnel who operate the equipment during a spill response are capable of deploying and operating it. F&ES will respond to all spills; however, they will only perform response actions for land-based spills (i.e., land-based FRT). NASCC will notify its Tier 1 OSRO (Miller Environmental) for all spills that include a water-based component or spills that are outside the response capability of the Air Station. F&ES will assist from land and provide fire protection for water-borne spills. F&ES maintains records for its testing and equipment deployment events. NASCC's OSROs also conduct their own testing and drills and will provide copies of completed required drills to NASCC, if requested. NASCC Environmental maintains these records along with documentation providing proof of regional response contracts. Air Station-wide spill response exercises or drills are organized by the Air Station IMRO with input from the FRP/DPRP Manager and are based on the 3-year PREP schedule. A matrix of events is devised to reflect this schedule and is available from the FRP/DPRP Manager. Records of Air Station-wide PREP exercises or drills are maintained by the FRP/DPRP Manager (see Appendix K).

In the event of a small, medium or WCD, NASCC may require that other OSROs respond to assist with containment and cleanup efforts. Miller Environmental is NASCC's Tier 1 OSRO (i.e., water-based FRT) and will respond to water-based spills and spills that exceed NASCC's response capability. ES&H is NASCC's Tier 2 OSRO and Navy SUPSALV is NASCC's Tier 3 OSRO. As outside resources, these OSROs conduct their own equipment testing, exercises, and deployment drills and will provide completed records to NASCC, when requested. The Environmental Division maintains OSRO records along with pertinent copies of support contracts (refer to Appendix B).

Testing and deployment exercises must meet PREP guidelines as described in Section 1.8.2, Facility Drills/Exercises, of this FRP/DPRP. Required facility-wide exercise and deployment drills are maintained by the FRP/DPRP Manager. NASCC's Tier 1, Tier 2, and Tier 3 OSROs (Miller Environmental, ES&H, and SUPSALV, respectively) are also required to meet the PREP guidelines and will provide copies of required exercises to NASCC, when requested. In addition to the Tier 1 through Tier 3 OSROs, additional response companies are available to NASCC through the USCG BOA. NAVFAC-SE, and therefore its installations, also have a Memorandum of Understanding with Navy SUPSALV for spill response and cleanup. Response contractors listed in the USCG BOA are vetted at a regional level and have resources maintained in a state of operational readiness. These response contractors, which provide professional spill response services, are certified and can be expected to execute effective emergency response that satisfies deployment drill requirements.

1.3.4 Personnel

This section describes NASCC's response personnel capabilities and contracted resources. The personnel lists identify responsible parties and their phone numbers, the amount of time needed for personnel to respond, responsibility during an emergency, and the level of response training required. Due to the turnover of personnel at a military facility, the response personnel are identified by billet rather than by name. Even though individuals who fill the billets indicated will change, the billets will remain staffed with properly trained personnel. NASCC personnel will respond to discharges as described in Section 1.7, Plan Implementation.

As NASCC's Tier 1 OSRO, Miller Environmental will respond to water-based discharges with land support from F&ES. Additional on-water support, if needed, is provided through a Tier 2 (ES&H) and/or Tier 3 (SUPSALV) OSRO. OSRO capabilities are described in Table FRP 1.3.4.2, Section 1.7, and Appendix B.

Key emergency response personnel at NASCC are organized around two primary response organizations, both of which may be activated to varying degrees in the event of a petroleum product spill. These two response organizations are (listed in the likely order of activation):

1. FRT (F&ES)
2. IMT and EOC
    a. Emergency Response Contractors (OSROs)

Facility Response Team

F&ES will manage all land-based spills. OSRO support will be requested through the CNRSE ROC if (1) a water-based spill occurs, (2) if petroleum migrates into one of the surrounding bodies of water, or (3) the response required is too large for NASCC to handle alone. When a water-based response occurs, F&ES maintains its role as part of the FRT ensuring protection against fire hazards and supporting any land-based equipment application.

The FRT is F&ES, which will respond immediately upon discovery or notification of an oil spill on land or water. The Assistant Fire Chief will report to the Mobile Command Post at the discharge and one will serve as the IC until the IMT is activated. The Fire Chief will report to the EOC. Whereas the FRT consists of F&ES, the IMT is the comprehensive response component at NASCC that involves personnel and organizations from across the Air Station. Once the IMT is activated, the Fire Chief becomes part of the response Operations Section. The QI takes over the role of the IC for discharge response and/or cleanup and reports updates and resource requirements to the FIC (the NASCC CO or XO). The primary responsibility of the FRT is to mitigate any discharged petroleum product and ensure that fire hazards are controlled. The IMT is responsible for any cleanup required after response actions have been completed and oversee responses to major spills.

All personnel in F&ES are trained to the HazMat Technician level and some are trained to the IC level and therefore are adequately trained to perform their job duties. When new personnel rotate in, they are trained to the level required of their position. F&ES personnel are continually cross-trained to provide an adequate and robust response to emergencies of all types. Additionally, the Fire Chief manages a list of personnel and necessary certification levels (for example, certification required to maintain Firefighter [Intermediate Life Support] qualification). At a minimum, all firefighters at F&ES are trained to the Firefighter qualification, which includes HazMat Technician training. For any spill, the IC works with personnel in the Mobile Command Post and the EOC to direct the OSRO's response efforts. OSRO personnel are trained to perform their jobs effectively and safely. They are required to comply with all of NASCC's health and safety requirements.

Refer to Section 1.8.3, Response Training, for further information on required response training levels. A list of FRT personnel, by billet title, is provided as Table FRP 1.3.4.1. Due to personnel turnover and shift-schedules, it is not effective to provide an itemized list of personnel names and training dates.

NASCC Fire & Emergency Services maintains a recall roster and can reach its staff at any time of day or night. Not all positions listed below will immediately respond to a discharge of petroleum. The Air Station must be able to provide fire protection and response capabilities during a petroleum discharge. NASCC Fire & Emergency Services will make appropriate notifications to its staff members if they are required to respond to the scene of a petroleum discharge.

TABLE FRP 1.3.4.1
Facility Response Team

Name	Phone	Available Personnel	Response Time (minutes)	Responsibility during Response Action	Response Training Type
Fire Chief	911	1	10	QI and Operations Section Chief	HazMat IC & Technician
Assistant Fire Chief	911	1	10	Incident Commander	HazMat IC & Technician
Firefighters	911	14 (weekday staffing) 13 (weekend staffing)	10	HazMat Response	HazMat Technician

In the event of a spill, the QI and members of the IMT will assess the situation to determine whether sufficient on-Air Station resources are available. If additional off-Air Station resources are required, the QI will work through the EOC and the CNRSE ROC to obtain the services of the Tier I (Miller Environmental), Tier 2 (ES&H), and/or Tier 3 (SUPSALV) OSROs. NASCC also has additional OSROs available to it through the USCG BOA (refer to Appendix B). The Tier 1, 2, and 3 OSROs (including their response time and contracted responsibility) are described in Table FRP 1.3.4.2.

TABLE FRP 1.3.4.2
Emergency Response Contractors

Contractor	Phone	Response Time	Contract Responsibility
Tier 1 – Miller Environmental	(361) 289-9800	< 1 hour	USCG BOA
Tier 2 – ES&H	(512) 904-0401	< 30 hours	USCG BOA
Tier 3 – SUPSALV	(202) 781-3889	< 54 hours	Regional QI

Note: For all OSROs, the Regional QI must activate the contractor through the NAVFAC-SE Contracting Officer and/or SUPSALV. The contractor and SUPSALV cannot be activated at the installation level. Please see Appendix B.

IMT and the EOC

NASCC may activate its IMT to manage larger spill events that are beyond the capacity of the FRT. Activation of the IMT would be at the discretion of the QI; however, such situations would typically be associated with requests for Tier 1, Tier 2, and Tier 3 OSRO assistance or events that involve petroleum discharges to water. If the IMT is needed, the EOC is activated and personnel identified in the IMT (Table FRP 1.3.4.3) would be led by the QI. If the FOSC-R requires that a UCS be put in place, the FOSC-R, the QI, and other response agencies will function under

the Unified Command (UC) system. The IMT will be organized following the National Incident Management System's (NIMS) ICS; refer to Figure FRP 1.3.4.4 at the end of this subsection.

The EOC responds to major accidents and natural disasters and provides on-scene command, control, and communications of military resources, as well as cross-functional expertise. The EOC coordinates operations and support requirements with the installation and provides liaison with civil authorities and response elements. As noted above, the IMT would coordinate its technical spill response activities with the EOC, consistent with the EOC ICS.

TABLE FRP 1.3.4.3
Incident Management Team

ICS Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Facility Incident Commander (FIC): Commanding Officer	60	(361) 961-2332	(361) 961-2082
Alternate FIC: Executive Officer (XO)	60	(361) 961-2331	(361) 961-2082
Qualified Individual (QI): Public Works Officer (PWO)	60	(361) 961-3665	(361) 961-2082
Alternate QI: Deputy PWO	60	(361) 961-3664	(361) 961-2082
Alternate QI: NASCC Fire Chief	60	(361) 537-1151	(361) 961-2082
Alternate QI: IEPD	60	(361) 961-5353	(361) 961-2082
Safety: Safety Manager	60	(361) 961-2489	(361) 961-2082
Legal: Legal Officer	60	(361) 961-1605	(361) 961-2082
Public Information: Public Affairs Officer	60	(361) 961-2674	(361) 961-2082
Liaison: Emergency Manager	60	(361) 961-1725	(361) 961-2082
Operations Section Chief: Security Officer	60	(361) 961-3392	(361) 961-2082
First Responder: NASCC Fire & Emergency Services	10	911	
Fuels: Fuels Contracting Officer Representative (COR)	60	(361) 961-3265	(361) 961-2082
Security: Watch Commander/Security Officer	60	(361) 961-2082	(361) 961-2082
Planning Section Chief: Operations Officer	60	(361) 961-2246	(361) 961-2082
Environmental: IEPD	60	(361) 961-5353	(361) 961-2082
Logistics Section Chief: Supply Officer	60	(361) 961-3662	(361) 961-2082
Supply: Supply Officer	60	(361) 961-3662	(361) 961-2082
Transportation: Transportation Officer	60	(361) 961-1650	(361) 961-2082

TABLE FRP 1.3.4.3
Incident Management Team

ICS Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Medical: Branch Health Clinic Commanding Officer	60	(361) 961-2685	(361) 961-2082
Finance Section Chief: Facilities Engineering Acquisitions Division Director	60	(361) 961-2156	(361) 961-2082
Naval Facilities Engineering Command Southeast Contracting: Contracting Officer	60	(904) 542-6914	(904) 542-3118 CNRSE ROC
Regional QI: FOSC-R	960 (16 hours)	Direct: (904) 542-6981 Mobile: (904) 482-8397	(904) 542-3118 (CNRSE ROC)

The responsibilities of IMT members are described below. The following checklist provides standardized responsibilities/actions applicable to everyone in the ICS:

a.	Receive assignment from your leader, including: • Job assignment • Resource order number and request number • Reporting location • Reporting time • Travel instructions • Any special communications instructions (for example, travel, radio frequency)
b.	Upon arrival at the incident, check in at the designated check-in location. Check-in may be found at any of the following locations: • Incident Command Post (ICP) • Base or Camps • Staging Areas • Helo Pads **Note:** If you are instructed to report directly to a line assignment, check in with the Division/Group Supervisor.
c.	Receive briefing from immediate supervisor
d.	Agency Representatives from assisting or cooperating agencies report to the Liaison Officer (LO) at the ICP after check-in.
e.	Acquire work materials.
f.	Supervisors shall maintain accountability for their assigned personnel with regard to exact location(s) and personal safety and welfare at all times, especially when working in or around incident operations.
g.	Organize and brief subordinates.
h.	Know your assigned radio frequency(s) for your area of responsibility and ensure that communication equipment is operating properly.
i.	Use clear text and ICS terminology (no codes) in all radio communications. All radio communications to the Incident Communications Center will be addressed: "(Incident Name) Communications" (for example, "TWA 800 Communications").
j.	Complete forms and reports required of the assigned position and send through the supervisor to the Documentation Unit.
k.	Respond to demobilization orders and brief subordinates regarding demobilization.

Unified Command Staff

The QI for petroleum discharges will, whenever possible and practical, be organized under the UCS that includes, but is not limited to:

- The pre-designated FOSC
- The pre-designated Site On-Scene Coordinator (SOSC)
- The representative of the Responsible Party IC

Facility Incident Commander

The FIC directs incident activities, including the development and implementation of strategic decisions and approves the ordering and releasing of resources. The FIC may assign a Deputy FIC to assist in carrying out FIC responsibilities.

Qualified Individual

The QI's responsibility is the overall management of the incident. On most incidents, a single QI carries out the command activity. The QI is selected by qualifications and experience. The QI may have a deputy who may be from the same organization or from an assisting organization. Deputies may also be used at section and branch levels of the ICS organization. Deputies must have the same qualifications as the person for whom they work because they must be ready to take over that position at any time. In addition to the responsibilities contained in Section 1.3.6 of this FRP, the major responsibilities of the QI are:

a.	Review common responsibilities.
b.	Assess the situation and/or obtain a briefing from the previous IC (i.e., the Assistant Fire Chief).
c.	Determine incident objectives and strategy.
d.	Establish the immediate priorities.
e.	Establish an ICP.
f.	Brief Command Staff and Section Chiefs (see ICS Form 201-OC in Appendix I)
g.	Review meetings and briefings.
h.	Establish an appropriate organization.
i.	Ensure planning meetings are scheduled as required.
j.	Approve and authorize the implementation of an Initial Assessment Plan (IAP).
k.	Ensure that adequate safety measures are in place.
l.	Coordinate activity for all Command and General Staff.
m.	Coordinate with key people and officials.
n.	Approve requests for additional resources or for the release of resources.
o.	Keep agency administrator informed of incident status.
p.	Approve the use of trainees, volunteers, and auxiliary personnel.
q.	Authorize release of information to the news media.
r.	Ensure incident Status Summary (ICS Form 209) is completed and forwarded to appropriate higher authority.
s.	Order the demobilization of the incident when appropriate.

Information Officer

The Information Officer (IO) is responsible for developing and releasing information about the incident to the news media, incident personnel, and other appropriate agencies and organizations. Only one IO will be assigned for each incident, including incidents operating under UC and multi-jurisdictional incidents. The IO may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. The Joint Information Center manual should be reviewed regarding the organization and duties of the IO. Agencies have different policies and procedures relative to the handling of public information. The following are the major responsibilities of the IO, which would generally apply on any incident. The major responsibilities of the IO are:

a.	Review common responsibilities.
b.	Determine from the IC if there are any limits on information release.
c.	Develop material for use in media briefings.
d.	Obtain IC approval of media releases.
e.	Inform media and conduct media briefings.

f.	Arrange for tours and other interviews or briefings that may be required.
g.	Obtain media information that may be useful to incident planning.
h.	Maintain current information summaries and/or displays on the incident and provide information on the status of the incident to assigned personnel.
i.	Maintain Unit/Activity Log (ICS Form 214).

Liaison Officer

Incidents that are multi-jurisdictional, or that involve several agencies, may require the establishment of the Liaison Officer (LO) position on the Command Staff. Only one LO will be assigned for each incident, including incidents operating under UC and multi-jurisdiction incidents. The LO may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. The LO manual should be reviewed regarding the organization and duties of the LO. The LO is assigned to the incident to be the contact for assisting and/or cooperating agency representatives. The major responsibilities of the LO are:

a.	Review common responsibilities.
b.	Be a contact point for agency representatives.
c.	Maintain a list of assisting and cooperating agencies and agency representatives. Monitor check-in sheets daily to ensure that all agency representatives are identified.
d.	Assist in establishing and coordinating interagency contacts.
e.	Keep agencies supporting the incident aware of incident status.
f.	Monitor incident operations to identify current or potential inter-organizational problems.
g.	Participate in planning meetings and provide current resource status, including limitations and capability of assisting agency resources.
h.	Coordinate response resource needs for Natural Resource Damage Assessment and Restoration (NRDAR) activities with the Operations Section (OPS) during oil and hazmat responses.
i.	Coordinate response resource needs for incident investigation activities with the OPS.
j.	Ensure that all required agency forms, reports, and documents are completed before demobilization.
k.	Have debriefing session with the IC prior to departure.
l.	Maintain Unit/Activity Log (ICS Form 214).
m.	Coordinate activities of visiting dignitaries

Safety Officer

The Safety Officer's (SO's) function is to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations. Only one SO will be assigned for each incident. The SO may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions. Safety assistants may have specific responsibilities, such as air operations, HazMat, etc. The major responsibilities of the SO are:

a.	Review common responsibilities.
b.	Participate in planning meetings.
c.	Identify hazardous situations associated with the incident.
d.	Review the IAP for safety implications.
e.	Exercise emergency authority to stop and prevent unsafe acts.
f.	Investigate accidents that have occurred within the incident area.
g.	Assign assistants, as needed.
h.	Review and approve the medical plan.
i.	Develop the Site Safety Plan and publish Site Safety Plan summary (ICS Form 208) as required.
j.	Maintain Unit/Activity Log (ICS Form 214).

Legal Officer

The Legal Specialist will act in an advisory capacity. The major responsibilities of the Legal Specialist are:

a.	Review common responsibilities.
b.	Participate in planning meetings, if requested.
c.	Advise on legal issues relating to in-situ burning, use of dispersants, and other alternative response technologies.
d.	Advise on legal issues relating to differences between NRDAR activities.
e.	Advise on legal issues relating to investigations.
f.	Advise on legal issues relating to finance and claims.
g.	Advise on legal issues relating to response.
h.	Maintain Unit/Activity Log (ICS Form 214).

Operations Section Chief

The Operations Section Chief (OPS), a member of the General Staff, is responsible for managing all operations directly applicable to the primary mission. The OPS activates and supervises organization elements in accordance with the IAP and directs its execution. The OPS also directs the preparation of unit operational plans; requests resources; makes expedient changes to the IAP, as necessary; and reports such to the IC. The major responsibilities of the OPS are:

a.	Review common responsibilities.
b.	Develop operations portion of IAP.
c.	Brief and assign Operations Section personnel in accordance with the IAP.
d.	Supervise Operations Section.
e.	Determine need for and request additional resources.
f.	Review suggested list of resources to be released and initiate recommendation for release of resources.
g.	Assemble and disassemble strike teams assigned to the Operations Section.
h.	Report information about special activities, events, and occurrences to the IC.
i.	Respond to resource requests in support of NRDAR activities.
j.	Maintain Unit/Activity Log (ICS Form 214).

Planning Section Chief

The Planning Section Chief, a member of the General Staff, is responsible for the collection, evaluation, dissemination, and use of information about the development of the incident and the status of resources. Information is needed to understand the current situation, to predict the probable course of incident events, and to prepare alternative strategies for the incident. The major responsibilities of the Planning Section Chief are:

a.	Review common responsibilities.
b.	Collect and process situation information about the incident.
c.	Supervise preparation of the IAP.
d.	Provide input to the IC and the OPS in preparing the IAP.
e.	Chair planning meetings and participate in other meetings as required.
f.	Reassign out-of-service personnel already onsite to ICS organizational positions as appropriate.
g.	Establish information requirements and reporting schedules for Planning Section units (for example, Resources, Situation units).
h.	Determine the need for any specialized resources in support of the incident.
i.	If requested, assemble and disassemble Strike Teams and Task Forces not assigned to Operations.
j.	Establish special information collection activities as necessary (related to weather, the environment, toxics, etc.).
k.	Assemble information on alternative strategies.

l.	Provide periodic predictions on incident potential.
m.	Report any significant changes in incident status.
n.	Compile and display incident status information.
o.	Oversee preparation and implementation of the Incident Demobilization Plan.
p.	Incorporate plans (relating to traffic, medical, communications, and site safety) into the IAP.
q.	Maintain Unit/Activity Log (ICS Form 214).

Logistics Section Chief

The Logistics Section Chief (LSC), a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident. The LSC participates in the development and implementation of the IAP and activates and supervises the branches and units within the Logistics Section. The major responsibilities of the LSC are:

a.	Review common responsibilities.
b.	Plan the organization of the Logistics Section.
c.	Assign work locations and preliminary work tasks to Section personnel.
d.	Notify the Resources Unit of the Logistics Section units activated, including names and locations of assigned personnel.
e.	Assemble and brief branch directors and unit leaders.
f.	Participate in preparation of the IAP.
g.	Identify service and support requirements for planned and expected operations.
h.	Provide input to and review the Communications Plan, Medical Plan, and Traffic Plan.
i.	Coordinate and process requests for additional resources.
j.	Review the IAP and estimate Section needs for the next operational period.
k.	Advise on current service and support capabilities.
l.	Prepare service and support elements of the IAP.
m.	Estimate future service and support requirements.
n.	Receive Incident Demobilization Plan from Planning Section.
o.	Recommend release of initial resources in conformity with Incident Demobilization Plan.
p.	Ensure the general welfare and safety of Logistics Section personnel.
q.	Maintain Unit Activity Log (ICS Form 214).

Finance/Administration Section Chief

The Finance/Administration Section Chief is responsible for all financial, administrative, and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section. The major responsibilities of the Finance/Administration Section Chief are:

a.	Review common responsibilities.
b.	Attend planning meetings as required.
c.	Manage all financial aspects of an incident.
d.	Provide financial and cost analysis information as requested.
e.	Gather pertinent information from briefings with responsible agencies.
f.	Develop an operating plan for the Finance/Administration Section; fill supply and support needs.
g.	Determine the need to set up and operate an incident commissary.
h.	Meet with assisting and cooperating agency representatives, as needed.
i.	Maintain daily contact with agency(s) administrative headquarters on finance/administration matters.
j.	Ensure that all personnel time records are accurately completed and transmitted to home agencies, according to policy.

k.	Provide financial input to demobilization planning.
l.	Ensure that all obligation documents initiated at the incident are properly prepared and completed.
m.	Brief agency administrative personnel on all incident-related financial issues needing attention or follow-up prior to leaving the scene of the incident.
n.	Maintain Unit/Activity Log (ICS Form 214).

National Incident Management Command System's Incident Command System

To ensure effective spill management and coordination with local, state, and federal emergency responders, the NIMS ICS has been included in this FRP as the organizational template for the NASCC IMT.

Homeland Security Presidential Directive-5 directs all federal departments and agencies to adopt the NIMS ICS for all incident management; including prevention, preparedness, response, recovery, and mitigation. Most local, state, and federal responders already rely on the NIMS ICS for incident management and have recently been given federal incentives to further commit to the NIMS ICS.

The ability of NASCC to implement and/or work within a NIMS ICS during a spill event is important to ensure effective coordination with local responders as well as federal and state on-scene commanders. Local, state, and federal responders will expect NASCC to be familiar with and prepared to function effectively within an NIMS ICS organization.

A visual organization of the NIMS ICS implementation at NASCC is provided in Figure FRP 1.3.4.4.

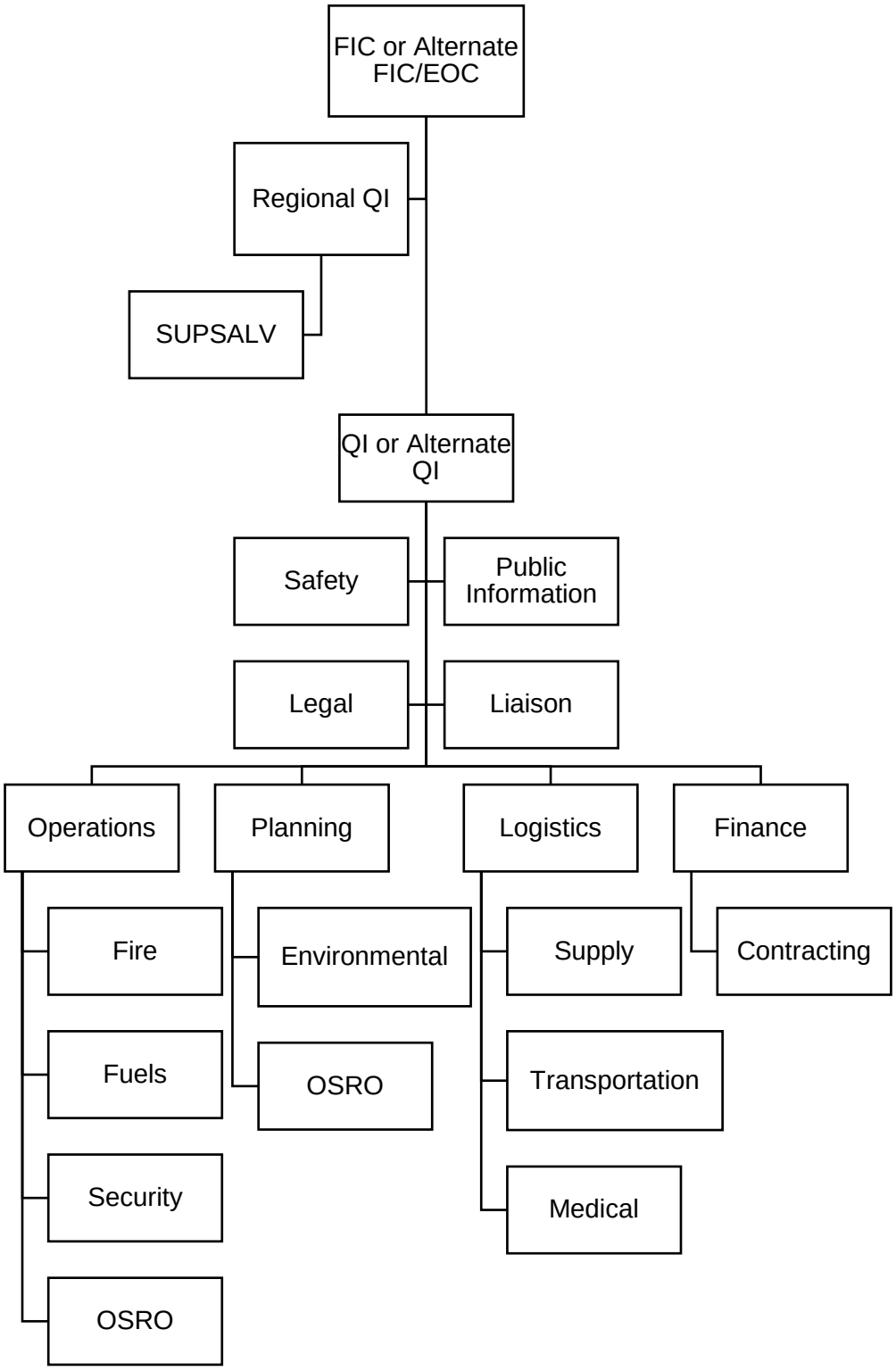
This organizational chart represents a worst-case scenario of a major oil spill. It is scalable and would be staffed with or without activation of the EOC depending on the size of the event (e.g., 5 gallons or 200,000 gallons) with the following primary responders:

- FIC = Facility Incident Commander (CO)
- Alternate FIC = Alternative Facility Incident Commander (XO) overseeing the EOC
- QI = Qualified Individual (PWO)
- Alternate QI = Alternate QI (i.e., Deputy PWO, Fire Chief, or IEPD)
- Regional QI = CNRSE/NAVFAC-SE designated FOSC-R at the request of the CO/XO to aid in major offsite oil spills. The Regional QI has the ability to activate the USCG BOA and SUPSALV (or additional regional contractors) for additional response resources in extreme catastrophic events.
- OSRO = Oil Spill Response Organization (USCG approved contractors that are already on retainer to aid in the event of a spill).

Note: During an actual spill, the QI/Alternate QI is based on the size/scale of the fuel spill and dependent upon the EOC being activated. For example, very small spills would involve the IEPD as the Alternate QI; whereas major spills would involve the PWO as the QI reporting to the EOC. QI and Alternate QI designations are required under EPA regulations.

FIGURE FRP 1.3.4.4

Incident Management Team Organizational Chart



1.3.5 Evacuation Plans

NASCC has implemented an Emergency Management Plan (NASCCINST 3440.17 dtd 12 JUN 2013) that will be used if an Air Station evacuation is needed. This FRP functions as the oil and hazardous substance annex of the Emergency Management Plan, copies of which can be found in the NASCC Emergency Management Office. If a local evacuation plan is needed, the Air Station will coordinate with the LEPC (City of Corpus Christi/Nueces County) to select the most pertinent evacuation plan based on the incident circumstances.

Evacuation of NASCC will be coordinated by the EOC and conducted by F&ES and Naval Security. Diagram FRP 1.9.1 provides an overview of NASCC's location with respect to the state of Texas. Diagram FRP 1.9.2 provides the Air Station's site plan (including bulk fuel storage/transfer areas), and Diagram FRP 1.9.4 shows probable evacuation routes.

Before evacuation, Air Station personnel may be told to shelter in place within their work centers or buildings. Once authorized by the EOC, personnel would evacuate and muster at pre-designated areas in accordance with their work center emergency evacuation plans. Muster areas would be a safe distance outside of the Air Station to ensure accountability of all staff members. Evacuation of housing areas would be coordinated with the Housing Manager. Evacuation of the local community will be coordinated with local fire and police departments. The routes used to evacuate the Air Station would be evaluated by these authorities in response to the specific emergency scenario (considering all of the factors discussed in sections below):

1. Inventory – NASCC is located in south Texas, approximately 10 miles southeast of Corpus Christi, Texas. The Air Station is bordered to the north by Corpus Christi Bay, the east by Laguna Madre, the south by South Padre Island Drive/JFK Expressway, and to the west by Oso Bay. NASCC stores 630,458 gallons of various petroleum products in ASTs and integrated generator sets. The Air Station stores another 30,000 gallons of gasoline and diesel fuel in USTs. Typical petroleum products are F-24, diesel fuel, gasoline, preservation oil, turbine oil, VARSOL, and various grades of motor oils. A detailed inventory of petroleum products and storage containers is provided in Table FRP 1.4.1.1 and in the NASCC SPCC Plan. The locations of these products and storage containers are described in Diagram FRP 1.9.2.
2. Probable Spill Flow Pathways - Most spilled fuel will be contained by integrated secondary containment or dike systems. Fuel that escapes secondary containment will flow into the stormwater drainage systems on the Air Station and flow towards an adjacent water body. Diagram FRP 1.9.3 describes NASCC's water drainage structure.
3. Hazards to Personnel – F-24, gasoline, and diesel fuel are all HazMats with varying flash points. They also present inhalation and skin contact hazards. Injured personnel would initially be treated by F&ES emergency medical technicians. If further treatment is required, patients would be transported to a predetermined emergency medical centers in Corpus Christi.
4. Wind Conditions Affecting Hazards – Vapors from POLs will be dispersed downwind. All personnel should be kept upwind of spilled fuel. Buildings downwind of large spills may need to be evacuated. This decision will be made after evaluating existing conditions. Spills on water may be affected by high wind speeds.
5. Water Conditions Affecting Hazards – POLs are lighter than water, so fuel that enters the water will spread in the direction of flow in stormwater conveyances and surrounding water bodies/tributaries. Petroleum that reaches an aquifer will flow on top of the water table.
6. Evacuation Initiation – The FIC, with input from the IMT, will decide when an evacuation of part or all of NASCC is required. The FIC, in consultation with the FOSC-R and state officials, will decide when an evacuation of the community surrounding NASCC is required. The community surrounding NASCC will be notified of the need for evacuation by local and state police. Air Station personnel will be notified by Naval Security. Evacuation initiation would be communicated through the Air Station-wide public address system (known as Big Voice). Emergency email notifications and AtHoc notifications may also be used.

7. Onsite Resources – One potential "Safe Haven" location is the Gulf Streams Recreational Hangar (Hangar 58). Personnel may initially shelter in place in their work centers or buildings before being evacuated by emergency response personnel.
8. Disaster Response – Disaster response will arrive from the F&ES via Air Station roads. Injured personnel will be treated onsite (for minor injuries) and taken to a predetermined emergency medical center in Corpus Christi.
9. Initial Staging Areas in Facility – The initial staging area for the F&ES will Fire Station #1. The initial staging area for NASCC Environmental is Building 19.
10. Facility Evacuation Routes – Evacuation routes are posted in each individual building. The primary evacuation routes will follow Air Station roads towards either the Main Gate on Lexington Boulevard or the Back Gate on Ocean Drive. The FIC, with input from the IMT and QI, will decide whether gates are not safe for emergency exit. Once outside the facility, personnel should report to their designated muster areas where organizations will conduct roll -call in accordance with their established procedures. Shop supervisors are responsible for accounting for their personnel and visitors.
11. Command Center – The command center is the EOC. Members of the IMT will report to the EOC when required.

1.3.6 Qualified Individual's Duties

The duties of the designated QI are listed below:

1. Activate alarms and communication systems to notify all necessary facility personnel.
2. Notify all response personnel listed in Table FRP 1.3.4.3.
3. Identify character, exact source, amount and extent of release, as well as other items needed for notification.
4. Notify NASCC Environmental, which will in turn notify and provide necessary information to the appropriate federal, state, and local authorities with designated response roles, including the NRC, State Emergency Response Commission, and LEPC.
5. Using knowledge of the hazards of the materials onsite, assess interaction of spilled substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment.
6. Assess possible hazards to human health and environment due to the release. The assessment will consider both direct and indirect effects of the release (for example, gases released, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and explosion.) Consideration will also be given to environmental hazards posed by releases from the foam suppression systems at the facility.
7. Assess and implement prompt removal actions to contain and remove the substance(s) released.
8. Coordinate rescue and response actions as previously arranged through Memoranda of Agreement(s) and during discussions and drills with all response personnel, including F&ES.
9. Use authority to immediately access Air Station funding to initiate cleanup activities. The QI has full authority to implement corrective actions.
10. Ensure safety during cleanup activities. The IEPD will direct and coordinate cleanup with the IMT. NASCC will clean up some small discharges, OSROs will be used for water-borne spills, small spills that exceed Air Station resources and all medium and worst case discharges.

1.4 Hazard Evaluation

This section discusses the hazard evaluation at NASCC. It consists of two parts: hazard identification and vulnerability analysis. The hazard evaluation is useful to the Air Station in planning for potential discharges, thereby reducing the severity of the potential discharge impacts, and for correcting potential sources of discharge.

At NASCC, the product that would be discharged in a WCD would be F-24. It is classified as a Group 1, non-persistent oil. In accordance with EPA guidance on planning distances for oil transport on tidal-influenced areas (40 CFR 112, Appendix C), and the fact that F-24 is a non-persistent oil, a planning distance of 5 miles was used to perform the hazard evaluation and vulnerability analysis. The calculation methodology for the NASCC planning distance is contained in Appendix C.

1.4.1 Hazard Identification

This section provides information on the following hazards identified at NASCC:

- Surface Impoundments (SIs)
- Fuel loading and unloading practices
- Day-to-day operations that present a risk of discharging oil
- The Air Station's normal daily throughput
- Bulk storage tanks (including ASTs and USTs)
- Health hazards

Refer to Section 1.9, Diagrams, for schematics of NASCC that show the locations of petroleum storage containers throughout the Air Station. Containment and drainage information is provided in Section 1.7, Plan Implementation, and Diagram FRP 1.9.3. Additional information on secondary containment of transfer areas, loading/unloading racks, and individual petroleum storage containers is provided in the NASCC SPCC Plan.

Tank Truck Loading

Leaks related to tank truck loading may originate from piping, fittings, valves, hoses, transfer connections, and other equipment, including the tank truck itself. The volume typically observed will vary, but should not exceed 5 to 10 gallons.

Leaks may be caused by operator error and equipment malfunction that result in overfills during transfer operations. The volume cannot exceed 300 gallons because the maximum transfer rate is 300 gallons per minute (gpm) for off-loading commercial tanker trucks. Loading of military refuelers, aircraft, and ancillary equipment occurs at a reduced transfer rate. Drivers and Navy Supply Command (NAVSUP) or Defense Logistics Agency-Energy (DLA-E) staff are always present during the transfer of petroleum from or to vehicles. Operators can stop the flow of fuel in less than 1 minute using a "dead-man" cut-off. Overfills are also unlikely due to automatic shut-off switches, pre-determined transfer volumes, and continual oversight of operations.

Leaks may be caused by structural and equipment component failures (for example, collision with vehicles, catastrophic rupture, or valve/hose/piping failure). The amount discharged could vary, up to the entire contents of a military refueler (8,000 gallons) if all compartments simultaneously fail.

Day-to-day Operations

Pipe Repair

Equipment could experience failure caused by faulty installation or repairs (for example, installing bolts improperly, installing components with incorrect specifications, or installing improperly selected gaskets). Leaks could also result from inadequately isolating and evacuating oil in components before repairs. The amount discharged could vary, depending on the size of the container and response time (for example, up to 300 gallons

from a commercial tanker truck off-load at the Aviation Fuel Farm; this is based on an unloading rate of 300 gpm and a one minute response time to release the dead-man cutoff).

Valve Repair

Leaks from valve stems could result from improperly adjusted valve packings and failures of valve body parts due to improper joining to piping. Leaks may also result from improper adjustment of pressure relief valves and failure to completely or adequately isolate and evacuate oil before repairing valve. The amount discharged could vary, depending on the size of the container (up to 300 gallons from a commercial tanker truck off-load at the Aviation Fuel Farm; this is based on a pumping rate of 300 gpm and one minute response time to release the dead-man cutoff).

Tank-to-tank Transfer

Overfills may result from valve misalignment and/or improper tank gauging. The amount discharged could vary, depending on the size of the container (for example 50 gallons, which is one 50-gpm pump used for transfer from the military refuelers to aircraft and one minute to detect spill and shutoff pump).

Draining Secondary Containment

Leaks may result from improperly inspecting containment dike water before draining dikes. The amount of petroleum discharged would vary, depending on the size of the tank and the amount of petroleum product in the secondary containment.

Normal Throughput

The Air Station receives and uses F-24, gasoline, and diesel fuel. The average monthly throughput of each is 412,227 gallons, 1,116 gallons, and 5,388 gallons, respectively. The bulk of fuel transferred and used at NASCC is F-24 (Group 1 non-persistent oil). An increase or decrease in throughput will not change the potential spill volume at the fuel farm unless the facility begins to service tank trucks with capacities of more than 8,000 gallons or adds additional fuel loading capabilities.

Aboveground and Underground Storage Tanks

Table FRP 1.4.1.1 lists all the ASTs and USTs (including integrated generator belly tanks while excluding mobile tanks and oil-filled operational equipment) at NASCC. The table provides information on tank location as well as substance stored, quantity stored, tank type/year, maximum capacity, and any past failures. The NASCC SPCC Plan contains specific information pertaining to each stationary tank, mobile refueler, and oil-filled operational equipment (for example, secondary containment, alarms, release detection, and gauge types). As of June 2017, there were zero ASTs without sufficient secondary containment. The substances stored and container capacities are described in Table FRP 1.4.1.1.

ASTs are designated by their building number and a tank number (if more than one tank is located at a building). Tanks are inspected and maintained under a rigorous program (refer to the NASCC SPCC Plan and Section 1.8.1) and repaired or brought off-line to prevent failure. There have been no known failures to the tanks listed below. Operational failures and discharges of POL from activities at NASCC are described in Section 1.4.4 and Table FRP 1.4.4.1. Refer to Diagram FRP 1.9.2 for a site plan of petroleum containers, transfer areas, and related emergency response equipment at NASCC.

TABLE FRP 1.4.1.1
Hazard Identification Tanks[1]

Tank No.	Substance Stored	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause
1	Unleaded gasoline	10,000	UST/1986	10,000	N/A
2	Unleaded gasoline	10,000	UST/1986	10,000	N/A
3	Ultra-low-sulfur diesel (ULSD)	10,000	UST/1986	10,000	N/A
7-1	ULSD	4,500	AST/2005	4,500	N/A

TABLE FRP 1.4.1.1
Hazard Identification Tanks[1]

Tank No.	Substance Stored	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause
10-1	ULSD	2,500	AST/2007	2,500	N/A
11-1	ULSD	500	AST/2007	500	N/A
41	Out-of-service	1,000	AST/1996	1,000	N/A
41-A	ULSD	300	AST/2000	300	N/A
47-1	Preservation oil	500	AST/2012	500	N/A
47-2	Preservation oil	500	AST/2012	500	N/A
47-3	Preservation oil	500	AST/2012	500	N/A
47-4	Preservation oil	500	AST/2012	500	N/A
47-5	F-24	3,000	AST/1993	3,000	N/A
50-1	ULSD	250	AST/1989	250	N/A
50-2	ULSD	250	AST/1989	250	N/A
50-3	ULSD	630	AST/2005	630	N/A
50-4	ULSD	357	AST/2006	357	N/A
55-1	ULSD	280	AST/2001	280	N/A
62-1	Out-of-service	1,000	AST/1984	1,000	N/A
68-1	ULSD	300	AST/2006	300	N/A
89-1	Out-of-service	1,000	AST/2005	1,000	N/A
90-1	Used Cooking Oil	294	AST/2014	294	N/A
104-1	ULSD	80	AST/2010	80	N/A
121-1	ULSD	250	AST/2005	250	N/A
154-1	Gasoline	4,000	AST/2005	4,000	N/A
154-2	ULSD	8,000	AST/196	8,000	N/A
216-1	Out-of-service	150	AST/1996	150	N/A
227	F-24	10,000	AST/1996	10,000	N/A
228	F-24	10,000	AST/1996	10,000	N/A
229	F-24	10,000	AST/1996	10,000	N/A
230	VARSOL	2,000	AST/1996	2,000	N/A
231	VARSOL	2,000	AST/1996	2,000	N/A
232	Turbine Oil	2,000	AST/1996	2,000	N/A
233	Preservation oil	2,000	AST/1996	2,000	N/A
235	Out-of-service	250	AST/1996	250	N/A
236	ULSD	250	AST/1992	250	N/A
252	Out-of-service	250	AST/1996	250	N/A
340-1	ULSD	200	AST/1996	200	N/A
1238-1	ULSD	1,000	AST/2006	1,000	N/A
1241	ULSD	500	AST/2013	500	N/A
1260-1	ULSD	400	AST/1987	400	N/A
1289	ULSD	130	AST/UNK	130	N/A
1292	ULSD	83	AST/1987	83	N/A
1700-1	ULSD	250	AST/1992	250	N/A

TABLE FRP 1.4.1.1
Hazard Identification Tanks[1]

Tank No.	Substance Stored	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause
1700-2	ULSD	450	AST/2005	450	N/A
1716-1	F-24	272,000	AST/1987	272,000	N/A
1720-2	Out-of-service	272,000	AST/1987	272,000	N/A
1717A	Out-of-service	5,000	AST/UNK	5,000	N/A
1735-1	Used Cooking Oil	294	AST/2012	294	N/A
1737-1	Used Oil	500	AST/1992	500	N/A
1743-1	Out-of-service	250	AST/2007	250	N/A
1757-1	Gasoline	2,000	AST/2014	2,000	N/A
1797G	ULSD	194	AST/2012	194	N/A
1804-1	ULSD	1,000	AST/2013	1,000	N/A
1833	ULSD	2,000	AST/2013	2,000	N/A
1848-1	ULSD	425	AST/1990	425	N/A
2607	ULSD	500	AST/1998	500	N/A
GM-1	ULSD	500	AST/1998	500	N/A
GM-2	Gasoline	500	AST/2000	500	N/A
H100-A	ULSD	180	AST/UNK	180	N/A
PAR-1	ULSD	211	AST/2010	211	N/A
W-1-1	ULSD	500	AST/2012	500	N/A

[1] Tank = any container that stores oil

Surface Impoundments

There are no SIs, or other natural topographic depressions, man-made excavations, or diked areas formed primarily of earthen materials or lined with man-made materials that are designed to hold an accumulation of liquid wastes or wastes containing free liquids, and that are not an injection well or a seepage facility.

TABLE FRP 1.4.1.2
Hazard Identification SIs

SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Maximum Capacity (gallons)	Failure/Cause
N/A	N/A	N/A	N/A	N/A	N/A

N/A – not applicable

1.4.2 Vulnerability Analysis

A vulnerability analysis addresses the potential effects of an oil spill to human health, property, and the environment. It identifies a planning distance corridor for the drainage route of a WCD. The planning distance for a WCD at NASCC is 5 miles. Appendix C contains the derivation of the response planning distances for this FRP. NASCC has devised choke points and pre-staged equipment at various locations surrounding the Air Station. Section 1.7.4 contains the prioritized list of environmentally and economically sensitive areas within the FRP response planning distances. The sensitive areas and the priorities are in accordance with the USCG Sector Corpus Christi ACP, the EPA Region VI RCP, the One Gulf Plan, and the Texas Oil Spill Planning and Response Toolkit. The priorities of these identified areas cannot be changed by the facility. The sections below discuss wildlife oil vulnerabilities as well as sensitive areas of economic impact.

Water Intakes

According to the USCG Sector Corpus Christi ACP, there are no industrial intakes located within the planning distance that may be impacted. There are three water intakes located six miles south of the Air Station (refer to ESI 58 – Pita Island) along the Laguna Madre. These intakes are outside of the planning distance; however, they draw water from the Laguna Madre and it may be good practice to notify the water intakes in the event of a discharge:

- Barney M. Davis Energy Center
  4301 Waldron Rd
  Corpus Christi, TX 78418
  Talen Energy Corporate : (888) 289-7693
  Plant Manager: (361) 939-5019
- Texas Parks & Wildlife Dept. Fish Hatchery
  4300 Waldron Rd
  Corpus Christi, TX 78418
  (361) 939-7784

Schools

The proximity of the schools makes them of importance during an incident. NASCC will notify nearby schools during an incident, if they are at risk. NASCC's planning distance encompasses the Flour Bluff School District, which is a part of the Texas Region II Education Service Center. The Flour Bluff School District encompasses an Elementary School, Primary School, Grade School, Intermediate School, Junior-Senior High School, and associated school office buildings. Information for the school district is listed below:

- Flour Bluff School District
  2505 Waldron Road
  Corpus Christi, TX 78418
  (361) 937-2681
- Education Service Center, Region 2
  209 North Water Street
  Corpus Christi, TX 78401
  (361) 561-8400

Additional schools, universities, and colleges within the planning distance are included below:

- Texas A&M University-Corpus Christi
  6300 Ocean Dr.
  Corpus Christi, TX 78412
  (361) 825-5700
- South Texas School of Christian Studies
  7000 Ocean Dr.
  Corpus Christi, TX 78418
  (361) 991-9403

There is a Child Development Center (Building 1782) and a Youth Center (Building 1759) at NASCC which can be reached through the Air Station's emergency notification system.

Medical Facilities

NASCC has one medical facility within the boundary of the Air Station, the Naval Health Clinic Corpus Christi. A large discharge or fire hazard may prompt the evacuation the Naval Health Clinic. In the event of any discharge in which medical attention may be required, the Health Clinic should be notified.

- Naval Health Clinic Corpus Christi
  10651 E Street, Bld H-100
  Corpus Christi, TX 78419
  (361) 961-2668

Various other medical facilities are within NASCC planning distance. These range from small, urgent care centers to large hospitals capable of full emergency and medical services. Large hospitals and urgent care centers are noted below. NASCC will notify these facilities in the event there is a discharge/emergency that may require medical attention or evacuation:

- Corpus Christi Memorial Hospital
  2606 Hospital Blvd
  Corpus Christi, TX 78405
  (361) 902-4000
- Bay Area Hospital ER
  7101 South Padre Island Drive
  Corpus Christi, TX 78412
  (361) 761-1000
  (phone number for all Corpus Christi Medical Center Facilities)
- Driscoll Children's Hospital
  3533 S Alameda St
  Corpus Christi, TX 78411
  (361) 694-5000
- Christus Spohn Hospital-Shoreline
  600 Elizabeth St
  Corpus Christi, TX 78404
  (361) 881-3000
- Christus Spohn South Hospital
  5950 Saratoga Blvd
  Corpus Christi, TX 78414
  (361) 985-5000

Form FRP 1.3.1.1 lists hospitals and medical centers near NASCC that should be notified in the event of a large-scale petroleum discharge.

Residential Areas and Businesses

Residential areas and businesses are within the Air Station. In the event that on-Air Station residences must be notified of a discharge and potentially evacuated, Naval Security would provide support and conduct the evacuations. Notification would be conducted using AtHoc, Big Voice, and phone/text recall. On-Air Station businesses would be notified via NASCC's Big Voice notification system. This would prompt business owners as to the nature of the emergency and what procedures should be followed.

If residences and businesses outside of the Air Station were required to be notified and evacuated, the Nueces County Sheriff Department and Corpus Christi Police Department would conduct the notifications/evacuation. Local businesses surrounding the Air Station include gas stations, bars, restaurants, churches, grocery stores, and retail shopping venues. Similar to housing evacuations, the Nueces County Sheriff's Office (and other local law enforcement agencies, as needed) would conduct notifications and evacuations if necessary. Both nearby residents and businesses could potentially hear the Big Voice and become aware of emergency situations at NASCC. The following sensitive receptor businesses and residential areas, as identified in the USCG Sector Corpus Christi ACP and within the 5-mile planning distance, should be notified in the case of a discharge.

- Marina Village RV Park
  229 NAS Dr.
  Corpus Christi, TX 78418
  (361) 937-2560
- Padre Palms RV Park
  131 Skipper Ln.
  Corpus Christi, TX 78418
  (361) 937-2125
- Martha's Vineyard RV Park
  850 Stone St.
  Corpus Christi, TX 78418
  (361) 937-5558
- Ballyhoo Plastics LLC
  302 NAS Dr. #D
  Corpus Christi, TX 78418
  (361) 334-4975
- Clem's Marina
  13304 S Padre Island Dr.
  Corpus Christi, TX 78418
  (512) 949-8445
- Marker 37 Marina
  13317 S Padre Island Dr.
  Corpus Christi, TX 78418
  (512) 949-8037

- Billings Public Boat Ramp
  State Hwy Park Rd 22
  S Padre Island - Corpus Christi, TX
- Land & Sea Marina Boat Ramp
  State Hwy Park Rd 22
  S Padre Island - Corpus Christi, TX
- Laguna Marina
  3001 Laguna Shores Rd.
  Corpus Christi, TX 78418
  (512) 937-2151
- Oso Bridge Public Boat Ramp
  Ocean Dr.
  Corpus Christi, TX 78418
- Boat Hole Boat Ramp
  Jester St.
  Corpus Christi, TX
- Naval Boat Ramp
  Wise Owl Ln.
  Corpus Christi, TX
- First United Methodist
  359 Tuna St
  Corpus Christi, TX 78418
  (361) 742-9752
- Funtrackers Family Fun Center
  9605 S Padre Island Dr.
  Corpus Christi, TX 78418
  (361) 937-9400
- Gulf Coast Marine
  10121 S Padre Island Dr.
  Corpus Christi, TX 78418
  (361) 937-7800
- Wind & Wave Watersports
  10721 S Padre Island Dr.
  Corpus Christi, TX 78418
  (361) 937-9283

Wetlands or Other Sensitive Environments

NASCC's 5-mile planning distance contains Oso Bay and Laguna Madre wetlands, characterized as a highly sensitive environmental area. No other sensitive environmental areas were identified in addition to those already described in this section.

Fish and Wildlife

Fish and wildlife that could be expected to be present within the planning distance are described in the ESIs presented in Section 1.9. Additional information concerning fish and wildlife species can be found in the NASCC Integrated Natural Resources Management Plan (INRMP), the USCG Sector Corpus Christi ACP, the One Gulf Plan, the Texas Oil Spill Response and Planning Toolkit, and NOAA's Environmental Response Management Application (ERMA) website: http://response.restoration.noaa.gov/maps-and-spatial-data/environmental-response-management-application-erma.

Lakes and Streams

There are no named lakes or streams within NASCC; however, there are many tidally-influenced waterways in the immediate area of the Air Station. These waterways could be impacted depending on the extent of an incident. If a spill was large enough, or if surface run-off was maximized during the rainy season, it is possible that Oso Bay, Corpus Christi Bay, or Laguna Madre could be impacted during a spill. A list of nearby waterways that could potentially be affected and the corresponding map within the USCG Sector Corpus Christi ACP are listed below:

- Corpus Christi Bay – ESIs 54, 55
- Laguna Madre – ESIs 54, 55, 57, and 58
- Oso Bay– ESI 55

Refer to Form FRP 1.3.1.1 for a list of organizations/agencies to notify if a petroleum discharge may impact lakes and streams surrounding NASCC.

Endangered Flora and Fauna

According to the NASCC INRMP, the following federally and state-listed endangered species have the potential to occur onsite:

- South Texas ambrosia (*Ambrosia cheiranthifolia*)
- Slender rushpea (*Hoffmannseggia tenella*)
- Smalltooth sawfish (*Pristis pectinata*)
- Leatherback sea turtle (*Dermochelys coriacea*)
- Atlantic hawksbill sea turtle (*Eretmochelys imbricata*)
- Kemp's ridley sea turtle (*Lepidochelys kempii*)
- Northern aplomado falcon (*Falco femoralis ssp.septentrionalis*)
- Whooping crane (*Grus americana*)
- Eskimo curlew (*Numenius borealis*)
- Interior least tern (*Sterna antillarum ssp.athalassos*)
- Attwater's greater prairie-chicken (*Tympanuchus cupido ssp.attwateri*)
- West Indian manatee (*Trichechus manatus*)
- Red wolf (*Canis rufus*)
- Gulf Coast jaguarundi (*Puma yagouaroundi ssp.cacomitli*)
- Ocelot (*Leopardus pardalis*)
- Jaguar (*Panthera onca*)

The NASCC INRMP also indicates the state-listed endangered Brown pelican (*Pelecanus occidentalis*) is known to occur onsite.

The NASCC INRMP lists the following state-listed threatened species that have the potential to occur onsite:

- Golden orb (*Quadrula aurea*)
- False spike mussel (*Quadrula mitchelli*)
- Texas pimpleback (*Quadrula petrina*)
- Opossum pipefish (*Microphis brachyurus*)
- Sheep frog (*Hypopachus variolosus*)
- Black-spotted newt (*Notophthalmus meridionalis*)
- Texas scarlet snake (*Cemophora coccinea ssp.lineri*)
- Timber rattlesnake (*Crotalus horridus*)
- Texas indigo snake (*Drymarchon melanurus ssp.erebennus*)
- Swallow-tailed kite (*Elanoides forficatus*)
- American peregrine falcon (*Falco peregrinus ssp. anatum*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Wood stork (*Mycteria americana*)
- Texas Botteri's sparrow (*Peucaea (Aimophila) botterii texana*)
- Sooty tern (*Sterna fuscata*)
- White-nosed coati (*Nasua narica*)

The NASCC INRMP also lists the following state-listed threatened species that are known to occur onsite:

- Texas horned lizard (*Phrynosoma cornutum*)
- Texas tortoise (*Gopherus berlandieri*)
- White-tailed hawk (*Buteo albicaudatus*)
- Reddish egret (*Egretta rufescens*)
- Peregrine falcon (*Falco peregrinus*)
- White-faced ibis (*Plegadis chihi*)
- Southern yellow bat (*Lasiurus ega*)

The NASCC INRMP also lists the following federally and state-listed threatened species that have the potential to occur onsite:

- Loggerhead sea turtle (*Caretta caretta*)
- Green sea turtle (*Chelonia mydas*)
- Piping plover (*Charadrius melodus*)

The USCG Sector Corpus Christi ACP or the NOAA ERMA website also contain additional information. If there are any discharges of petroleum product that may impact federal- or state-listed threatened and endangered species, contact the numbers listed below. These numbers are also listed in Form FRP 1.3.1.1:

Federally Protected Species

USFWS Endangered Species Program
4401 N. Fairfax Drive, Room 420
Arlington, VA 22203
(703) 358-2171

USFWS, Region 2
500 Gold Ave SW
Albuquerque, NM 87102
(505) 248-6652
24hr: (505) 480-5368

State Protected Species

TCEQ Region 14
6300 Ocean Drive
Suite 1200, Unit 5839
(361) 825-3100

TPWD, South Texas Plains Wildlife District Supervisor
PO Box 1151
Pleasanton, TX 78064
(830) 569-7806

Recreational Areas

There are few recreational areas within NASCC, including a golf course and a fitness center. If a discharge of petroleum is expected to impact any recreational area, notifications will be made in accordance with Form FRP 1.3.1.1 and by calling 911. Recreational areas outside NASCC and within the planning distance include the following:

- Nueces County Parks & Recreation
  415 Mariner Rd.
  Robstown, TX 78380
  (361) 387-5904
- Corpus Christi Parks & Recreation
  1201 Leopard St.
  Corpus Christi, TX 78401
  (361) 826-3464
- Anchor Harbor Campground
  8100 S Padre Island Dr.
  Corpus Christi, TX 78412
  (361) 991-3292
- Oso Pier
  6124 Ocean Dr.
  Corpus Christi, TX 78412
  no phone # listed
- Oso Beach Municipal Golf Course
  5601 S Alameda St.
  Corpus Christi, TX 78412
  (361) 826-8010
- Padre Island National Seashore
  20420 Park Rd. 22
  Corpus Christi, TX 78418
  (361) 949-8068
- Mustang Island State park
  17047 TX-361
  Port Aransas, TX 78373
  (361) 749-5246
- Philip Dimit Municipal Fishing Pier
  201 Jester St.
  Corpus Christi, TX 78418
  no phone # listed

Transportation Routes (Air, Land, and Water)

Transportation routes (air, land and water) were examined for the entire NASCC planning distance. Based on this survey, it was concluded that the proximity of the listed transportation routes make them vulnerable to impact, depending on the location of an incident. These areas are:

- Numerous runways on NASCC could be impacted depending on the location and extent of an incident. A spill would not have to cross a runway to affect it.
- Numerous streets on NASCC could be impacted depending on the extent of an incident (i.e., a spill could cross a roadway).
- If a discharge migrated through stormwater drainage pathways, it could potentially impact water craft traffic on Corpus Christi Bay, Oso Bay, and Laguna Madre.
- Various small neighborhood streets surround the Air Station. In the event of a WCD, areas that could be impacted include Ocean Drive, to the north and west of the Station, and South Padre Island Drive (including the John F. Kennedy Memorial Causeway) to the southwest and southeast. Depending on the type, size, and direction of the discharge, Station and local law authorities may need to close or alter traffic in these

thoroughfares. Flour Bluff Drive and Waldron Road, to the south of the Station, are also primary routes of travel and may be impacted.

Utilities

Sewer treatment and electrical utilities were examined at NASCC. The Air Station has a functional wastewater treatment plant (WWTP) within the property line. The wastewater treatment plant is the most vulnerable in the event of a WCD because an evacuation resulting from a spill may require a facility shutdown. Emergency notification to the on-site WWTP is conducted through the Public Works Department.

Notification to the City of Corpus Christi Public Works, Wastewater Department should also be made in the event any Air Station discharge would impact city infrastructure:

- Corpus Christi Wastewater Dept. (office)
  2726 Holly Rd
  Corpus Christi, TX 78415
  Phone (361) 826-1800
  Emergency Phone (361) 826-1888

Although supplemental purification is conducted on-Air Station, potable water is transferred to the Air Station by the City of Corpus Christi Water Production Department. Water is drawn from the Choke Canyon/Lake Corpus Christi Reservoir System within the Nueces River Basin. Lake Texana serves as the contingency water supply and is conveyed via the Mary Rhodes Pipeline to the O.N. Stevens Water Treatment Plant in Corpus Christi. Corpus Christi Water Production Department should be notified if a spill has entered the stormwater system by contacting:

- Corpus Christi Water Production Dept.
  2726 Holly Rd
  Corpus Christi TX 78415
  Phone (361) 826-1289
  Emergency Phone (361) 826-1888

Electrical utility impacts are extremely location-dependent, due to the large number of transformers and the Station-wide location of storage tanks. Refer to the NASCC SPCC Plan for a detailed site description of transformers and spill impacts to the Air Station.

Other Areas of Economic Importance

Table FRP 1.4.2.1 lists additional sensitive areas surrounding NASCC. Some of the areas described below may overlap locations described in the sections above. Diagram FRP 1.9.6 depicts the different response areas within the 5 mile response area. The sites specified in this section are taken directly from the USCG Sector Corpus Christi ACP, The Gulf One Plan, and the Texas Oil Spill Planning and Response Toolkit.

The information contained within this subsection is intended for use during the initial or emergency response phase of the cleanup. The sensitivity has been defined and prioritized by the USCG Sector Corpus Christi ACP, the One Gulf Plan, the Texas Oil Spill Planning and Response Toolkit, and NASCC Environmental. The sensitive area to be protected may vary depending on various factors (e.g., spill detection time, tide, current, weather, personnel available on-site to respond, etc.). Constant priority level surveillance and analysis must be made to maximize the protection of identified sensitive areas and to make intelligent response decisions.

TABLE FRP 1.4.2.1

List of ACP Sensitive Areas and Areas of Economic Importance

HIGH PRIORITIES (A): All areas listed below have been identified by the USCG Sector Corpus Christi ACP as High Protection Priority sites within the Air Station's planning distance. This table summarizes the complete list of high priority areas as determined by the USCG Sector Corpus Christi ACP. However, due the extensive number of areas to be protected and the limited resources, only those sensitive areas within the 5-nautical mile response zone are addressed further within this FRP/DPRP.

(TGLO Site #) Protection Site	Sensitive Resources; Rating[1]	TGLO ESI Map Identifier[2]
(A1) Blind Oso	Birds, Rookery; **High** Habitat; **High** Economic Use; **Medium**	#55 – OSO Creek NE
(A2) University Beach	Birds, Rookery; **Low** Habitat; **Low** Economic Use; **High**	#55 – OSO Creek NE
(A3) Oso Bridge on Ocean Drive	Birds, Rookery; **High** Habitat; **High** Economic Use; **Medium**	#55 – OSO Creek NE
[a]NASCC NW Barge Dock	Birds, Rookery; **Low** Habitat; **Low** Economic Use; **Navy Use**	#55 – OSO Creek NE
(A4) NASCC Stormwater Outfall H-1 at Hanger 44	Birds, Rookery; **Low** Habitat; **Low** Economic Use; **Navy Use**	#55 – OSO Creek NE
[b]NASCC Fishing Pier	Birds, Rookery; **Low** Habitat; **Medium** Economic Use; **High**, **Navy Use**	#55 – OSO Creek NE
[b]NASCC ACOE Sensitive Area Site on Dimmick Island	Birds, Rookery; **High** Habitat; **High** Economic Use; **Navy Use**	#55 – OSO Creek NE
[b]NASCC Paradise Cove Marina	Birds, Rookery; **Low** Habitat; **Medium** Economic Use; **High**, **Navy Use**	#55 – OSO Creek NE
[b]NASCC Deflection Strategy to Protect Western Shoreline of Laguna Madre	Birds, Rookery; **High** Habitat; **High** Economic Use; **Low**	#55 – OSO Creek NE
[b]NASCC Stormwater Outfall R-1	Birds, Rookery; **High** Habitat; **High** Economic Use; **Low**	#55 – OSO Creek NE
Crane Islands Protection Strategy in Laguna Madre	Birds, Rookery; **High** Habitat; **High** Economic Use; **High**	#54 - Crane Islands NW #55 – OSO Creek NE
[b]NASCC Stormwater Outfall W-1 into Oso Bay	Birds, Rookery; **High** Habitat; **High** Economic Use; **Medium**	#55 – OSO Creek NE
South Padre Island Dr. (JFK Causeway Point A and B) Strategies for Laguna Madre	Birds, Rookery; **High** Habitat; **High** Economic Use; **Medium**	#54 - Crane Islands NW #55 – OSO Creek NE
Padre Island Canal (JFK Causeway Point C) on west Bank of Packery Channel	Birds, Rookery; **Medium** Habitat; **Medium** Economic Use; **High**	#54 - Crane Islands NW

[1] Ratings: **Low**, **Medium**, **High**, **Navy Use** (Not Rated)

[2] Refer to the USCG Sector Corpus Christi ACP and Texas Oil Spill Planning and Response Toolkit.

[a] This strategy was developed as part of an on water equipment deployment exercise by TAMU and NASCC (August 2011).

[b] These locations are not identified as response strategy sites within the Texas Oil Spill Planning and Response Toolkit, USCG Sector Corpus Christi ACP, or One Gulf Plan. These site strategies were developed specifically for NASCC.

1.4.3 Analysis of the Potential for an Oil Spill

Because of the number of fuel loading and unloading operations, servicing of ASTs and USTs throughout the Air Station, and maintenance and fueling of equipment and vehicles, the risk potential for an oil spill on NASCC is

significant. The probable size of an oil discharge due to oil handling operations is small. Due to the engineering controls for spill containment and response capabilities on NASCC, the potential for a discharge related to oil handling to leave the confines of the Air Station is moderate to low; however, based on the quantity and frequency of over-water fuel transfer operations, the potential for an oil discharge to nearby waters is high.

The potential for a massive release of POLs, such as tank failure, line rupture, or discharge caused by natural or technological disasters, earthquake, hurricane, or major fire, is low, but exists. Engineered controls and secondary containment structures are the primary defense for such events. Most of the facility's ASTs with capacities exceeding 55 gallons have secondary containment consisting of double-walled tanks, metal dikes, or concrete containment dikes. Although the exact ages of all the tanks on the Air Station are not known and some tanks are relatively old, a rigorous inspection and repair program is implemented on NASCC. This program (described in Section 1.8) consists of daily inspections of bulk storage tanks and transfer systems, annual testing, and an organization on the Air Station dedicated to fuel system maintenance with response capabilities 24 hours per day.

1.4.4 Facility's Reportable Oil Spill History

Table FRP 1.4.4.1 contains the Air Station's spill inventory from 1988 to present. NASCC maintains an inventory of all spills that occur within the fenceline of the Air Station; however, only those that are reportable to federal or state authorities are required to be maintained in this FRP.

As described in 40 CFR 110, reportable spills are those that:

a. Violate applicable water quality standards, or

b. Cause a film or sheen upon or discoloration on the surface of the water or cause sludge or emulsion to be deposited beneath the surface of the water.

In accordance with state of Texas law, reportable spills include any spill that is in a quantity enough to create a sheen (onto water) or equal to or more than 25 gallons (onto land). Additional information is available through the Texas Commission on Environmental Quality's website: https://www.tceq.texas.gov/response/spills/spill_rq.html.

The following information pertaining to each reportable spill is required to be maintained:

1. Date of discharge(s)
2. List of discharge causes
3. Material(s) discharged
4. Amount discharged in gallons
5. Amount of discharge that reached navigable waters, if applicable
6. Effectiveness and capacity of secondary containment
7. Cleanup actions taken
8. Steps taken to reduce possibility of recurrence
9. Total oil storage capacity of the tank(s) or impoundment(s) from which the material discharged
10. Enforcement actions
11. Effectiveness of monitoring equipment
12. Description(s) of how each oil discharge was detected

In order to present manageable data for the Air Station, only the date, location, product spilled, spill volume and units, and if the material was discharged to navigable water is presented in Table FRP 1.4.4.1. Spills equal or greater than 25 gallons in capacity that may meet the Texas reportable threshold are also included below. NASCC maintains robust spill reporting files that includes the additional information required above.

TABLE FRP 1.4.4.1
Facility Reportable Spill History

Date	Location	Product	Spill Volume	Units	Spilled to Navigable Waters
2/10/2015	Building 28	F-24	611	Gallons	No
11/21/2014	Bulk fuel facility	F-24	40	Gallons	No
9/26/2014	Hangar 44	Jet A	12	Gallons	Yes
8/20/2013	Flight Line A-7	Diesel	25	Gallons	No
6/12/2012	NASCC SOUTH FLIGHT LINE VIC BLDG 70	Hydraulic fluid	10	Gallons	Yes
1/27/2012	BLDG 77 DOOR 6	Hydraulic fluid	5	Gallons	Yes
12/4/2011	BLDG 8 TEST CELLS 11 AND 12	JP-8	5	Gallons	Yes
10/25/2011	FUEL FARM	Jet fuel	65	Gallons	Yes
10/13/2011	BLDG 27 WAREHOUSE FLOOR NE CORNER	Hydraulic fluid	3 - 5	Gallons	Yes
7/6/2011	FLIGHT LINE BEHIND TEST FLIGHT	JP-5	3 - 4	Gallons	Yes
6/29/2011	BLDG 22 FRONT	Transformer	5	Gallons	Yes
6/6/2011	HANGAR 55 SW CORNER OF RAMP	Hydraulic fluid	5-10	Gallons	Yes
5/10/2011	G LINE AIRCRAFT SPOT G1	JP-8	1.5	Gallons	Yes
3/22/2011	HANGAR 44 FLIGHT LINE	Aviation Fuel	3	Gallons	Yes
2/15/2011	HANGAR 44 FLIGHT LINE ACFT APRON	JP-5	5	Gallons	Yes
10/19/2010	LIFT STATION B - SITE 1292	Diesel	2-5	Gallons	Yes
5/27/2010	TAXIWAY DELTA ALONG ECHO TO YANKEE	Hydraulic fluid	35 - 45	Gallons	Yes
5/7/2010	BLDG 50 SOUTHSIDE IN MECH CMPD	Hydraulic fluid	6-8	Gallons	Yes
4/29/2010	GAS PUMP # 9	Gasoline	~5	Gallons	Yes
4/9/2010	GAS PUMP # 5	Gasoline	3	Gallons	Yes
2/12/2010	BLDG 1290 PUMP 5	Gasoline	3	Gallons	Yes
2/5/2010	MARINA	Oil sheen on water	< 1	Pints	Yes
11/6/2009	BLDG 1290 GAS PUMP # 5	Gasoline	2	Gallons	Yes
7/17/2009	HANGAR 51 GSE COMPOUND	JP-5	3	Gallons	Yes
6/28/2009	WHIRL TOWER 2	Turbine oil	~ 10	Gallons	Yes
6/27/2009	BLDG 8 DOOR 28A	Calibrating fluid	20	Gallons	Yes
4/27/2009	SHED 359	Turbo bp 25 oil	~ 3	Gallons	Yes
12/9/2008	HANGAR 50 FLIGHT LINE SPOT # 1	JP-5	7	Gallons	Yes
10/24/2008	FLIGHT LINE SPOT # 6	JP-5	35	Gallons	Yes
9/17/2008	SOUTH GATE LEXINGTON BLVD	Diesel	< 2	Gallons	Yes
8/12/2008	INTERSECTION 17-35 & 13-31 SW SIDE	Hydraulic fluid	3-5	Gallons	Yes
7/16/2008	FLIGHT LINE SPOT # 6	Aviation	~ 20	Gallons	Yes
5/21/2008	HANGAR # 55 A/C PARKING DELTA 8	JP-5	5	Gallons	Yes
12/7/2007	HANGAR 51 GSE HANGAR DECK AREA	Engine oil 90w	3	Gallons	Yes
10/18/2007	BLDG 1808 NE CORNER	Hydraulic fluid	3-5	Gallons	Yes
10/5/2007	BLDG 177 EAST SIDE	Gasoline	20	Gallons	Yes
5/10/2007	HANGAR 51 GSE COMPOUND	Engine oil 40w	2.5	Gallons	Yes
4/9/2007	HANGAR 50 WASH RACK	Hydraulic fluid	2	Gallons	Yes
10/29/2006	MARINA	Engine oil	3	Gallons	Yes
10/24/2006	HANGAR 56 NE END	JP-5	1	Gallons	Yes

TABLE FRP 1.4.4.1
Facility Reportable Spill History

Date	Location	Product	Spill Volume	Units	Spilled to Navigable Waters
10/4/2006	PPV HOUSING ON LAGUNA MADRE	Engine oil	3	Quarts	Yes
6/13/2006	HANGAR 55 NW END SIERRA PARKING	JP-5	20	Gallons	Yes
3/23/2006	HANGAR 50	JP-5	15-20	Gallons	Yes
9/28/2004	HANGAR 46 SEAWALL # 074	JP-5	~ 8	Gallons	Yes
4/27/2004	BLDG 10 NAVY SUPPLY	Transmission fluid	~ 1	Gallons	Yes
3/15/2004	BETWEEN HANGAR 42 AND 43	JP-5	123	Gallons	Yes
1/6/2014	HANGAR 58 SE SIDE	JP-5	2-4	Gallons	Yes
10/6/2003	HANGAR 50 LINE SPOT 2 N	Aviation	10	Gallons	Yes
10/2/2003	BLDG 344	Unknown	2	Gallons	Yes
7/11/2003	BLDG 40 FUEL PUMPS	JP-5	1-2	Gallons	Yes
6/30/2003	HANGAR 58 T-LINE	JP-5	10	Gallons	Yes
6/19/2003	HANGAR 42 WASHRACK	JP-5	1	Gallons	Yes
6/4/2003	HANGAR 58	JP-5	15	Gallons	Yes
5/22/2003	BLDG 1756 PARKING LOT	Transmission fluid	2	Quarts	Yes
3/3/2003	HANGAR 51 SSSI AIMD W/C 900	Hydraulic fluid	3/4 - 1	Gallons	Yes
10/23/2002	BETWEEN HANGAR 56 AND 57	JP-5	2	Gallons	Yes
9/19/2002	FLIGHT LINE SPOT # 5	JP-5	< 5	Gallons	Yes
8/28/2002	FLIGHT LINE SPOT # 7	JP-5	10	Gallons	Yes
8/22/2002	FLIGHT LINE	JP-5	5	Gallons	Yes
4/10/2002	BLDG 25 OFFICE DOOR	Diesel	< 1	Gallons	Yes
10/4/2001	JETLINE	JP-5	~ 1	Gallons	Yes
5/17/2001	GOVERNMENT GAS STATION	Unknown	5-10	Gallons	Yes
4/26/2001	HANGAR 56	Hydraulic fluid	12	Gallons	Yes
4/3/2001	HANGAR 42 WEST SIDE RAMP	Aviation	10	Gallons	Yes
2/9/2001	H-100	Diesel	2	Gallons	Yes
2/7/2001	HANGAR 58 PARKING LOT	Hydraulic fluid	2	Gallons	Yes
9/14/1998	Behind Building 8	JP-8	25	Gallons	Yes
12/1/1994	Adjacent to Taxiway S and near Fuel Farm	JP-5	130	Gallons	No
10/5/1994	Adjacent to Building 101	Diesel Fuel	35	Gallons	No
9/23/1993	Corpus Christi Army Depot Fuel Farm Tank A-7	JP-4	20-25	Gallons	No
7/23/1993	Corpus Christi Bay	JP-5	1,000	Gallons	Yes
7/8/1993	Rampside Hangar 58	JP-5	45	Gallons	No
3/29/1988	T-34 Aircraft on the C-flight line	JP-5	50	Gallons	No
2/23/1988	between Hangars 56 & 57	JP-5	100	Gallons	No

1.5 Discharge Scenarios

Discharge scenarios have been developed for "high-hazard" areas identified as having a higher potential for experiencing a small (average most probable), medium (maximum most probable), or WCD. The planning volumes for each discharge scenario are contained in Table FRP 1.5. Refer to Appendix D for calculation methodology of the NTR WCD. The areas with the greatest potential for a release have been identified in the following sections. Section 1.7, Plan Implementation, discusses the resources required (for example, minimum boom requirements, oil recovery devices, and oil storage capacities), regulatory time thresholds, and calculation methodology for each of the discharge classifications. POLs expected to be discharged as described in the scenarios described in Table FRP 1.5 include Group 1 non-persistent oils (NTR discharges).

Major risk scenarios could be based on the inherent risk to a military installation: an attack during wartime conditions, a terrorist attack, commercial tanker truck overturn, or an aircraft crash in the fuel farm area. Natural events could cause a major impact on the oil storage and distribution system: lightning strikes causing an explosion and fire, hurricanes, or severe weather. Human error and old tanks and pipes may also cause major discharges into the surrounding areas. There is no inherent risk of chain reaction at NASCC.

TABLE FRP 1.5
Discharge Scenarios

Scenario	NTR Volume	Planning Volumes
Average Most Probable and Small Discharge	A discharge of 2,100 gallons or less, provided that this amount is less than the WCD amount.	≤ 2,100 gallons (NTR)
Maximum Most Probable and Medium Discharge	A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the WCD amount.	27,000 gallons (NTR)
WCD*	A discharge of the largest single container plus all containers without sufficient secondary containment.	272,000 gallons (NTR)

* Refer to Appendix D for a calculation of the NTR WCD planning volume.

1.5.1 Average Most Probable and Small Discharge

The discharge scenarios described in the tables below are oriented towards the typical day-to-day operations and the discharge risk created by these operations. The initial response to small discharges, as discussed in Section 1.7, Plan Implementation, would come from F&ES. Discharges that reach water or exceed Air Station response resources would require notification of the Tier 1 OSRO.

TABLE FRP 1.5.1.1
Small Discharge at the Aviation Fuel Farm or Refueler Parking Area

Potential Spill Volume: Up to 2,100 gallons	Type of Oil: F-24 (Aviation Fuel Farm) or F-24, Gasoline, Diesel Fuel (Refueler Parking Area)	Potential for Spill: High
Potential Spill Causes	Equipment failures, leaks, malfunctions, and operator errors. Facility piping malfunction. Malfunction or mishandling of fuel transfer infrastructure (for example, loading, unloading, and fueling operations). Facility maintenance operations.	
Possible Chain Reaction of Failures	Truck accident and/or manifold failure. A fire or explosion can spread to other equipment at the facility, depending on incident, location, and effectiveness of fire mitigation procedures.	

TABLE FRP 1.5.1.1
Small Discharge at the Aviation Fuel Farm or Refueler Parking Area

Potential Spill Volume: Up to 2,100 gallons	**Type of Oil: F-24 (Aviation Fuel Farm) or F-24, Gasoline, Diesel Fuel (Refueler Parking Area)**	**Potential for Spill: High**
Location of Material Spilled	Spills at the Aviation Fuel Farm would either be contained within concrete secondary containment dikes or the on-site retention basin. Each individual secondary containment dike has a capacity of approximately 360,174 gallons. Discharges that migrate outside of the containment areas, or that occur outside of the containment areas, would migrate into onsite stormwater conveyances and into the Air Station's stormwater system and discharge at outfall R-1. Spills at the Refueler Parking Area would be contained within the curbed, concrete parking area and directed into a retention basin that is connected to an oil-water separator (OWS) and the Air Station's WWTP. Discharge from the WWTP is to Corpus Christi Bay. Spills outside of the containment area would migrate into onsite stormwater conveyances and into the Air Station's stormwater system and discharge into either Oso Bay or Corpus Christi Bay.	
Spill Pathways and Likelihood of Spill Traveling Offsite	Refer to Diagram FRP 1.9.3 for the potential discharge pathways throughout NASCC. Spills at the Aviation Fuel Farm would discharge at Outfall R-1 and into the Laguna Madre. Spills at the Refueler Parking Area would discharge into Oso Bay or Corpus Christi Bay.	
Potential Receiving Navigable Waters	Laguna Madre, Oso Bay, Corpus Christi Bay	
Proximity of Sensitive Area/Resources	• Refer to Section 1.7.4, Sensitive Environments and Protection Strategies.	

TABLE FRP 1.5.1.2
Small Discharge at Storage Containers, Associated Piping, and Transfer Equipment

Potential Spill Volume: Up to 2,100 gallons	**Type of Oil: F-24, Gasoline, Diesel, Preservation Oil, Turbine Oil, VARSOL**	**Potential for Spill: High**
Potential Spill Causes	Leaks from valves, flanges, and fittings; pressure relief valve actuation due to abnormal operating conditions or malfunctions; improper repairs to and maintenance of valves, flanges, fittings, packing, etc.; accidental damage and overfilling during transfer operations.	
Possible Chain Reaction of Failures	Equipment failures, leaks, malfunctions, and operator errors. Facility piping malfunction. Malfunction or mishandling of fuel transfer infrastructure (for example, loading, unloading, and fueling operations). Facility maintenance operations.	
Location of Material Spilled	If the AST, pipeline, or associated equipment is located within secondary containment, a discharge would be expected to be contained there, unless the drainage valve is left open. Discharges to the ground will flow through stormwater conveyances and discharge into either Corpus Christi Bay, Oso Bay, or Laguna Madre. Discharges into the containment at the CCAD Fuel Farm would be directed to the Industrial Wastewater Treatment Plan and then to the Air Station's WWTP where final discharge is into Corpus Christi Bay.	
Spill Pathways and Likelihood of Spill Traveling Offsite	Refer to Diagram FRP 1.9.3 for the potential discharge pathways throughout NASCC. Drainage would be highly dependent on the location of the spill; however, final discharge would be into the Laguna Madre, Oso Bay, or Corpus Christi Bay.	
Potential Receiving Navigable Waters	Laguna Madre, Oso Bay, Corpus Christi Bay	
Proximity of Sensitive Area/Resources	• Refer to Section 1.7.4, Sensitive Environments and Protection Strategies.	

1.5.2 Maximum Most Probable and Medium Discharge

The discharge scenarios described in the tables below are oriented toward the typical day-to-day operations and the discharge risks created by these operations. The initial response to medium discharges, as discussed in Section 1.7, Plan Implementation, would come from F&ES. Discharges that reach water or exceed Air Station resources would require notification of the Tier 1 OSRO. F&ES would support the OSRO from land, providing fire protection and basic life support.

TABLE FRP 1.5.2.1

Medium Discharge at ASTs and Associated Equipment within Containment Dikes (i.e., Aviation Fuel Farm)

Potential Spill Volume : Up to 27,000 gallons	**Type of Oil: F-24**	**Potential for Spill: Medium**
Potential Spill Causes	Equipment failures, leaks, malfunctions, and operator errors. Facility piping malfunction. Malfunction or mishandling of fuel transfer infrastructure (for example, loading, unloading, and fueling operations). Facility maintenance operations.	
Possible Chain Reaction of Failures	Truck accident and/or manifold failure. A fire or explosion can spread to other equipment at the facility, depending on incident, location, and effectiveness of fire mitigation procedures.	
Location of Material Spilled	Spills at the Aviation Fuel Farm would either be contained within concrete secondary containment dikes or the on-site retention basin. Each individual secondary containment dike has a capacity of approximately 360,174 gallons. Discharges that migrate outside of the containment areas, or that occur outside of the containment areas, would migrate into onsite stormwater conveyances and into the Air Station's stormwater system and discharge at outfall R-1.	
Spill Pathways and Likelihood of Spill Traveling Offsite	Refer to Diagram FRP 1.9.3 for the potential discharge pathways throughout NASCC. Spills at the Aviation Fuel Farm would discharge at Outfall R-1 and into the Laguna Madre.	
Potential Receiving Navigable Waters	Laguna Madre	
Proximity of Sensitive Area/Resources	• Refer to Section 1.7.4, Sensitive Environments and Protection Strategies.	

TABLE FRP 1.5.2.2

Medium Discharge at all other ASTs (less than 27,000 gallons but more than 2,100 gallons)

Potential Spill Volume: Up to 10,000 gallons	**Type of oil: F-24, Gasoline, Diesel, Preservation Oil, Turbine Oil, VARSOL**	**Potential for Spill: Low**
Potential Spill Causes	Leaks from valves, flanges, and fittings; pressure relief valve actuation due to abnormal operating conditions or malfunctions; improper repairs to and maintenance of valves, flanges, fittings, packing, etc.; accidental damage and overfilling during transfer operations.	
Possible Chain Reaction of Failures	Equipment failures, leaks, malfunctions, and operator errors. Facility piping malfunction. Malfunction or mishandling of fuel transfer infrastructure (for example, loading, unloading, and fueling operations). Facility maintenance operations.	
Location of Material Spilled	If the AST, pipeline, or associated equipment is located within secondary containment, a discharge would be expected to be contained there, unless the drainage valve is left open. Discharges to the ground will flow through stormwater conveyances and discharge into either Corpus Christi Bay, Oso Bay, or Laguna Madre. Discharges into the containment at the CCAD Fuel Farm would be directed to the Industrial Wastewater Treatment Plan and then to the Air Station's WWTP where final discharge is into Corpus Christi Bay.	
Spill Pathways and Likelihood of Spill Traveling Offsite	Refer to Diagram FRP 1.9.3 for the potential discharge pathways throughout NASCC. Drainage would be highly dependent on the location of the spill; however, final discharge would be into the Laguna Madre, Oso Bay, or Corpus Christi Bay.	
Potential Receiving Navigable Waters	Laguna Madre, Oso Bay, Corpus Christi Bay	
Proximity of Sensitive Area/Resources	• Refer to Section 1.7.4, Sensitive Environments and Protection Strategies.	

1.5.3 Worst Case Discharge

This section addresses the NTR WCD planning volume for NASCC. The WCD calculation worksheet is presented in Appendix D. A WCD would most likely occur as a result of catastrophic damage or reaction caused by unexpected event such as a plane crash or from extreme weather such as an earthquake, hurricane, or tornado. The initial response to worst-case discharges, as discussed in Section 1.7, Plan Implementation, would come from F&ES. Discharges that reach water or exceed Air Station resources would require notification of the Tier 1 OSRO. F&ES would support the OSRO from land, providing fire protection and basic life support. In the event of a WCD, NASCC would notify additional OSROs or Navy SUPSALV through the CNRSE ROC.

TABLE FRP 1.5.3.1
WCD of One Aviation Fuel Farm AST

Potential Spill Volume: Up to 272,000 gallons	Type of Oil: F-24	Potential for Spill: Low
Potential Spill Causes	Catastrophic integrity failure due to extreme weather.	
Possible Chain Reaction of Failures	Hydraulic flow of collapsing tank could push F-24 into adjacent containment areas. Depending on strength of flow, a second tank could be knocked over or damaged.	
Location of Material Spilled	Spills from one of the field-erected tanks should be contained in the containment dikes. Hydraulic flow may push the contents over one of the containment walls into adjacent containment dikes or the surrounding Aviation Fuel Farm area	
Spill Pathways and Likelihood of Spill Traveling Offsite	Spills at the Aviation Fuel Farm would either be contained within concrete secondary containment dikes or the on-site retention basin. Each individual secondary containment dike has a capacity of approximately 360,174 gallons. Discharges that migrate outside of the containment areas, or that occur outside of the containment areas, would migrate into onsite stormwater conveyances and into the Air Station's stormwater system and discharge at outfall R-1.	
Potential Receiving Navigable Waters	Refer to Diagram FRP 1.9.3 for the potential discharge pathways throughout NASCC. Spills at the Aviation Fuel Farm would discharge at Outfall R-1 and into the Laguna Madre.	
Proximity of Sensitive Area/Resources	• Laguna Madre	

WCD Scenario

Incident Description

In mid-April, with some water accumulated in the dike area around ASTs 1716-1 and 1720-2 after a heavy rain, AST 1716-1 ruptures and discharges its contents. The temperature differentials between day and night are not sufficient to stress the discharge piping on the other AST, 1720-2, so the cause is unknown. The tanks are filled as listed: AST 1716-1, 100% and AST 1720-2, 75%. A stress fracture in the shell skin of AST 1716-1 causes a rupture and results in a discharge. By 0600, all of the tank contents, 272,000 gallons of F-24, have discharged into and away from the impounding basin.

The diked area is sufficient to hold the entire contents of 1716-1 or 272,000 gallons, plus sufficient freeboard. However, the way the tank parted down the side and the presence of some water from a very heavy rain, a "wave of oil" of 125,000 gallons overflows the dike wall. Most of the spill flows away from the area and soaks into the ground. But, due to the heavy rainfall at the time of the spill, F-24 and water flows toward drainage conveyances to the south of the Aviation Fuel Farm. These conveyance empty into Laguna Madre via Outfall R-1.

Environmental Conditions

After the storm passes, weather conditions gradually return to a normal pattern of clear skies, with winds from the northeast at approximately 10 mph. Air temperature is 75°F

Response Actions

Because of the unique nature of this type of incident, the response to this scenario will be described as actions within a phased response. This incident will require the implementation of the EOC, OSRO, and the ICS. A general time line will be described. Corpus Christi, Texas is designated as a higher volume port area. As such, tiered response assets must be available to respond in a more timely manner than if the Air Station was located in the Great Lakes, or other river/canal/inland or nearshore area. Refer to Table FRP 1.7.1.8 for tiered asset response timelines.

Time	Event
Day 1 0600	**Initial Assessment** At 0600, the Aviation Fuel Farm watch smells a petroleum odor and notices standing F-24 in the diked area, sees the damaged tank, and can see the flow away from the dike. The automatic alarm system has been disconnected do to maintenance issues and repairs. The Aviation Fuel Farm personnel immediately notify the GOCO Superintendent and NAVSUP Fuels Officer who subsequently notifies the Regional Dispatch Center. The Regional Dispatch Center notifies F&ES as well as the QI. Since the source of the spill is known, but the extent of impact is not, F&ES organizes a reconnaissance team and dispatches it to search out the extent of the spill, if it can be done safely. The reconnaissance team discovers that AST 1716-1 completely collapsed and that there has been a discharge outside of the diked area. The product has flowed into the impoundment basin, but the basin did not contain all the F-24. The recon team notifies the IC and the rest of the FRT of the observed conditions. The IC notifies the QI of the situation and notifications listed in Form FRP 1.1.3.1 are made by the appropriate parties. The IMT is activated and its members directed to respond to their assigned emergency management workcenters. Due to the extent of the discharged oil, the CNRSE ROC is notified and OSRO support is requested.
Day 1 0615	**Required Notifications** The Assistant Fire Chief notifies the CDO to stand up the EOC to effectively manage the situation. The CDO notifies personnel described in Table FRP 1.3.4.3, including the QI and members of the IMT. The Tier 1 OSRO is notified to respond to NASCC as it is clear this event will require resources outside of the Air Station's capability. The CDO and NASCC Environmental begins making external notifications in Form FRP 1.3.1.1 and Section 1.4 after the IMT has been requested to assemble at the EOC. Naval Security creates an isolation area around the Aviation Fuel Farm to ensure that Air Station personnel do not wander into the response zone. Traffic is also re-routed around this area. Naval Security calls up augmenters to enforce the isolation area and traffic restrictions.
Day 1 0630	30 minutes after discovery of the spill, the reconnaissance team inspects the shore line area near Outfall R-1 to assess if any of the spilled F-24 has found a route off the Air Station. During this inspection, other team members determine the level of oil in the diked area and discover that the spill has migrated into the soil. The recon team notifies F&ES that most of the tank contents were released and up to 125,000 gallons have flowed out of the diked area onto the surrounding ground and toward the storm sewer drain. It is not known how much has entered the storm sewer drain and flowed toward Laguna Madre.
Day 1 0700	**Initial Response** Using F&ES response equipment, as well as NASCC Environmental's response equipment, the containment walls are temporarily filled and plugged to prevent further release of oil/water from the Aviation Fuel Farm. Surface drains that may be receiving oil/water are plugged. Public Works Department (PWD) personnel may create additional earthen berms around the Air Station to prevent F-24 from migrating into environmentally sensitive areas.
Day 1 0715	Members of the IMT are assembled at the EOC. The command center is set up in the EOC. An onsite command center is established in the Mobile Command Post. The Assistant Fire Chief stays at the Mobile Command Post and is joined by a limited command staff that includes the CDO, FRP/DPRP Manager, and a Naval Security representative. There is direct communication between the Mobile Command Post and the EOC. The EOC begins a detailed assessment of the spill site and determines if additional, follow-on resources are required. Arrangements are also made for an overflight of the Air Station for site surveillance and to observe if there is any additional damage.
Day 1 0815	The OSRO also arrives on scene and is directed by the QI to implement response strategies at Outfall R-1
Day 1 1000	**General Plan Development Phase – Initial Incident Briefing Meeting** The QI calls a meeting of the Command Staff after the detailed assessments are performed. The QI is apprised of the status of the spill through detailed assessment reports. The cleanup priorities are: • Ensure the safety of personnel at the Air Station. • Contain and begin cleanup of oil at the Aviation Fuel Farm and its associated stormwater conveyances and prevent F-24 from migrating into stormwater conveyances and Laguna Madre. • Protect environmentally and socially sensitive areas (refer to Section 1.4.2). • Begin to clean up the F-24 on the Air Station (including within the secondary containment dikes). • Repair the tank and secondary containment. • Keep the public informed The following immediate response priorities are identified. • All personnel are to receive safety briefing and be issued appropriate safety equipment. The QI is notified that response efforts may span more than 1 day and that offsite resources will be impacted if the discharge migrates outside of the NASCC fence line. Currently the discharge has been contained inside stormwater ditches that belong to the Air Station. The QI makes a decision to request Tier 2 OSRO support through the CNRSE ROC. One EOC member, or designated alternate, meets a USCG helicopter and begins an overflight of the Air Station. Some of the oil has been contained on site; however, some of the oil has gone directly into the drainage ditches and has spread with the wind into the stormwater ditches. Containment activities continue with the available personnel.

Time	Event
Day 1	**Initial Tactical Operations Planning Meeting** The OPS holds a meeting with the Command Staff, Section Chiefs, and the assigned area directors. During this meeting, they identify the equipment required to achieve the strategic objectives and response priorities for the next operational period. • A minimum of 2,000 feet of containment boom is required to boom sensitive resources and to begin to contain oil for recovery. Associated anchors, chain, lines, etc., are required. 1,000 feet of absorbent boom, miscellaneous absorbents, sweeps, etc. are also required. • Communications equipment is required. • A helicopter is required for continued surveillance. • Vacuum trucks are required. Approximately 60 people (15 Air Station and 45 OSRO personnel) are required. All personnel must have required hazardous waste operations and emergency response (Hazardous Waste Operations and Emergency Response [HAZWOPER]) training.
Day 1	The Initial Tactical Operations Planning Meeting results in a list of activities that need to be conducted over the course of the response. The following manpower, equipment, and resources required for these activities must be developed over the next 24 to 48 hours: • Continued high-capacity recovery • Trajectory analysis for the spill, if necessary • Recovered oil storage • Continued containment and recovery on the water • Support infrastructure (for example, food, lodging, water, sanitation facilities, and transportation) • Sensitive area identification and characterization • Wildlife hazing, capture, and rehabilitation • Waste handling and disposal • Equipment cleaning • Natural Resource Damage Assessment (NRDA) surveys • Eventual site restoration, including the ability to receive oil • Eventual demobilization
Day 2	The Planning Section Chief compiles the information from the Initial Tactical Operations Planning Meeting and prepares the General Plan. The General Plan is a dynamic plan that will be revised and updated throughout the response effort to reflect the changes in the spill and input from the Command Staff and regulatory authorities.
Day 2	**Initial Planning Meeting** A meeting is held to discuss the current status of response operations, discuss and approve the General Plan, and issue division/group assignments for the next operational period. The oil has been trapped along stormwater ditches throughout the Air Station, particularly to the east, using containment booming and earthen berms. A number of plans are identified that need to be prepared, including: • A communications plan • A medical plan • A waste disposal plan • A containment area cleanup plan • A facility cleanup plan, including returning the facility to operational condition as soon as possible • An inshore wetland cleanup plan The Planning Section Chief prepares the Initial Incident Action Plan based on the meeting information. This plan defines the strategic objectives and response priorities and division/group assignments for the next operational phase.
Day 2	**Initial Incident Briefing Meeting** The Command Staff are briefed on the Initial Planning Meeting and the Initial Incident Action Plan.
Day 2	**Plan Implementation Phase** The field personnel conduct the response operations in accordance to the Initial Incident Action Plan prepared by activity through the night and into the morning of Day 2. The Planning Section Chief is beginning a new Action Plan based on continuing input from the Command Staff, field management, and responsible agencies.
Day 2	**Command Staff Meeting** The QI conducts a Command Staff Meeting to brief the staff on the status of the incident and describe the strategic objectives. Topics receiving particular attention include: • Wildlife capture and rehabilitation, if necessary • Sensitive area protection and cleanup • Availability of additional equipment and personnel • Continued trajectory modeling, if necessary

Time	Event
Day 2	**UC Meeting** A meeting is held with representatives of the federal, state, and local agencies and representatives from NASCC and CNRSE to explain and discuss the status of the incident, NASCC's proposed course of action, and strategic objectives and response priorities. The Initial Incident Action Plan is distributed and discussed. Federal, state, and local agencies express a concern about protecting the nearby wetland environments. The agencies agree to work with the OPS and NASCC Environmental to further implement appropriate protection and cleanup techniques. All parties agree NASCC's proposed strategic objectives and response priorities.
Day 2	**Tactical Operations Planning Meeting** To complete the initial planning cycle and begin the daily planning cycle, a meeting is held to define specific activities that will be undertaken to achieve the strategic objectives and response priorities. Appropriate protection/response techniques are selected for wetlands that have been impacted or are predicted to be impacted during the immediate and future operational periods. Additional manpower, equipment, and resource requirements are predicted, which may include notification of the Tier 2 and/or Tier 3 OSROs. The major response areas still are within the adjacent drainage pathways and at the Aviation Fuel Farm. Within these areas, additional personnel, boom, and cleanup equipment are required to protect sensitive areas and force the oil into collection areas for recovery and cleanup. At the Aviation Fuel Farm, the containment area needs to be drained so that site remediation can begin. Tactical operation plans and draft division/group assignments are compiled based on the field activities planned for the next operational period and distributed to appropriate members of the response organization. Each person is required to review the plans for personnel, equipment, etc., as requirements for the next operational period.
Day 2	**Planning Meeting** A meeting is held to discuss the progress of implementation of the Initial Action Plan and the strategic objectives and response priorities within the proposed tactical operation plans for the next operational period. The OPS reports that surveillance and trajectories indicates that most of the oil escaping the site was contained in stormwater conveyances adjacent to the Aviation Fuel Farm. Most of the oil has been contained along the banks and recovery is proceeding. Approximately 750 barrels (bbls) of oil/water have been recovered during inshore operations. NASCC Environmental reports that a wildlife cleaning and rehabilitation facility has been set up at the Air Station. State and NASCC Environmental personnel are working with volunteers to clean captured birds. The division/group assignment forms are compiled and the Planning Section Chief begins to compile the Incident Action Plan to reflect the activities to be conducted to achieve strategic objectives and response priorities.
Day 3	**Briefing Meeting** A briefing meeting is held to discuss the status of the incident and response operations. Division/group assignments for the next operational period are discussed along with safety and environmental considerations. The Logistics Section Chief reports that sufficient quantities of personnel and equipment are arriving. Arrangements have been made for expanding accommodations, food, water, and sanitation for the personnel at various locations near the Air Station. Handling oil debris and fluid is a problem. A temporary staging area for oil debris is being designed and constructed at a safe location at the Air Station. NASCC Environmental reports that the federal and state agencies are sending personnel to view aspects of the response and cleanup. The NRDA contractor has been selected. NASCC Environmental and federal and state agencies will work with the NRDA contractor. The Planning Section Chief reviews division/group assignments. The Incident Action Plan is completed and distributed for the next operational period.

Continued Response and Related Activities

For the duration of the incident response, the same daily planning cycle was followed so that field response operations are implemented while the Command staff develops plans to achieve the strategic objectives and response priorities (as agreed upon during UC meetings) for the next operational period. As new issues and impacts arise, they are incorporated into the response priorities and addressed during subsequent operational periods. The probability of this event causing a chain reaction of failures is moderate because associated piping and support structures are subject to damage based on the structural integrity of the jeopardized tank.

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1.6 Discharge Detection Systems

This section describes the procedures and equipment used to detect discharges of POLs at NASCC. Spill detection by personnel and by automated spill detection equipment is described for both normal business hours and after-hours operations.

1.6.1 Discharge Detection by Personnel

The immediate responsibility for taking action rests with the individual discovering the spill. This individual will take all steps possible to immediately alert others in the area, shut down all fuel operations, and dial 911. Callers must let the dispatch know they are at the Air Station. Naval Security conducts patrols of oil storage areas after business hours and are trained to notify dispatch if discharges are observed.

Oil Spill Response - Initial Response Actions

Section 1.3.1, Notification, contains emergency notification information. Immediate actions for the individual discovering a release are described in Section 1.7, Plan Implementation, and presented in Table FRP 1.7.1.1. The essential process that Air Station personnel follow upon discovery of a discharge is to:

1. Take any steps that are safe and expedient to stop product flow.
2. Notify personnel in the immediate area to effect evacuation or other response.
3. Call 911 and notify the dispatch that they are at NASCC.

Monitoring

Monitoring entails the prevention of oil spills by observing the physical and operational conditions of facilities that could indicate or result in a spill, thereby providing early detection in the event of a spill. The Aviation Fuel Farm and the Refueler Parking Area is manned at all times, with the minimum of a two-man team. The Aviation Fuel Farm uses Fuels Manager Defense (FMD) as an automatic monitoring system. Staff can be notified of discharges that occur both during normal business hours and after business hours.

Before receiving commercial deliveries and dispensing to military refuelers, visual inspections are performed on all equipment associated with the Aviation Fuel Farm. This includes transfer valves, pumps, flanges, and connections, unless they are not readily accessible, that are to be used in the transfer. All monitoring of the Aviation Fuel Farm is conducted according to written procedures included in the NAVAIR 00-80T-109 – NATOPS Manual. Military refuelers and fuel storage/transfer equipment is inspected prior to use. NASCC Environmental requires monthly inspections of ASTs and these are conducted by contracted Aviation Fuel Farm personnel. Inspections dictated by industry standards (e.g., API, STI, etc.) are programmed and executed through DLA-E's Centrally Managed Program. Contracted Aviation Fuel Farm personnel maintain inspection records and those records are available to NASCC Environmental. Inspection/monitoring forms for use are provided in Section 1.8.1 and Appendix J.

At least two people must be in attendance during all fuel transfer operations from unloading headers to storage tanks and from loading headers to military refueling vehicles. Military refueler vehicles are manually gauged before and after fuel transfer. Inventories are also assessed before and after each operation. All valves must be verified to be in the correct position before any transfer of fuel. Any problems with the system that pose a threat to cause a discharge or other failure are noted on the inspection form, and corrective action is immediately initiated.

Discharge Prevention Safety Systems, Devices, Equipment, and Procedures

The following paragraphs discuss discharge prevention safety systems, devices, equipment, and procedures at the "high-hazard" storage and transfer areas at NASCC. A "high-hazard" storage and transfer area is one in which there may be a large discharge of petroleum or one where the risk is elevated for discharges draining directly into navigable waters or sensitive environments. Refer to the NASCC SPCC Plan for a detailed description of discharge prevention systems, devices, equipment and procedures.

Aviation Fuel Farm

The Aviation Fuel Farm is located along 1st Street, south of Building 1742 and east of the flightline. The Aviation Fuel Farm's Control Building is located at this facility. There are two single-walled, field-constructed ASTs (1716-1 and 1720-2) and one single-walled, shop-constructed AST (1717) at this location. ASTs 1716-1 and 1720-2 are 272,000-gallon API-650 stainless steel ASTs that store F-24. Secondary containment is provided for these ASTs by individual concrete containment dikes that are overlain with a polyethylene liner. AST 1717 is a 5,000-gallon plastic AST that is currently empty and out-of-service. Secondary containment is provided by a concrete containment dike. Drainage from both ASTs is controlled by PIVs and is directed to a concrete retention structure which can be drained either to stormwater ditches or through an OWS and the Air Station's WWTP. The field-constructed ASTs are equipped with automatic tank gauging, automatic shut-off devices, and several types of alarms (high-high, high, low, and low-low). FMD is used to verify container liquid levels, temperature, alarms, and other similar information.

An adjacent area north of the ASTs is used for unloading commercial tanker trucks and loading military refuelers. There are two bays at this location and each is located within a curbed, concrete containment structure that drains to the same catchment structure as the ASTs. Typical commercial tanker trucks are 7,500 gallons in capacity and military refuelers are 8,000 gallons in capacity. Drainage from this area is kept open, except during loading/unloading when it is shut. A Scully System is located at in the bays and is used by the military refuelers. A dead-man control opens valves to direct petroleum into the ASTs.

Emergency shut-offs are located at both locations, as are spill kits. Refer to the NASCC SPCC Plan for calculated volumes of the various containment areas, retention basins, and OWSs.

Refueler Parking Area

The Refueler Parking Area is located at Building 28. Nine military refuelers are typically parked in this area and range in capacity from 8,000 to 2,000 gallons. The entire area is surrounded by a curbed containment area that drains to a concrete cistern that has no external drainage. The cistern is emptied via vaccum truck on an as-needed basis. Refer to the NASCC SPCC Plan for calculated volumes of the various containment areas and retention basins.

NEX Gas Station

The NEX Gas Station is located at Building 1291, at the intersection of Lexington Boulevard, 1st Street, and Dimmit Drive. There are three 10,000-gallon USTs containing gasoline and diesel fuel. Each UST is single-walled, fiberglass reinforced plastic. The USTs are equipped with a Veeder-Root system and are also manually gauged prior to and after deliveries. Fuel is dispensed to one of six islands via underground, double-walled lines. The pumps at each island are commercial fuel dispensing nozzles that cannot be locked in the open position. There are two emergency shut-offs at the NEX Gas Station – one inside near the register and one outside, near the front of the building. A spill kit containing absorbent DrySweep, socks, and pillows is located near the main entrance.

GOV Gas Station

The GOV Gas Station is located near the intersection of 1st Street and C Avenue. There are two UL-2085 protected ASTs at this location: 154-1 is a 4,000-gallon AST that stores gasoline and 154-2 is an 8,000-gallon AST that stores Diesel Fuel. These ASTs are connected to the Aviation Fuel Farm's FMD system and are equipped with high-level alarms and visible clock gauges. Deliveries to these ASTs is conducted in an adjacent diked containment area that drains to a subsurface vault, located east of the ASTs. The subsurface vault is connected to an inoperable OWS that functions as a cistern. The subsurface vault is pumped out by Public Works when needed. West of the loading area, there are two dispensers that operate commercial fuel dispensing nozzles that cannot be locked in the open position. These dispensers can operate 24/7 and are controlled by Vehicle Identification Link Keys.

Emergency shut-offs are located at the GOV Gas Station, as are spill kits. Refer to the NASCC SPCC Plan for calculated volumes of the various containment areas and retention basins.

CCAD Fuel Farm

The CCAD Fuel Farm is located at the intersection of 4th and Vicksburg Streets. Seven UL-2085 protected ASTs are at this location: 227 through 229 are all 10,000-gallon ASTs that stores F-24; 230 and 231 are 2,000-gallon ASTs that store VARSOL; 232 is a 2,000-gallon AST that stores Turbine Oil; and 233 is a 2,000-gallon AST that stores Preservation Oil. As of February 2016, AST 231 is empty and awaiting replacement. All of the ASTs are connected to an ATG system and are also equipped with automatic shut-offs and high-level alarms. The interstice is checked manually on a monthly basis. All of the ASTs and piping is surrounded by a diked containment area that drains to CCAD's industrial wastewater treatment plant and then is pumped to the Air Station's WWTP. There is an adjacent unloading area east of the ASTs. The unloading area is surrounded by the same concrete dike that surrounds the ASTs.

An emergency shut-off is located at the CCAD Fuel Farm, as are spill kits. Refer to the NASCC SPCC Plan for calculated volumes of the containment area.

MWR Marina

The MWR Marina is located at the east end of the Air Station, on Wise Owl Lane and immediately adjacent to the Laguna Madre. There is one UL-2085 protected AST at this location: 1757 is a 2,000-gallon AST that stores gasoline. The AST is equipped with a Veeder-Root system with high-level and interstitial monitoring alarms. The AST currently holds fuel, but no over-water fueling occurs. Over-water fueling to small water craft may be conducted via a commercial fuel dispenser that cannot be locked in the open position. Fuel can be transferred from the AST to the dispenser via double-walled underground piping.

There are two emergency shut-offs at the MWR Marina – one is at the AST and another is at the dispenser. At least two spill kits are available at the MWR Marina.

Testing and Maintenance Procedures

All piping is tested for leaks when the associated tanks are also tested. Additional piping information is presented in the NASCC SPCC Plan. All oil storage tanks are visually inspected and documented by NASCC personnel in accordance with the NASCC SPCC plan. Capitalized fuel storage and transfer infrastructure is managed through DLA-E's Centrally Managed Program, which also includes inspection and maintenance of automatic gauging systems and pipeline corrosion protection systems. As previously stated, monthly inspections are required by NASCC Environmental and are conducted by tank custodians. Records are maintained by the organization that conducts the inspection.

1.6.2 Automated Discharge Detection

Automated discharge detection consists of overfill alarms, automatic tank gauging, and emergency shut-off switches. Most petroleum storage containers (both ASTs and USTs) have some type of automatic discharge detection installed, be it high-level alarms, interstitial alarms, or tank gauges. Refer to the NASCC SPCC Plan for specific discharge detection measures for each container. If a petroleum container is not equipped with automatic discharge detection, it is manually gauged by the staff at the facility where the container is located. Regular manual gauging is used to monitor fluctuation in fuel levels. The recurrence of manual gauging is based on the location and throughput of the petroleum container.

High-level alarms sound when the container is filled 90 percent and high-high alarms sound when the container is filled to 95 percent. Automatic shut-offs are engaged at most locations when the high-level alarm sounds. If the equipment has a high-high level alarm, then the automatic shut-off activates when the high-high level alarm sounds. Both alarms notify personnel that the container is reaching the safe fill limit. These alarms offer protection from discharges due to overfills. Pressure gauges also serve as a form of discharge protection, particularly for underground leaks or rupture.

The automatic detection systems are tested monthly. Any problems with the systems are noted in the inspection/recordkeeping forms. When an alarm is sounded, the cause of the alarm is verified to confirm that a discharge has indeed occurred. Additional information on leak detection used at ASTs and USTs throughout NASCC is provided in the NASCC SPCC Plan.

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1.7 Plan Implementation

This section describes the response actions to be carried out to ensure the safety of Air Station personnel and to mitigate or prevent the types of discharges described in Section 1.5, Discharge Scenarios. Methods by which this plan would be implemented, response actions to be performed, required and available response resources, including temporary storage, as well as disposal, containment, and drainage planning, are described in this section.

Oil discharge response actions at NASCC will follow the guidance set forth in the Air Station's Emergency Management Plan (NASCCINST 3440.17 dtd 12 JUN 2013). The Emergency Management Plan provides guidance and assigns functional and organizational responsibilities to prevent and respond to hazardous substance discharges (including POLs). F&ES will also follow internal response and safety procedures. Discharge response procedures are activated for oil discharges when there is a significant health and safety hazard, the size of the oil spill exceeds the response capability of the Air Station, or there is potential for oil to impact nearby waterways. These procedures will be activated concurrently with this FRP, as needed.

Within the Navy, petroleum-based materials are considered to be HazMat for emergency planning and response purposes. The appropriate response to a HazMat discharge, or incident, depends on the severity of the incident. Small (average most probable), medium (maximum most probable), and WCD are described in Section 1.5, Discharge Scenarios.

1.7.1 Response Resources for Spills

This section identifies available and required response resources to safely and effectively respond to a small (average most probable), medium (maximum most probable), or WCD, as defined in Section 1.5, Discharge Scenarios. Appendix E provides the detailed calculation of these values in accordance with 40 CFR 112, Appendix E. Because of the diversity of materials stored on NASCC and the variable severity of the hazards presented in the event of a spill, response actions will vary. Persons discovering the spill are responsible for providing initial actions without undue risk of injury to themselves. Refer to Table FRP 1.7.1.1 for a prioritized list of immediate actions in the event of a petroleum product discharge.

TABLE FRP 1.7.1.1
Oil Spill Response (Immediate Actions)

1. Stop the product flow.	Act quickly to secure pumps, close valves, etc.
2. Warn personnel.	Enforce safety and security measures.
3. Shut off ignition sources.	Motors, electrical circuits, open flames, etc.
4. Initiate containment.	Around the tank and/or in the water with oil boom.
5. Notify the Regional Dispatch Center	911
6. Notify the QI (PWO)	(361) 961-3665 (day) or (361) 961-2082 (24-hr)
7. Notify the NRC	(800) 424-8802

Average Most Probable and Small Discharge

The discharge scenarios for locations where small spills (less than or equal to 2,100 gallons [50 bbls]) may occur are described in detail in Section 1.5, Discharge Scenarios. All spills of petroleum are viewed for their potential impact to human health or the environment. Spill kits are located where discharges have the highest potential to occur. Facility personnel will perform initial response actions, as described in Table FRP 1.7.1.1, including application of available spill response equipment. Resources required to respond to small and average most probable discharges are described in Table FRP 1.7.1.2 through Table FRP 1.7.1.4.

The Air Station has the response capabilities (personnel and resources) to mitigate and remediate a minor land-based discharge only (that is, no more than several 55-gallon drums of material). All discharges are immediately reported to the Regional Dispatch Center, which will notify the FRT (F&ES). F&ES will respond to any spill and will remain on-scene once the incident is mitigated and there is no danger of a fire. The Tier 1 OSRO would need to be activated for any discharge which would generate more than several 55-gallon drums of waste or any water-

based spill. F&ES would assist the OSRO from land. The Assistant Fire Chief, acting as the IC, will determine the need to notify the IMT and thereby activate the EOC. The IMT can readily bring additional on-Air Station resources to complement the response equipment already on site. All members of the FRT and IMT are sufficiently trained to utilize their response equipment, including the execution of drills and exercises (see Section 1.8, Self-Inspection, Drills/Exercise, and Response Training).

Cleanup of many small spills (that is, less than one 55-gallon drum) will be accomplished by facility personnel under the direction of NASCC Environmental. The QI and/or NASCC Environmental may decide that cleanup of the incident (after it has been contained and stabilized) should be performed or augmented by a contractor. If necessary, the QI will request cleanup support from the Tier 1 OSRO. OSRO personnel must be properly trained and have performed sufficient exercises (or actual responses) to ensure competence. If OSRO personnel perform their work in an improper or unsafe manner, however, their operation will be terminated and the Contracting Officer will find an appropriate replacement immediately.

NASCC spill response personnel, under the direction of the IC, will follow these basic discharge response procedures:

- Don the appropriate personal protective equipment (PPE).
- Block storm drains and sanitary drains to prevent discharge to surface waters, soil, or sanitary sewer.
- Prevent further leakage by repositioning the container, if no exposure to personnel or environment will result.
- Confine the spilled material. If the discharge is liquid, use an absorbent material. Note: Use absorbent materials sparingly because they must also be disposed of as hazardous waste.
- Recover the contaminated material. For liquid spills, work the absorbent into the spill using a broom or other tool. Collect and place into properly labeled leakproof containers. Ensure the appropriate respiratory equipment is used. Properly secure and label the containers and set aside for disposal.
- If soil is contaminated, contact NASCC Environmental to ensure that the contaminated soil is to be removed to a depth of at least 3 inches below the wet surface line and placed in properly labeled containers for disposal.
- Decontaminate the surface where the discharge occurred, as well as equipment used for recovery and cleanup. Clothing and gloves that cannot be decontaminated must be placed in appropriate containers for proper disposal.
- Contact NASCC Environmental to arrange for storage and ultimate disposal of the waste.

F&ES can respond to a spill at most Air Station locations within 10 minutes. As previously stated, an OSRO would be needed in the event of any small or average most probable discharge that impacts water or is expected to generate more than several 55-gallon drums of waste. OSRO equipment inventories are available through NASCC Environmental. OSRO equipment inventories and response distances have been validated to meet the requirements of Section 1.5

TABLE FRP 1.7.1.2
Minimum Required Oil Recovery Resources for Average Most-Probable and Small Discharges

Oil Recovery Rate Requirement	Daily Recovery Rate: 2,100 gpd On scene within 2 hours of spill detection	
Facility Oil Recovery Equipment Available to Meet Requirements	**Equipment**	OSRO Equipment
	Derated Capacity (gpd)*	> 2,100 gpd
	Total Derated Capacity (gpd)^	> 2,100 gpd
Source/Location of Equipment and Deployment Time	Miller Environmental (Tier 1 OSRO) 401 Navigation Blvd. Corpus Christi, TX 78408 Response Time < 2 hours	
Facility Shortfall (gpd)	None	

***** Recovery equipment derated capacity is calculated using the following relationship **R = T x 4.8**, where **R** is the effective daily derated capacity in gpd and **T** is the rated hourly throughput of the equipment in gallons/hour.
^ Total derated capacity is the derated capacity times the number of units available (for example, 2,100 gpd × 1)

TABLE FRP 1.7.1.3
Minimum Containment Resources for Average Most-Probable and Small Discharges

Boom Requirements	• 1,000 linear feet • Means of immediate deployment	
Boom Available to Meet Requirements	**Boom Type**	**Total Length (feet)**
	OSRO Equipment	> 1,000 linear feet
Source/Location of Booms and Deployment Time	Miller Environmental (Tier 1 OSRO) 401 Navigation Blvd. Corpus Christi, TX 78408 Response Time < 1 hour	
Facility Shortfall (feet)	None	

TABLE FRP 1.7.1.4
Minimum Oil Storage Requirements for Average Most-Probable and Small Discharges

Temporary Oil Storage Equipment Requirements	2 × Required Daily Oil Recovery Rate – 4,200 gpd On-scene within 2 hours of spill detection			
Facility Temporary Oil Storage Equipment to Meet Requirements	**Equipment**	**Total Capacity (gallons)**	**Capacity (gpd)**	**No. of Available Days**
	One Military Refueler	8,000	8,000	365
Source/Location of Storage Equipment and Deployment Time	Military Refueler Truck – Refueler Parking Area Response Time < 1 hour			

* NOTE: Daily storage capacity must be at least twice the daily oil recovery rate. Dividing the total storage capacity by the oil recovery rate will yield the number of days the storage equipment can support the oil recovery operations. The daily storage capacity required could be reduced or the number of available days increased by making arrangements to transfer oil from the storage equipment to disposal or recycling locations as necessary.

Maximum Most Probable and Medium Discharge

In the event of a medium or maximum most probable discharge (27,000 gallons [643 bbls]) Air Station personnel would take the initial response actions described in Table FRP 1.7.1.1. F&ES would respond to all discharges to mitigate to the extent possible and provide fire protection. The Tier 1 OSRO will be notified for all medium or maximum most probable discharges; the Tier 2 OSRO could potentially be notified to respond as well. F&ES would assist the OSRO(s) from land. Refer to Appendix B for a list of available emergency response support. Resources required to respond to medium discharges are described in Table FRP 1.7.1.5 through Table FRP 1.7.1.7.

Response to a medium or maximum most probable discharge would require assistance from multiple NASCC organizations (e.g., the IMT, EOC, and OSRO[s]). OSRO(s) available through the USCG BOA, as well as Navy SUPSALV, would use booms and other containment materials to protect sensitive environments. Examples of a medium discharge are described in detail in Section 1.5, Discharge Scenarios.

TABLE FRP 1.7.1.5
Minimum Required Oil Recovery Resources for Maximum Most-Probable and Medium Discharges

Oil Recovery Rate Requirement	Daily Recovery Rate: 13,500 gpd On scene within 6 hours of spill detection	
Facility Oil Recovery Equipment Available to Meet Requirements	**Equipment**	OSRO Equipment
	Derated Capacity (gpd)*	> 13,500 gpd
	Total Derated Capacity (gpd)^	> 13,500 gpd

TABLE FRP 1.7.1.5

Minimum Required Oil Recovery Resources for Maximum Most-Probable and Medium Discharges

Source/Location of Equipment and Deployment Time	Miller Environmental (Tier 1 OSRO) 401 Navigation Blvd. Corpus Christi, TX 78408 Response Time < 2 hours ES&H (Tier 2 OSRO) 2802 Flintrock Trace, Suite B104 Lakeway, TX 78738 Response Time < 6 hours
Facility Shortfall (gpd)	None

***** Recovery equipment derated capacity is calculated using the following relationship **R = T x 4.8**, Where **R** is the effective daily derated capacity in gpd and **T** is the rated hourly throughput of the equipment in gallons/hour.

^ Total derated capacity is the derated capacity times the number of units available (for example, 18,000 gpd × 1)

TABLE FRP 1.7.1.6

Minimum Containment Resources for Maximum Most-Probable and Medium Discharges

Boom Requirements	Sufficient quantities for oil collection, containment, and protection of sensitive areas. Facilities are required to have on hand, or available, the amount of boom identified in this FRP for protection of fish and wildlife and sensitive environments. On-scene within 6 hours of detection		
Boom Available to Meet Requirements	**Boom Type**	**Purpose**	**Total Length (feet)**
	OSRO Equipment	Protection of Sensitive Areas	Varies based on location of discharge and implemented protection strategy
Source/Location of Booms and Deployment Time	Miller Environmental (Tier 1 OSRO) 401 Navigation Blvd. Corpus Christi, TX 784085 Response time < 2 hours ES&H (Tier 2 OSRO) 2802 Flintrock Trace, Suite B104 Lakeway, TX 78738 Response Time < 12 hours		
Facility Shortfall (feet)	None		

TABLE FRP 1.7.1.7

Minimum Oil Storage Requirements for Maximum Most-Probable and Medium Discharges

Temporary Oil Storage Equipment Requirements	2 × Required Daily Oil Recovery Rate – 27,000 gpd On scene within 12 hours of spill detection			
Facility Temporary Oil Storage Equipment to Meet Requirements	**Equipment**	**Total Capacity (gallons)**	**Capacity (gpd)**	**No. of Available Days**
	Two Military Refuelers	16,000	8,000 × 2	365
	Three Military Refuelers	15,000	5,000 × 3	365
Source/Location of Storage Equipment and Deployment Time	Military Refueler Truck – Refueler Parking Area Response Time < 1 hour			

* NOTE: Daily storage capacity must be at least twice the daily oil recovery rate. Dividing the total storage capacity by the oil recovery rate will yield the number of days the storage equipment can support the oil recovery operations. The daily storage capacity required could be reduced or the number of available days increased by making arrangements to transfer oil from the storage equipment to disposal or recycling locations as necessary.

Worst Case Discharges

The Air Station's WCD is 272,000 gallons (6,476 bbls) of Group 1 oil; however, it is unlikely that such a discharge would be experienced. An example of a WCD is described in detail in Section 1.5, Discharge Scenarios. Resources required to respond to WCDs are described in Table FRP 1.7.1.8 and Appendix E.

F&ES would be notified to respond and provide resources to handle WCD requirements. At this point, NASCC could request additional resources from the Tier 2 and Tier 3 OSROs through the CNRSE ROC. Any OSRO personnel coming aboard the Air Station would be initially escorted by Naval Security. Similar to response for a medium discharge, response to a WCD would require assistance from multiple NASCC organizations, the IMT, EOC, and OSRO(s). OSROs available through the USCG BOA, as well as SUPSALV, would use booms and other containment materials to protect sensitive environments. Examples of a WCD are described in detail in Section 1.5, Discharge Scenarios.

TABLE FRP 1.7.1.8
Minimum Required Oil Recovery, Containment, and Temporary Storage Resources for WCD

On-water Oil Recovery Requirement			
Tier 1 gpd (barrels per day [bbls/day])	Tier 2 gpd (bbls/day)	Tier 3 gpd (bbls/day)	
8,148 (194)	13,608 (324)	21,756 (518)	
On-scene Tier Times (hours)			
6	30	54	
Facility Tier	**Equipment**	**Derated Capacity gpd (bbls/day)**	**On Scene Time (hours)**
Tier 1	OSRO Equipment	8,148 (194)	< 6
Tier 2	OSRO Equipment	13,608 (324)	< 30
Tier 3	OSRO Equipment	21,756 (518)	< 54
Facility Shortfall			
Facility Tier		**Capacity (gpd)**	
Tiers 1 to 3		None	

Boom Requirements			
• Sufficient quantities for oil collection, containment, and shoreline protection On scene within specified tiered response times (Tier 1 – 6 hours; Tier 2 – 30 hours; Tier 3 – 54 hours)			
Boom Type	**Purpose**		**Required (feet)**
Protection and Deflection Boom	To protect sensitive areas and to deflect movement of oil away from sensitive areas		Enough boom to sufficiently implement response strategies. Refer to Table FRP 1.7.4.3 for specific quantities needed for each response strategy.
Facility Booms Available to Meet Requirements	**Boom Type**	**Purpose**	**Length (feet)**
	OSRO Equipment	Protection of sensitive areas	Varies based on location of discharge and implemented protection strategy
Source/Location of Booms and Deployment Time	Miller Environmental (Tier 1 OSRO) 401 Navigation Blvd. Corpus Christi, TX 78408 Response Time < 12 hours ESH (Tier 2 OSRO) 2802 Flintrock Trace, Suite B104 Lakeway, TX 79738 Response Time < 36 hours SUPSALV (Tier 3 OSRO) Response Time < 60 hours		
Facility Shortfall	None		

TABLE FRP 1.7.1.8
Minimum Required Oil Recovery, Containment, and Temporary Storage Resources for WCD

Temporary Storage Requirements		
Tier 1 gpd (bbls/day)	Tier 2 gpd (bbls/day)	Tier 3 gpd (bbls/day)
16,296 (388)	27,216 (648)	43,512 (1,036)
On-Scene Tier Times (hours)		
6	30	54
Facility Tier	**Equipment**	**Response Time**
Tier 1	OSRO Equipment	< 6 hours
Tier 2	OSRO Equipment	< 30 hours
Tier 3	OSRO Equipment	< 54 hours
Facility Shortfall	None	

A discharge directly to water would have the same effect as a medium or WCD. F&ES would respond and provide onshore support, fire protection, and basic life support while the IC requests the Tier 1 OSRO to provide water response and recovery operations. The Tier 2 or Tier 3 OSROs could be notified if needed. Response efforts would include:

- Notification of F&ES and the IMT/EOC.
- Initiation of the ICS to allow the Air Station to work with federal, state, and local response agencies that use the ICS, and allow for the integration of contractor resources.
- Activation of the EOC by the IC, necessary contractors, and mutual aid organizations.
- Immediate notification of appropriate state and federal response agencies.
- Cessation of fuel transfer operations and transport operations until the hazard has been reduced.
- Evacuation of non-essential personnel, coordinated by Naval Security.
- Mitigation of potential fire hazards, using mutual aid organizations and contractors.
- Notification of wastewater and drinking water utilities, as necessary.
- Requisition of available fuel pumping and storage vehicles.
- Coordination of all recovery and decontamination activities.
- Provision of adequate disposal containers for discharge residue and contaminated soils.
- Implementation of monitoring program to detect additional discharges or contamination.
- Scheduling for maintenance, repair, and restocking of equipment used during the response.
- Submittal of appropriate federal, state, and military reports.

Response equipment at NASCC (refer to section 1.3.2) can be readily accessed for use in any discharge scenario. Members of F&ES, the IMT, and other Air Station personnel are provided training and exercise as described in Section 1.8, Self-Inspection, Drills/Exercises, and Response Training.

1.7.2 Disposal Plans

Small quantities of contaminated materials and waste products will be handled according to the NASCC Hazardous Waste Management Plan. POL wastes are not generally Resource Conservation and Recovery Act (RCRA)-regulated hazardous wastes because they can be recycled or reclaimed. NASCC maintains a contractor-run operation to store and reclaim used POLs. Disposal is undertaken according to appropriate local, state, and

federal requirements. NASCC operates under a Resource Conservation and Recovery Act (RCRA) Part B Temporary Storage and Disposal Facility (TSDF) Permit.

The FRT is not responsible for transporting, storing, or disposing of waste materials resulting from an oil spill. Used or spent response materials, recovered product, contaminated soil, PPE, decontamination solutions, absorbents, and spent chemicals will be drummed or stored in containers and taken to the hazardous waste accumulation area by the organization causing the spill and disposed of by the licensed contractor identified in the NASCC waste disposal contract.

TABLE FRP 1.7.2.1
Hazardous Waste Transporters and Disposal

Organization (Location)	Phone	Service Performed	Conditions of Acceptance
NASCC HazWaste Storage Facility (Building 355)	(361) 961-3760 (DSN: 861)	Dispose of HazWaste	1. Verify that material meets turn-in condition criteria 2. Weigh material 3. Package material 4. Prepare Turn-In Request form 5. Obtain a current Safety Data Sheet 6. Turn in for reuse or disposal

For small, medium, and WCDs, recovered product, contaminated soil, PPE, decontamination solution, adsorbents, and spent chemicals are to be placed in storage containers (bulk storage/roll-offs, as necessary) compatible with the material being stored. All waste material will be disposed of through an approved contractor to a permitted treatment, storage, and disposal facility. Standard operating procedures (SOPs) for potential waste streams generated or recovered during a spill response are characterized in Table FRP 1.7.2.2.

TABLE FRP 1.7.2.2
Disposal Plan SOPs

Material	Procedures
Recovered Oil	Determine if the waste oil is hazardous (40 CFR 260-265). If non-hazardous, evaluate options and cost of recycling. Sample the recovered oil and prepare a waste stream profile for recycling. If it is hazardous waste, properly store in containers and manage in accordance with 40 CFR 260-268.
Oil-Contaminated Wastes	Determine if the waste is hazardous (40 CFR 260-265). Evaluate options/costs to process via waste to energy facility or landfill: sample waste material, analyze, and transport to the appropriate facility. If non-hazardous, dispose through Defense Logistics Agency (DLA) – Disposition Services contract. If hazardous waste, properly store in containers and manage in accordance with 40 CFR 260-268.
Contaminated Soil	Determine if the waste is hazardous (40 CFR 260-265). Evaluate options/cost to incinerate or landfill soils; sample soil, analyze soil, and transport to the appropriate facility. If non-hazardous, dispose through DLA-Disposition Services. If hazardous waste, properly store and manage in accordance with 40 CFR 260-268.
Contaminated Equipment	Decontaminate equipment. For equipment contaminated with hazardous waste, coordinate efforts with TCEQ. For equipment contaminated by non-hazardous waste, return reusable equipment to storage location. Non-reusable equipment will be recycled or disposed of through DLA-Disposition Services or other approved disposal facility. Store rinsate in containers and transport to the appropriate facility.
Waste Chemicals and Decon Solutions	Sample and analyze to determine if the waste is hazardous (40 CFR 260-265). If non-hazardous, recycle or dispose through DLA-Disposition Services. If hazardous waste, properly store in containers and manage in accordance with 40 CFR 260-268.
PPE	Return reusable equipment not contaminated with hazardous waste, to storage location. Non-reusable equipment: evaluate options/costs to process via waste-to-energy or landfill or dispose through DLA-Disposition Services or other approved disposal facility as either hazardous or non-hazardous waste.
Absorbents	Sample and analyze to determine if the waste is hazardous (40 CFR 260-265). If non-hazardous, dispose through DLA-Disposition Services. If hazardous waste, properly store in containers and manage in accordance with 40 CFR 260-268.
Dead Wildlife	Hold and notify the TWPD, South Texas Plains Wildlife District Supervisor (830-569-7806)
Other Response Wastes	Evaluate options. Sample and analyze to determine if the waste is hazardous (40 CFR 260-265). If non-hazardous, dispose through DLA-Disposition Services. If hazardous, properly store in containers and manage in accordance with 40 CFR 260-268.

CAUTION: Do not mix non-hazardous wastes with hazardous wastes or materials: Minimize hazardous wastes generated.

Temporary onsite storage and eventual offsite disposition of waste streams will be executed in accordance with Table FRP 1.7.2.3.

TABLE FRP 1.7.2.3
Material Classification and Disposal Strategy

Material	Classification	Temporary Storage	Disposal
Recovered Oil	Recoverable	Various	Test for final disposition
	Non-hazardous Waste	Store in tank truck	DLA Disposition Services (DLADS)
	Hazardous Waste	Store in bowsers	DLADS
Oil-Contaminated Wastes	Non-hazardous Waste	Store in bowsers	DLADS
	Hazardous Waste	Store in bowsers	DLADS
Contaminated Soil	Non-hazardous	Store in 55-gallon drums	DLADS
	Hazardous	Store in 55-gallon drums	DLADS
Contaminated Equipment	Non-hazardous	Roll off dumpster	DLADS
	Hazardous	Store in 55-gallon drums	DLADS
Chemicals, including Decon. Solutions	Non-hazardous	Store in 55-gallon drums	DLADS
	Hazardous Waste	Store in 55-gallon drums	DLADS
Dead or Injured Wildlife	All	Consult with TPWD, South Texas Plains Wildlife District Supervisor	Consult with TPWD, South Texas Plains Wildlife District Supervisor
PPE	Non-hazardous	Store in 55-gallon drums	DLADS
	Hazardous	Store in 55-gallon drums	DLADS
Adsorbents	Non-hazardous	Store in 55-gallon drums	DLADS
	Hazardous	Store in 55-gallon drums	DLADS
Other Response Wastes	Non-hazardous Waste	Store in 55-gallon drums	DLADS
	Hazardous Waste	Store in 55-gallon drums	DLADS

Table FRP 1.7.2.4 lists the disposal options available to NASCC for materials generated in response to a discharge. Wastes generated as a result of a spill or clean-up would undergo a waste stream determination for characterization and be stored and disposed as appropriate. Materials would be handled and disposed in accordance with federal and state guidance as well as the Air Station's permit. The Environmental Division's Hazardous Waste Program Manager would handle the eventual disposal of this material.

TABLE FRP 1.7.2.4
Disposal Permits

Permit Type	Issuing Agency	Existing Permit/ Generator Number	Comments
RCRA-regulated waste	EPA	TX7170022787	Part B TSDF storage facility
Dead Wildlife (Federal)	USFWS	None	NRDA
Dead Wildlife (State)	TPWD, South Texas Plains Wildlife District Supervisor	None	Consult with TPWD, South Texas Plains Wildlife District Supervisor

1.7.3 Containment and Drainage Planning

This section describes how NASCC will contain and control a spill through drainage; it primarily describes containment and drainage of POLs in the event of a release. For tanks with sufficient secondary containment (see Table FRP 1.4.1.1), product will be contained and no drainage will occur. Precipitation that accumulates in secondary containment systems is not released until it has been examined to ensure that no oil contamination will be discharged with the water. Containment equipment at the Aviation Fuel Farm is inspected continually.

Trapped oil should never be released from secondary containment into a drainage system. Spilled oil should be removed from a secondary containment area by pumping it out with vacuum trucks or by using portable hose and pumps to pump to undamaged tanks or containers. Drainage system control devices such as OWSs are designed to handle only small amounts of oil in the water being drained.

Refer to Diagram FRP 1.9.3 for NASCC's Site Drainage Plan.

Available Containment Capacity

In the event of a POL release on the Air Station, available containment capacity would be used to temporarily store recovered material until it is disposed off-Air Station. The maximum discharge that would be released during a WCD is 272,000 gallons (6,476 bbls). At the Aviation Fuel Farm, the two field-constructed ASTs are each provided with a concrete containment dike that will retain 340,580 gallons. Therefore, there is sufficient temporary storage capacity available to store recovered material from a WCD.

In addition to the available containment at the Aviation Fuel Farm, additional temporary containment available for use during emergency response will come from the following Air Station resources:

- Containment in closed, but undisposed bulk storage tanks (ASTs)
- Available military refueling vehicles

A full discussion on containment available throughout the Air Station and individual petroleum storage containers is in the NASCC SPCC Plan. Temporary storage can also be provided by the Tier 1 OSRO (Miller Environmental), the Tier 2 OSRO (ES&H), and/or the Tier 3 OSRO (SUPSALV). Additional OSROs that can provide temporary storage are available by using the USCG BOA through the CNRSE ROC.

Route of Drainage for Oil Storage and Transfer Areas

Drainage from oil storage and transfer areas will follow land contours and diversionary structures into storm drains and stormwater ditches/canals as described in Section 1.5. The WCD scenario at the Aviation Fuel Farm would be partially contained by the containment dikes surrounding each AST. Discharge of petroleum into the stormwater system would ultimately discharge into Corpus Christi Bay, Oso Bay, or Laguna Madre. Discharges that flow over land would expected to percolate into the soil

Diagram FRP 1.9.3 shows the direction of flow of storm drains, stormwater ditches/canals, and receiving surface waters.

Construction Materials Used in Drainage Troughs

The construction materials used in drainage troughs are concrete and typical catch basin and piping infrastructure.

Type and Number of Valves and Separators used in the Drainage System

As described in Section 1.5, Discharge Scenarios, the field-erected storage tanks are surrounded by concrete containment dikes that are sufficiently sized to contain the entire capacity of each AST plus sufficient freeboard. The adjacent Loading/Unloading Area drains into a catchment basin that is large enough to contain the capacity of at least one commercial tanker truck. The containment dikes and the curbed area surrounding the Loading/Unloading Area drain to a retention basin. Drainage from the retention basin passes through an OWS and can be directed to the Air Station's WWTP or the stormwater system. The Refueler Parking Area drains to a catchment basin that is large enough to contain the capacity of at least one military refuelers. The curbed parking area drains to a retention basin. Drainage from the retention basin passes through an OWS and to the Air Station's WWTP.

Sump Pump Capabilities

The stormwater drainage system on NASCC operates under gravity flow.

Weir and Boom Capabilities and Other Cleanup Materials

No weirs are located at NASCC. Boom capabilities are discussed in Sections 1.1.4 and 1.3.2, as are any other cleanup materials that may be used in response to a discharge of petroleum product.

1.7.4 Sensitive Environments and Protection Strategies

OPNAV M-5090.1D Para 12-5.1 i requires that protective booming strategies be developed and implemented for POL transfer operations when any of the following conditions exist:

- Protective booming is required by law or regulation.
- The nature or volumes of fuels to be transferred is of sufficient magnitude that prudent operational risk management indicates that protective booming is required.
- When environmentally sensitive areas are likely to be negatively impacted in the event of a spill.
- When a potential spill could generate significant negative public perception or so adversely affect political relations with a host nation or local jurisdiction that continued port access may be jeopardized.

The initial response strategies detailed in this FRP/DPRP are intended to address the requirements in OPNAV M-5090.1D and protect environmentally sensitive sites within the five nautical mile planning distance surrounding NASCC. The information presented here has been prepared to coordinate with the USCG Sector Corpus Christi ACP and the Texas Oil Spill Planning and Response Toolkit[1]. A response to any one of these areas will most likely be initiated by F&ES and maintained by OSRO personnel. Protection, containment, and recovery strategies for the identified shorelines adjacent to the facility are discussed below. Sensitive Areas and Response Strategies, provided as Diagram FRP 1.9.6 and Diagram FRP 1.9.7, are designed to provide a broad geographic perspective for the facility's initial response and should be used in conjunction with, the response strategies presented in Diagram FRP 1.9.8 through 1.9.21.[2]

Information presented throughout this section includes input from NASCC Environmental, as well as from the USCG Sector Corpus Christi ACP and the Texas Oil Spill Planning and Response Toolkit. This information was integrated with the protection strategy recommendations from NASCC Environmental. Diversion and/or exclusion booming strategies requiring extensive amounts of boom and mooring systems are generally listed as the preferred booming method for facility response personnel. It is understood that changes to the strategies may be required due to the incident specific conditions. Diagram FRP 1.9.6 provides an overview of the response strategies as well as a graphical depiction of where each strategy is located.

There are often areas with limited-to-no access for boat traffic along the waterways and bays from the intra-coastal Waterway to Laguna Madre. As described in Appendix C, the WCD planning distance for non-persistent oils is five miles. The five mile non-persistent oil focus area is the extent that petroleum would be expected to migrate due to the geographic setting (i.e., low tidal flow and marshes) as well as the numerous piers and water-borne structures that would impede dispersion.

Likely Discharge Locations

The response strategies provided in this FRP/DPRP are based on the likely spill scenarios occurring at NASCC. Table FRP 1.7.4.1 summarizes the locations and likely flow paths of a release at NASCC. Wind direction will play a significant role in the priorities for response actions at each of the locations identified in Diagram FRP 1.9.6.

TABLE FRP 1.7.4.1
Most Likely Discharge Locations at NASCC

Discharge Source	Discharge Scenario	Product	Maximum Discharge Volume (gallons)	FRT Responder Group
Paradise Cove Marina Refueling Area	Overfill and loss of fueling dispensing @ 12-15 gpm with discharge into the Marina facilities and Laguna Madre	Gasoline	2,000	F&ES and OSRO

1 The Texas General Land Office's 17th (online) Edition of Oil Spill Planning and Response Toolkit was used for this project and is available on line from http://www.glo.texas.gov/ost/index.html.

2 Refer to Diagram FRP 1.9.7 for a detailed map of NASCC's planning distance during ebb and flood tides.

TABLE FRP 1.7.4.1
Most Likely Discharge Locations at NASCC

Discharge Source	Discharge Scenario	Product	Maximum Discharge Volume (gallons)	FRT Responder Group
Aviation Fuel Farm	Loss of one field-constructed AST	F-24	272,000	F&ES and OSRO
CCAD Fuel Farm	Loss of one shop-constructed AST	F-24	10,000	F&ES and OSRO
Flightline	Loss of one full military refueler	F-24	8,000	F&ES and OSRO

Sensitive Areas

The following response strategies are intended to protect environmentally sensitive sites in the vicinity of NASCC within the first five nautical miles of a potential oil discharge. The proposed initial strategies should also be used for testing and refining by the Tier 1 OSRO during their training end equipment deployment evolutions. It is understood that the strategies may be modified due to the incident specific conditions. A comprehensive listing of sensitive areas to be protected is available in Section 1.4.2, Vulnerability Analysis. Generally, areas described in the response strategies include Oso Bay, Laguna Madre, and Corpus Christi Bay. Since the majority of drainage at NASCC is directed to one of these three sensitive areas, most of the response strategies are directed toward these areas.

Spill responders and plan reviewers should recognize that the Corpus Christi Bay and adjacent waterways are characterized by extreme shallow waters and a variety of current speeds that may make safe and effective on-water oil spill response operations difficult, if not impossible. Deployment of fixed (moored) boom presents significant hazards to responders, and should be attempted only by knowledgeable, experienced, and properly supervised personnel. Proper initial boom placement, constant monitoring and boom tending throughout the tidal cycles, and rapid and effective recovery and temporary storage of oil encountered are required for the strategies to be effective.

In most cases, these protection strategies involve diverting oil to a containment and recovery site within a large estuarine habitat up or downstream depending on the state of the tide. When the strategy is not likely to be effective due to the vast expanse of area to be addressed (e.g., shallow habitats) an attempt will be made to deflect oil away from these areas into the body of Laguna Madre and Oso Bay natural collection points.

Logistical requirements for equipment deployment must be considered. This includes water, food, sanitary facilities, personnel decontamination, oil and waste collection and disposal, etc. for each of these sensitive area response strategies. For a complete list of logistics responsibilities, refer to USCG's Incident Management Handbook (http://www.uscg.mil/hq/nsfweb/docs/FinalIMH18AUG2006.pdf) or the ICS position checklists (http://training.fema.gov/EMIWeb/IS/ICSResource/ICSResCntr_Checklists.htmhttp://training.fema.gov/EMIWeb/IS/ICSResource/ICSResCntr_Checklists.htm).

Sensitive Area Protection

In the event containment in open waters is not possible and it appears oil will impact local sensitive areas, response personnel must deploy shoreline protection boom to areas that will be impacted by the oil. This section is designed to provide response procedures for protecting sensitive areas within five miles from a NASCC generated spill incident. Very sensitive areas are located immediately on or adjacent to NASCC. In the event NASCC response personnel are directed to provide protective boom for these areas, the strategies in Diagram FRP 1.9.8 through 1.9.21 can be used as a guide. Areas outside of five miles can be protected using the USCG Sector Corpus Christi Geographic Response Strategies provided in the ACP[3] (modified for the incident-specific conditions). Protecting multiple sensitive area shorelines in all geographic response zones will require significantly more boom than boom trailers can carry. If the need for additional boom is anticipated, contact the Tier 1 OSRO

3 The USCG Sector Corpus Christi Geographic Response Plans are available from http://www.glo.texas.gov/ost/corpus-bay-area/index.html

and initiate access to the Tier 2 OSRO resources. Contact the FOSC-R to initiate resource access through SUPSALV or other USCG BOA contracts.

Each sensitive area protective strategy found in this FRP/DPRP is pre-loaded into an individual ICS 204 -Work Assignment form to ease the assignment and modification by the Operations Section should an actual incident occur. For an actual incident, these ICS 204 – Work Assignment forms should be modified as necessary to address the incident-specific conditions. The purpose of the site-specific ICS 204 forms is to provide detailed information for the initial IC and the FRT to follow during the response.

Resources and procedures for the pre-established protection strategies are listed in detail in the ICS 215 – Operational Worksheet that is equivalent to a shopping list of materials needed to protect each shoreline sensitive area identified in the individual pre-loaded ICS 204 forms. Additional information regarding sensitive areas may be available from NASCC Environmental.

Sensitive Area Protection Execution

The resources required for protecting NASCC's sensitive areas should be readily available from the NASCC OSRO. Initial response for protecting a sensitive area should include a boom trailer and at least one utility boat. The OSRO should arrive with a minimum of 1,000 feet of boom with several boom mooring systems that would be the first boom used for containment operations and then shoreline protection for the areas likely to be impacted by the release or for any other sites that are threatened. Once a spill occurs, Tier 1 OSRO personnel, under the direction of the IC, should immediately execute the sensitive area protection strategies in this plan if the situation dictates.

Sensitive Area Protection Training

The response strategies developed have not all been validated as of publication of this FRP/DPRP. The strategies contained therein represent recommendations for initial Tier 1 OSRO personnel to follow. Shoreline protection training for high priority areas should be conducted whenever possible during annual training and exercises with the Tier 1 OSRO. Because of the extremely high sensitivity of many areas or where training would interfere with commercial operations, many may never be validated. The relatively small number of sensitive areas still represents many miles of shoreline to protect.

Priorities for which areas to protect must be established by the NASCC IMT and the state and federal representatives who would be present in a Unified Command situation. Once areas are prioritized, Tier 1 OSRO personnel can deploy response assets as required. In the absence of IMT direction, OSRO personnel should apply shoreline protection to those areas identified in Diagram FRP 1.9.6 located within the predicted oil trajectory. Regardless of which areas are threatened, responders can expect a mix of shoreline types from narrow sandy beaches to extensive low country marshlands.

Resource Needed to Implement Response Strategies for a WCD

NASCC has access to Miller Environmental (Tier 1 OSRO) and ES&H (Tier 2 OSRO) through the USCG BOA. NASCC does not maintain any response equipment, personnel, or training for spill responses on the Air Station. The contracted Tier 1 and Tier 2 OSRO equipment will be used to respond to all NASCC oil spills in the Corpus Christi area, including a WCD. Miller Environmental is the primary OSRO (Tier 1) for NASCC and will be used for all on water spills. Should additional oil spill response services be required, they are available through the FOSC-R by activating the USCG BOA. Navy SUPSALV can also be utilized to provide additional Tier 2 or Tier 3 response assets.

Miller Environmental has been classified by the U.S. Coast Guard as Class Facility and Vessel WCD3 (WCD3 – Worst Case Discharge Level 3) OSRO for Inland and Rivers & Canals (OSRO Capability Minimums. Therefore, Miller Environmental possesses the required capability to implement all the initial protection strategies detailed and summarized in **Table FRP 1.7.4.4**.

TABLE FRP 1.7.4.2
OSRO Classification Standards by Operating Area*

Operating Area	Protective Boom (feet)	EDRC (bbls per day)	Temporary Storage Capacity (bbls)	Response Time (hours)
River & Canal	4,000	1,200	2,400	6
Inland	6,000	2,400	2,400	6

* Refer to 33 CFR 154 and 33 CFR 155 for further information on OSRO classification.

Geographic Response Strategies

NASCC is situated at the southeastern portion of Corpus Christi Bay with Laguna Madre as its eastern boundary and Oso Bay on its western boundary. Spills from the Air Station have the potential to be large enough to impact both the waterway and the adjacent shorelines.

All spills initiated by NASCC will require activation of the Tier 1 OSRO for deployment of response equipment and personnel. Temporary storage of recovered liquids can be accomplished using military refuelers trucks, Frac Tanks, and barges. Specific response strategies are outlined in this section, the RED PLAN, the Section 1.1.9, and Section 1.9.

Diagram FRP 1.9.6 depicts the geographic response areas for NASCC. Diagram FRP 1.9.8 through 21 provide detailed response strategies for the planning distance in Corpus Christi Bay, Oso Bay, and Laguna Madre.

Protection Strategies

The protection strategies depicted in this section are generic and may not apply to all incidents. They are designed to represent an ideal approach towards containing, diverting, and excluding oil from impacting environmentally sensitive areas. As such, three categories of strategies may be presented in the following section:

- **PRIMARY** - strategies based on unlimited resources and calm weather conditions (the ideal approach), and
- **SECONDARY** – a secondary strategy based on available oil spill response equipment**,** and
- **TERTIARY** – strategies that are not currently possible with existing equipment; recommendations for additional equipment are provided (where applicable).

Section 1.9 is designed to provide response procedures for protecting sensitive areas within the first five miles of NASCC. The response procedure generally involves angling the boom across the potential path of the oil toward the sensitive area, to “divert” the oil to a suitable containment and recovery area where the oil is removed by skimmers and/or sorbents. Each sensitive area protection strategy is contained in a two- to four-page guide established for that area.

The purpose of these site/location specific guides is to provide detailed information for the Initial IC and the Tier 1 OSRO to follow during the initial and follow on response. Resources and procedures for each site are contained in detail and is equivalent to a shopping list of materials needed to protect each shoreline located sensitive area.

Sensitive area protection execution will require extensive resources of boom, personnel and floating assets working in very shallow waters which in itself provide additional complications for deploying these strategies. The resources required for protecting the Corpus Christi Bay, Laguna Madre, and Oso Bay sensitive areas should be readily available from the Tier 1 OSRO. Initial response for protecting a sensitive area should include at least one or two utility boats for towing boom for deployment. The OSRO will mobilize their resources and personnel to support all booming evolutions. Table FRP 1.7.4.3 lists the necessary resources to complete the primary booming strategies. For an actual incident, the ICS 215 – Operational Worksheet should be modified to address the incident-specific conditions. Copies of the electronic version of this table are provided in the CD that accompanies this volume.

Table FRP 1.7.4.4 and the individual response strategies specifically identify the following for each site strategy:

- Prevention booming procedures and the areas to be protected;
- The protection strategy;
- Possible oil collection points;
- Shoreline boom attachment points;
- Containment boom length required;
- Boat and personnel requirements;
- Booming methods;
- Mooring systems required, all based on water depth at the individual site;
- Approximate execution time;
- Secondary booming information, and;
- Site access information, and if the strategy is related to any others.

TABLE FRP 1.7.4.3

Minimum Equipment and Resources Required to Implement Protection Strategies

OPERATIONAL PLANNING WORKSHEET																							2. DATE & TIME PREPARED		3. OPERATIONAL PERIOD (DATE & TIME)	
1.INCIDENT NAME																										
4. DIVISION/ GROUP/ OTHER LOCATION	5. WORK ASSIGNMENTS	6. KINDS OF RESOURCES	Utility boat (UB) and crew	John Boat and Crew	Boom (ft.)	Mooring System (40 lb.)	Shore Stakes & stake driver	Sorbent Boom (sausage)	Vac Truck w/ weir head	Vac Truck personnel (2)	Shore crew (2 personnel)												7. OVERHEAD	8. SPECIAL EQUIPMENT & SUPPLIES	9. REPORTING LOCATION	10. REQUESTED ARRIVAL TIME
	1A - Blind Oso (A1) Exclusion	REQ	1	1	300		4				2															
		HAVE																								
		NEED																								
	1B - Blind OSO (A1) Exclusion	REQ	1	1	100	2					2															
		HAVE																								
		NEED																								
	2A - University Beach (A2) Exclusion	REQ		2	900	8	8				2															
		HAVE																								
		NEED																								
	2B - University Beach (A2) Exclusion	REQ		4	2,200	21	6				2															
		HAVE																								
		NEED																								
	3A - Oso Bridge on Ocean Drive (A3) Exclusion	REQ		2	1,200	6	4				2															
		HAVE																								
		NEED																								
	3B - OSO Bridge on Ocean Drive (A3) Exclusion with Recovery	REQ		2	1,300	3	5		1	1	2															
		HAVE																								
		NEED																								
	4A - NASCC NW Barge Dock Diversion with Recovery	REQ	2	1	900	5	2		1	1	2															
		HAVE																								
		NEED																								
	4B-4D - NASCC NW Barge Dock Diversion with Recovery	REQ	2	1	1,200	13			1	1	2															
		HAVE																								
		NEED																								
	5A - NASCC Stormwater Outfall H-1 Containment	REQ		1	100	1	4		1	1	2															
		HAVE																								
		NEED																								
	5B - NASCC Stormwater Outfall H-1 Containment	REQ		2	300	3	4		1	1	2															
		HAVE																								
		NEED																								
ICS 215-CG (Rev 12/02)	11. TOTAL RESOURCES REQUIRE		6	17	8,500	62	37	0	5	5	20	0	0	0	0	0	0	0	0	0	0	0	14. PREPARED BY (NAME & POSITION)			
	12. TOTAL RESOURCES ON HAND		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	13. TOTAL RESOURCES NEEDED		6	17	8,500	62	37	0	5	5	20	0	0	0	0	0	0	0	0	0	0	0				

TABLE FRP 1.7.4.3

Minimum Equipment and Resources Required to Implement Protection Strategies

OPERATIONAL PLANNING WORKSHEET 1.INCIDENT NAME																					2. DATE & TIME PREPARED		3. OPERATIONAL PERIOD (DATE & TIME)	
4. DIVISION/ GROUP/ OTHER LOCATION	5. WORK ASSIGNMENTS	6. KINDS OF RESOURCES	Utility boat (UB) and crew	John Boat and Crew	Boom (ft.)	Mooring System (40 lb.)	Shore Stakes & stake driver	Sorbent Boom (sausage) ft.	Vac Truck w/ weir head	Vac Truck personnel (2)	Shore crew (2 personnel)											7. OVERHEAD	8. SPECIAL EQUIPMENT & SUPPLIES	9. REPORTING LOCATION	10. REQUESTED ARRIVAL TIME
	6 - NASCC Fishing Pier Diversion	REQ	2		700	2	1		1	1	1												sorbents as needed		
		HAVE																							
		NEED																							
	7A - NASCC ACOE Sensitive Area Exclusion	REQ		2	1,600		9				2											wading may be required	sorbents and sandbags as needed		
		HAVE																							
		NEED																							
	7B - NASCC ACOE Sensitive Area Exclusion	REQ		2	1,200		12				2											wading may be required	sorbents and sandbags as needed		
		HAVE																							
		NEED																							
	8A - NASCC Paradise Cove Marina Containment	REQ		1	100						1												sorbents as needed		
		HAVE																							
		NEED																							
	8B - NASCC Paradise Cove Marina Containment	REQ		2	1,000		4				2											Can also be exclusion	sorbents and sandbags as needed		
		HAVE																							
		NEED																							
	9 - NASCC Southern Pier Strategy	REQ		2	500	2	2		1	1	1												sorbents and sandbags as needed		
		HAVE																							
		NEED																							
	10 - NASCC Stormwater Outfall R-1 Containment	REQ									2												sorbent boom and shorestakes as needed		
		HAVE																							
		NEED																							
	11A - NASCC Outfall W-1 Containment	REQ			100		4	100			2											wading may be required	sorbent boom and shorestakes as needed		
		HAVE																							
		NEED																							
	11B -NASCC Outfall W-1 Secondary Containment	REQ			400		4	400			2											wading may be required	sorbent boom and shorestakes as needed		
		HAVE																							
		NEED																							
	12 - Crane Island (A11) Exclusion	REQ		2							2												Stakes and sorbent boom to be determined		
		HAVE																							
		NEED																							
ICS 215-CG (Rev 12/02)	11. TOTAL RESOURCES REQUIRE		2	11	5,600	4	36	500	2	2	17	0	0	0	0	0	0	0	0	0	0	0	14. PREPARED BY (NAME & POSITION)			
	12. TOTAL RESOURCES ON HAND		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	13. TOTAL RESOURCES NEEDED		2	11	5,600	4	36	500	2	2	17	0	0	0	0	0	0	0	0	0	0	0				

TABLE FRP 1.7.4.3

Minimum Equipment and Resources Required to Implement Protection Strategies

OPERATIONAL PLANNING WORKSHEET

1.INCIDENT NAME

2. DATE & TIME PREPARED

3. OPERATIONAL PERIOD (DATE & TIME)

4. DIVISION/ GROUP/ OTHER LOCATION	5. WORK ASSIGNMENTS	6. KINDS OF RESOURCES	Utility boat (UB) and crew	John Boat and Crew	Boom (ft.)	Mooring System (40 lb.)	Shore Stakes & stake driver	Sorbent Boom (sausage)	Vac Truck w/ weir head	Vac Truck personnel (2)	Shore crew (2 personnel)												7. OVERHEAD	8. SPECIAL EQUIPMENT & SUPPLIES	9. REPORTING LOCATION	10. REQUESTED ARRIVAL TIME
	13 - JFK Causeway, Point A (Northside)	REQ	2		3,200	6	4				2													sorbent boom as needed		
		HAVE																								
		NEED																								
	13- JFK Causeway, Point A (southside)	REQ	2		3,200	6	4				2													sorbents as needed		
		HAVE																								
		NEED																								
	13 - JFK Causeway, Point B (northside)	REQ	2		1,300	1	4				2													sorbent boom as needed		
		HAVE																								
		NEED																								
	13 - JFK Causeway, Point B (southside)	REQ	2		1,000	2	4				2													sprbemts as meede		
		HAVE																								
		NEED																								
	14 - Point C (at Intracostal Waterway)	REQ	2		1,000	5	2				2													sorbents as needed		
		HAVE																								
		NEED																								
		REQ																								
		HAVE																								
		NEED																								
		REQ																								
		HAVE																								
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		NEED																								
		REQ																								
		HAVE																								
		NEED																								
		REQ																								
		HAVE																								
		NEED																								
ICS 215-CG (Rev 12/02)	11. TOTAL RESOURCES REQUIRED		10	0	9,700	20	18	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	14. PREPARED BY (NAME & POSITION)			
	12. TOTAL RESOURCES ON HAND		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	13. TOTAL RESOURCES NEEDED		10	0	9,700	20	18	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0				

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Strategic Response Sequence

Every spill is unique, so the proper response requires a thorough spill assessment and plan development. Generally, the following response sequence should be considered when responding to a spill:

- **Secure the Source** – Stop the pump, close the valve, plug the hole, transfer to another tank, etc. Eliminate or minimize the continued release of oil.
- **Prevent water entry** – If the spill has occurred on land or on a pier, etc., prevent it from reaching the water where rapid spreading makes containment and recovery much more difficult. Secure scuppers or storm drains, position berms, dig trenches, etc. to prevent the oil from reaching the water.
- **Containment at or near the source** – If protective booming is not already containing the spill on the water, deploy containment boom at or as near the source as possible to contain floating oil or a continuing release. Initiate recovery of contained oil as soon as possible to prevent escape due to current and/or sea state. Deploy secondary boom if necessary. If the spilled oil has already escaped a reasonable containment area and the source has been secured, move on to recovery and shoreline protection.
- **Sensitive Area Protection** – Implement shoreline response strategies for high-priority sensitive areas (environmental and socioeconomic) in the path of the oil slick. Focus available resources where they can do the most good in the time available. Ensure that containment and protection booming is effective.
- **Shoreline Cleanup** – Diesel and F-24 are toxic and can cause serious environmental impacts, but shoreline cleanup is not as difficult as with heavy, black oils. Shoreline cleanup is not as time-critical as on-water response operations and when necessary, is often performed by Navy contractors. Initial efforts should focus on removing pooled oil concentrations that may be re-mobilized by tidal action to cause further shoreline impacts.

General Comments on Shoreline Protection Strategies

- **Towing Bridles** – Whenever a towline or mooring line is secured to the end of the boom it should always be secured through a towing bridle to properly distribute the load and keep the end connector vertical in the water. A less-desirable alternative is to secure a towline or mooring line to an anchor point on or near the bottom of the boom so the tension load is transferred primarily to the chain tension member, to prevent damage to the boom (e.g., tearing the end plate from the boom fabric).
- **Sealing Boom at Shoreline** – Use sorbents and/or sand bags to seal boom at the shoreline (where water depth is too shallow for boom draft and boom lays over on beach, allowing oil to pass underneath.) Boom known as “intertidal” or “shore seal” boom is manufactured to prevent boom failure at the shoreline. The boom skirt or draft for this specialty boom consists of a pair of water-filled cylindrical chambers. Connected to standard boom where sufficient water depth at low tide floats the boom, the intertidal boom continues in to the beach and up the beach above the high tide line. The weight of the water-filled chambers (weightless in the water), seal the boom to the bottom and to the beach as water depth decreases, preventing oil from passing under the boom.
- **Tide Risers and Alternatives** – When boom is to be terminated at a vertical wharf or bulkhead, a tide riser is the ideal termination to seal the boom against the vertical face. In the absence of a tide riser, the boom end connector should be secured as close as possible to the vertical face and gaps sealed with sorbents. One approach is to suspend a line or chain with a heavy weight over the edge of the wharf/bulkhead and secure it with the weight suspended off the bottom, holding the line/chain taught. Secure the shackles of a towing bridle (or other spare end connector drilled for shackles top and bottom) to the line/chain and mate it with the boom end connector. Seal gaps with sorbents. If wind and/or current place a load on the boom and the boom end pulls away from the wharf/bulkhead, secure a mooring line from the wharf/bulkhead to the next boom anchor point out from the pier (at 50 or 100 feet out) and take a strain to hold the boom in to the wharf/bulkhead.

- **Towing Assist Boat Alongside Boom** – When tension load on the boom due to wind and/or current makes it difficult to get the boom to a shoreline attachment point (or other location), bring a second boat alongside the boom and secure it (by cleat or tow post) to an intermediate boom anchor point to assist in getting the boom and mooring line into position.
- **Boom Mooring Systems** – Use mooring systems as necessary along the boom to maintain the desired boom configuration (shape), to prevent excessive catenary (belly in boom that could trap oil where you don't want it), and to assist the wind and/or current in moving the oil to a suitable location for recovery. If wind and/or current don't do the job, use prop wash from a small boat to move the surface oil to a location accessible to vacuum truck and/or Kvichak RRS. Use the minimum number of mooring systems that will do the job. If a single mooring system on the end of the boom is not sufficient to hold the boom (the anchor drags on the bottom) securing one or more additional mooring systems to the same boom anchor point (towing bridle) is often preferred to moorings at other locations. Spread the mooring(s) at 15 to 20 degrees from the initial mooring.
- **Boom Positioning and Tending** – In a dynamic marine environment with varying wind and current intensity and direction, a fixed shoreline protection boom is not likely to stay where initially positioned. Anchors will drag, particularly with tidal changes. Shoreline protection boom configurations may require nearly continuous tending and repositioning. Navy boom mooring systems are relatively easily repositioned by picking up the crown (recovery) buoy and taking the crown line to the utility boat's tow post, taking a strain (the anchor will come to the surface), stretching the boom in the desired direction and releasing the crown line (after coming to all stop and surging the line to release the strain). The requirement for boom tending is labor- and equipment- (boat) intensive. This should be a good argument against deploying more shoreline protection boom than is required for a given spill, particularly very long lengths of boom, and/or for mobilizing additional personnel and equipment resources (OSROs, SUPSALV, etc.) for a major spill threatening many sensitive areas identified in the FRP/DPRP.
- **Jet Skis and Alternatives (not currently applicable, but may be in the future)** – The sensitive area response strategies may refer to the use of jet skis to deploy boom in shallow water. The jet ski is a useful tool when needed, but a utility boat or boom platform boat equipped with a towing bridle is generally preferred for towing (particularly for long boom lengths and/or long transit tows. Use the jet ski to assist in passing the boom ashore in very shallow water. An alternative is to use a heaving line passed from the utility boat or boom platform boat to a shore party to haul the boom ashore.
- **Oil Recovery** – Some of the sensitive area protection strategies, particularly some exclusion strategies, suggest that oil recovery is "not applicable," particularly when vacuum truck accessibility is questionable and distance from the potential spill source(s) is not likely to result in significant quantities or oil reaching the exclusion boom. It is always appropriate to recover free oil on the water when accessible. Oil against a boom is likely to defeat the boom over time through one or more of the classic boom failure modes (entrainment, drainage, splashover, etc.) particularly with increased current, wind, and sea state. Highly toxic diesel and JP fuels will cause environmental damage even in relatively low-sensitivity areas, and a shift in wind and/or current may relocate the oil to an unprotected sensitive shoreline. Wherever a significant quantity of oil is trapped against a boom, an attempt should be made to recover the oil with a vacuum truck, Kvichak RRS, or with sorbents as a last resort.

Evaluate Initial Conditions

Initial conditions, such as tides currents and winds, need to be determined using a three-step process:

STEP 1: At the time of the discharge, determine the current direction and time to slack water.

STEP 2: Determine the wind direction.

STEP 3: Identify the most appropriate response sequence for the incident.

Tidal Range

The tidal height range as recorded at the NASCC tide station (http://www.protides.com/texas/610) shows an average tidal range generally less than one foot for the southeastern section of Corpus Christi Bay; this range also holds true for the tide station at the Texas State Aquarium in downtown Corpus Christi. The tidal range as recorded at the Padre Island Canal (JFK Causeway Point C) on north bank of Packery Channel shows a much reduced average tidal range of half foot range (http://www.protides.com/texas/1947http://www.protides.com/texas/1947).

Currents, Swells, and Waves

Tidal range will have little to no impact on the movement of the oil except in areas where narrow restrictions (e.g., entrances into waterbodies like Oso Bay) have increased the flow rate.

Wind Direction

In general, the wind will have the greatest impact on the movement of spilled oil in the vicinity of NASCC.

"Two principal wind patterns dominate the Texas Coastal Zone -- frequent, strong southeasterly winds (essentially at any time of the year but most pronounced in the spring through mid-summer) and north northeasterly winds associated with cold fronts from October through March. The prevailing wind for the area originates from the southeast and has an average annual velocity of 12 miles per hour.

During December, January, and February, 15 to 20 northers (northerly moving storm events) pass through the coastal area. Winds up to 50 miles per hour, and sometimes rain, accompany these strong 24 to 36 hour events. From mid-October through March, cold fronts sweep though the coastal bend about every 7 to 12 days. Winds range from 20-40+ mph from the N, NE, or NW with water temperatures from 55 to 75 degrees and air temperatures[4]."

Based on the strength of the prevailing wind patterns and the limited tidal range, spilled oil is most likely to be directed by the wind field, rather than tides.

Response Priority

The overall priorities of response for NASCC during on water oil spills are:

- Safety of the public and responders
- Protection of the environment
- Protection of economically sensitive areas

Specific Response Priorities

Personnel safety is paramount. No response actions will be taken that place personnel in harm's way. NASCC on-water oil spills will require actions designed to contain the spilled oil, recover the spilled oil, and minimize natural resource damages. These response actions are accomplished by having the Tier 1 OSRO promptly executing the required procedures found in this immediate response guide. Generally, those on water response actions include:

- Oil skimming operations for independent, V-leg, and J-leg recovery configurations;
- Vacuum truck recovery operations;
- UB in U-shaped oil containment and recovery configurations; and
- UB shoreline protection/exclusion boom deployment.

4 Information obtained from the Corpus Christi Windsurfing Association's Corpus Christi Climate web page (located at: http://corpuschristiwindsurfing.com/weather.html) on February 20, 2012.

Response Phases

As described in the Occupational Safety and Health Administration (OSHA) HAZWOPER standard (OSHA 3172, 2001), the above discussed NASCC response efforts shall be conducted during the emergency response phase of the oil spill incident. Emergency response is defined as "a response effort…to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance." For marine oil spills, an uncontrolled release is a situation in which the oil and its associated airborne and surface contamination hazards are released into the environment.

Initial On-water Response Actions

Containment and recovery of spilled oil that has migrated into the waters adjacent to NASCC should be the primary thrust of any response. Depending on the size of the oil spill and weather conditions, the Tier 1 OSRO's assets may be insufficient for total containment. In that situation, additional tiered assets should be requested as soon as possible to ensure the most effective response. Bad weather and large amounts of oil could result in shoreline impact several miles from the spill source. Because NASCC maintains no response equipment, all equipment will be supplied by the tiered asset providers. The US Navy-owned Harbor Buster skimmer is one such piece of equipment that could be called upon for open water containment and recovery. The Harbor Buster is available through the FOSC-R.

Open Water Containment and Recovery

The combination of containment and recovery, and deflection/diversion booming configurations should all be applied while the oil is free floating before it impacts shorelines or to direct oil to an established collection area. Shoreline protection booming concurrent with containment actions will be installed using tiered assets. In summary, primary response actions for oil on open waters should be focused on containing and recovering oil before it reaches any sensitive areas.

Post-Emergency Response

Post-emergency response is performed "after the immediate threat of a release has been stabilized or eliminated and cleanup of the site has begun" [29CFR1910.120 (a) (3)]. Oil spilled into a marine environment is considered stabilized when it is in a stable container with no compromised structural integrity, to limit the potential for worker exposure to associated hazards. Stable containers include floating bladders, barges, drums, and roll-off containers on shore. Oil is also considered to be stabilized when it is stranded on shore and not reasonably expected to re-release into the environment through wave or storm effects. Floating oil is not considered stabilized, even if contained within a boom. Emergency response and post-emergency response can occur at the same time. In these cases, the boundaries between the emergency and post-emergency response areas must be well defined and explained to response and clean-up workers. Post emergency work is managed by the NASCC IMT and will generally be performed by appropriately trained and certified and/or contract workers who have the necessary training to conduct post emergency tasks.

1.8 Self-Inspection, Drills/Exercises, and Response Training

This section provides information concerning self-inspections, drills, exercises, evaluation procedures, and response training requirements.

1.8.1 Facility Self-Inspection

NASCC has implemented a robust self-inspection program that includes the inspection of all ASTs (field-constructed and shop-constructed), response equipment, and secondary containment inspection. The following sections describe procedures for the inspection of fuel storage tanks, response equipment, and secondary containment areas. All required inspections for fuel storage tanks and secondary containment areas are described in detail in the NASCC SPCC Plan.

1.8.1.1. Tank Inspection

Tank inspections are conducted in accordance with direction specified in the NASCC SPCC Plan. This includes daily walkthroughs of fuel transfer areas (e.g., GOV Gas Station, NEX Gas Station, MWR Marina, etc.) conducted by tank custodians.

1.8.1.2. Response Equipment Inspection

Response equipment (listed in Section 1.3.2) will be inspected on a regular and ongoing basis in accordance with item need, industry practice, and as a part of NASCC's regular maintenance program. A sample response equipment inspection checklist is presented as Figure FRP 1.8.1.1. The figure describes typical information that should be maintained and assessed for each type/piece of response equipment.

FIGURE FRP 1.8.1.1

Response Equipment Checklist

Checklist	Requirements	Yes	No
Inventory (item and quantity):	Is there enough equipment/material onsite to handle a medium discharge and control a WCD until OSRO resources arrive?	☐	☐
Storage location:	Is the equipment/material located where it is supposed to be?	☐	☐
Accessibility (time to access and respond):	Is the equipment/material still accessible so that access and response time is not hindered in an emergency?	☐	☐
Operational status/condition:	Is the equipment/material ready for use?	☐	☐
Actual use/testing (last test date and frequency of testing):	Has the equipment been used and/or tested according to its manufacturer's requirements? Did the equipment pass the inspection?	☐	☐
Shelf life (present age, expected replacement date):	Does any material have a shelf life? If so, it that material within its shelf life; or has the shelf life been extended after the testing of the material? If material is reaching its replacement date, have new materials been ordered?	☐	☐

A Response Equipment Inspection Log (Form FRP 1.8.1.2) is used to document who conducted an inspection of response equipment and when the inspection was conducted.

FORM FRP 1.8.1.2

Response Equipment Inspection Log

Inspector Name	Date Inspected	Comments

A copy of the Response Equipment Inspection Log (Form FRP 1.8.1.2) is included in Appendix J.

1.8.1.3. Secondary Containment Inspection

Secondary containment inspections are conducted in accordance with direction specified in the NASCC SPCC Plan.

1.8.2 Facility Drills/Exercises

Pursuant to 40 CFR 112.21(c) and OPNAV M-5090.1D, Chapter 39, NASCC must implement a program of facility response drills and exercises, including evaluation procedures. Following the PREP guidelines satisfies the requirement for drills and exercises. The PREP guidelines specify that the facility conduct internal and external drills and exercises. PREP is fully supported by the USCG, EPA, Pipeline and Hazardous Materials Safety Administration (PHMSA), and other federal regulatory agencies. The PREP was developed to meet the intent of exercise requirements in the Oil Pollution Act of 1990, provide a mechanism for compliance with the exercise requirements, while being economically feasible for the government and oil industry to adopt and sustain. The PREP also enable continuous improvement of the Air Station's response framework.

Navy policy specifies that facilities regulated under the Oil Pollution Act of 1990 follow the PREP guidelines for facility drills and exercises. Facilities must coordinate their exercises with the FOSC-R, as much as possible, to incorporate other appropriate emergency response exercise components. It is also suggested that NASCC include its OSROs so that the Air Station and OSRO can gain experience working together before an actual discharge. Exercise requirements are provided by the FRP/DPRP Manager to the IMRO, who then schedules and implements the training/exercise protocol. NASCC Environmental documents and maintains records of completed exercises and drills.

Form FRP 1.8.2.5, presented in Section 1.8.2.5, the Triennial Exercise Cycle Documentation Form, outlines the exercise type, dates conducted, and core areas addressed. A copy of this form is also provided in Appendix J.

1.8.2.1. Notification Exercises

The purpose of the QI notification exercise is to ensure that the QI can be reached in a spill response emergency to carry out the required duties. All command personnel can be reached at all hours through the CDO.

To satisfy FRP/DPRP requirements, the QI notification exercise will be conducted during non-duty hours at least once a year. Any time the QI is notified during an actual event and this occurrence is properly documented, the notification will serve as satisfying this requirement.

Form FRP 1.8.2.1 is used to document the QI Notification Exercise. A copy of this form is also provided in Appendix J.

FORM FRP 1.8.2.1

Notification Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
3. Vessel/Facility/Pipeline/Offshore Facility Initiating Exercise:	
4. Name of Person Notified:	
Is this person identified in your response plan as the qualified individual?	☐ Yes ☐ No
5. Time Initiated:	
Time in which Qualified Individual responded:	
6. Method Used to Contact:	☐ Telephone ☐ Pager ☐ Radio ☐ Other: _____

FORM FRP 1.8.2.1
Notification Exercise Documentation Form

7. Description of Notification Procedure:	
8. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
Certifying Name:	
Certifying Signature:	
Date:	

1.8.2.2. Emergency Procedures Exercises

Emergency procedures are established to mitigate or prevent any discharge or a substantial threat of such discharge of petroleum product resulting from operational activities associated with material transfers. This is an optional exercise and may be conducted annually because it is not required by PREP guidelines at NASCC. The purpose of the emergency procedures exercise is to reinforce personnel knowledge of actions to be taken to mitigate a spill. This exercise may be a walk-through of the emergency procedures. The exercise will involve one or more of the sections of the IMT.

Form FRP 1.8.2.2 is used to document the Emergency Procedures Exercise. A copy of this form is also located in Appendix J.

FORM FRP 1.8.2.2
Emergency Procedures Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Location:	
4. Vessel/Barge/Facility Name:	
5. Time Started:	
Time Completed:	

FORM FRP 1.8.2.2

Emergency Procedures Exercise Documentation Form

6. Sections of Vessel/Barge/Facility emergency procedures exercised (i.e. response to collision, response to oil spill on deck, response to vessel fire, etc.)?	
7. Description of exercise:	
8. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
9. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

1.8.2.3. Incident Management Team Tabletop Exercises

All organizations involved in response operations, including OSROs and the Air Station's IMT, should conduct an annual tabletop exercise in accordance with the PREP guidelines. The FRP will be used in the exercise to ensure the IMT is familiar with the plan and is able to use it effectively to conduct a spill response. At least one IMT tabletop exercise in a triennial cycle involves a WCD scenario.

Form FRP 1.8.2.3 is used to document the tabletop exercise. A copy of this form is also provided in Appendix J. In addition, the PREP recommends actions and documentation, including: ICS Forms 201, 204, and 207; an Incident Action Plan; and Health and Site Safety.

FORM FRP 1.8.2.3

Incident Management Team Tabletop Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Location of Tabletop:	
4. Time Started:	
Time Completed:	

FORM FRP 1.8.2.3

Incident Management Team Tabletop Exercise Documentation Form

5. Response Plan Scenario Used: Size of Simulated Spill (bbls/gals):	☐ Average Most Probable Discharge ☐ Maximum Most Probable Discharge ☐ Worst Case Discharge _____
6. Describe how the following objectives were exercised: a. IMT's knowledge of oil-spill response plan: b. Proper notifications: c. Communications system: d. IMT's ability to access contracted oil spill removal organizations: e. IMT's ability to coordinate spill response with On-Scene Coordinator, state and applicable agencies: f. IMT's ability to access sensitive site and resource information in the ACP:	
7. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
8. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

1.8.2.4. Equipment Deployment Exercises

The two primary requirements for the equipment deployment exercise are as follows:

- Personnel who will normally operate or supervise the operation of the response equipment will participate in the exercise. The personnel will demonstrate their ability to deploy and operate the equipment. All personnel involved in equipment deployment and operation will be involved in a training program.
- The response equipment will be in good operating condition. The equipment will be appropriate for the intended operating environment. The equipment will operate during the exercise. All response equipment will be included in a maintenance program.

FRT personnel who operate facility-owned equipment will be involved in the equipment deployment exercises. At NASCC, that means F&ES will deploy land-based response. This equipment will be deployed twice a year. The Air Station will deploy the minimum amount of equipment, or that amount of equipment necessary to respond to an small discharge (average most probable), whichever is less. The average most probable discharge amount to be used would represent the largest spill.

Form FRP 1.8.2.4 is used to document the Equipment Deployment Exercise. A copy of this form is also provided in Appendix J.

FORM FRP 1.8.2.4

Equipment Deployment Exercise Documentation Form

1. Date(s) Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
a. If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Deployment Location(s):	
4. Time Started:	
a. Time OSRO Called:	
b. Time On-Scene:	
c. Time Boom Deployed:	
d. Time Recovery Equipment Arrived On-Scene:	
e. Time Completed:	
5. Equipment deployed was:	☐ Facility-Owned ☐ OSRO-Owned If so, which OSRO: _____ ☐ Both
6. List type and amount of all equipment (for example boom and skimmers) deployed and number of support personnel employed:	
7. Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested (attach a sketch of equipment deployments and booming strategies):	
8. For deployment of facility-owned equipment, was the amount of equipment deployed at least the amount necessary to respond to your facility's average most probable spill? a. Was the equipment deployed in its intended operating environment?	
9. For deployment of OSRO-owned equipment, was a representative sample (at least 1000 feet of each boom type and at least one of each skimmer type) deployed? a. Was the equipment deployed in its intended operating environment?	
10. Are all facility personnel that are responsible for response operations involved in a comprehensive training program, and all pollution response equipment involved in a comprehensive maintenance program? a. If so, describe the program? b. Date of last equipment inspection:	
11. Was the equipment deployed by personnel responsible for its deployment in the event of an actual spill?	
12. Was all deployed equipment operational? If not, why not?	
13. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
14. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

1.8.2.5. Triennial Exercise Cycle

During each 3-year cycle, all components of a plan holder's response plan are exercised at least once. The purpose of this requirement is to ensure that all plan components function adequately for responses to oil spills. To accomplish this, the PREP outlines a specific set of exercises and frequency. Over the 3-year period, the following exercises are required:

- Quarterly QI notification exercises.
- Quarterly emergency procedure exercises. Emergency procedures exercises are optional for all facilities. These exercises may be unannounced.
- Annual IMT exercise; one exercise per triennial cycle must involve a WCD scenario.
- Annual plan holder-initiated unannounced exercises, which may be emergency spill procedures, IMT exercises, or OSRO equipment deployment exercises.
- Equipment Deployment Exercises:
    - For vessel/facility owned and operated equipment: Semiannual plan holder owned and operated equipment deployment exercises (for plan holders with vessel/facility owned and operated equipment identified in their response plan).
    - For vessels and facilities with OSROs identified for response equipment: Annual OSRO equipment deployment exercises.

NASCC will take credit for internal exercises conducted in response to actual spills. The spill response must be properly evaluated and documented. The PREP Compliance, Coordination, and Consistency Committee (PREP4C) is responsible for authorizing credit for area exercises according to the following circumstances:

- The response plan was used in an actual spill response.
- The response involved the entire response community.
- The objectives of the area exercise were met as outlined in the PREP guidelines.
- The response was evaluated.
- The spill response was properly documented and certified.

Proper documentation for self-certification will include, as a minimum, the following information:

- The type of exercise
- Date and time of the exercise
- A description of the exercise
- The objectives met in the exercise
- The components of the response plan exercised
- Lessons learned

This documentation must be in writing and signed by an individual empowered within the FRP.

PREP also identifies 15 core components that must be exercised at least once during the 3-year cycle.

1. Notifications – Test the notifications procedures identified in the response plan being exercised.
2. Staff Mobilization – Demonstrate the ability to assemble the response organization identified in the response plan being exercised.

3. Ability To Operate Within the Response Management System Described in the Plan – Ability of the response organization to work within a UC and the response management system identified in the Subarea Contingency Plan (SCP).
4. Source Control – Demonstrate the ability of the response organization to control and stop the discharge at the source, and to effectively coordinate source control activities within the response management system used for the overall incident.
5. Assessment – Demonstrate the ability of the response organization to provide an initial assessment of the discharge or potential discharge and provide continuing assessments of the effectiveness of the tactical planning.
6. Containment – Demonstrate the ability of the response organization to contain the discharge at the source or in various locations for recovery operations.
7. Mitigation – Demonstrate the ability of the response organization to mitigate the discharged product through the use of oil spill countermeasures, including, but not limited to, dispersants, in-situ burning, and bioremediation, in addition to mechanical oil recovery.
8. Protection – Demonstrate the ability of the response organization to protect the environmentally and economically sensitive areas identified in the ACP and the respective industry response plan.
9. Disposal – Demonstrate the ability of the response organization to dispose of the recovered material and contaminated debris.
10. Communications – Demonstrate the ability to establish an effective communications system for the response organization.
11. Transportation – Demonstrate the ability to provide effective multimode transportation, both for execution of the discharge and support functions.
12. Personnel Support – Demonstrate the ability to provide the necessary support of all personnel associated with the response.
13. Equipment Maintenance – Demonstrate the ability to maintain and support all equipment associated with the response.
14. Procurement – Demonstrate the ability to establish an effective procurement system.
15. Documentation – Demonstrate the ability of the response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

Form FRP 1.8.2.5 is used to document the PREP Triennial Exercise Cycle. A copy of this form is also provided in Appendix J.

FORM FRP 1.8.2.5

Triennial Exercise Cycle Documentation Form

	Calendar Year												Core Components															
													Notifications	Staff Mobilization	Operate within Response Management System	Source Control	Assessment	Containment	Mitigation	Protection	Disposal	Communications	Transportation	Personnel Support	Equipment Maintenance and Support	Procurement	Documentation
	Quarters				Quarters				Quarters																			
Exercise	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**																
QI Notification																												
Emergency Procedures																												
IMT Exercise																												
Equipment Deployment																												
OSRO Equipment Deployment																												
Government-Initiated Unannounced																												
Area Exercise																												

For each quarter in which an exercise was completed, mark that with an "X" ("U" if unannounced) then mark each core component tested during an exercise.
For each year, record the calendar year above the calendar quarters.

1.8.3 Response Training

To meet criteria for initial actions during petroleum discharge, appropriate Air Station personnel will be needed to initiate site management and defensive control actions. Personnel will be trained to respond to releases or potential releases of petroleum discharges. They shall be trained to respond in a defensive fashion to control the release from a safe distance and keep it from spreading. Personnel will be trained to meet the minimum requirements of the First Responder Awareness and Operational levels required by 29 CFR 1910.120 (i.e., HAZWOPER), and the following standards:

- 29 CFR 1910.1200, Hazard Communication
- 29 CFR 1910.38, Emergency Action Plans
- 40 CFR 112.21, Facility Response Training and Drills/Exercises
- 31 TAC 19, Oil Spill Prevention and Response

This level of training will also allow them to meet the criteria for post-emergency response operations outlined in 29 CFR 1910.120(q)(11) for recovery operations on facility property.

OPNAV M-5090.1D describes the FRT that shall respond to HazMat or POLs discharges within an installation. All military and civilian employees with an oil spill (HazMat) emergency response role will receive training before they can take part in an actual oil spill incident response. The National Fire Protection Association 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents, will be used to establish the training performance criteria for HazMat emergency response training.

HazMat Response Team and FRT

F&ES is the HazMat Response Team. Personnel will be trained to effectively respond to and contain a HazMat release to prevent or reduce human injury or death, property damage, product loss, and environmental damage. The HazMat Response Team will identify specific roles and responsibilities of each organization. As the FRT for NASCC, F&ES will respond to all land-based spills. F&ES will also respond to on-water spills, but will only provide land-based assistance for fire protection and containment. An OSRO will be notified for on-water response and cleanup activities.

Personnel involved with managing and handling oil and HazMat will be trained in spill prevention and response. The training program will consist of formal training and on-the-job training incorporated into existing fire and safety training programs. The training will be conducted by an individual familiar with the NASCC FRP and the Air Station disaster control/response plan (NASCC Environmental and supervisory personnel from respective oil and HazMat storage areas). Others assisting with the training will include the Fire & Emergency Services. This section identifies the various levels of training outlined in 29 CFR 1910.120, commonly known as HAZWOPER training.

The training will consist of formal classroom training and spill exercises. The Navy Environmental Training Program directs which training is required for applicable Navy response personnel and NASCC Environmental implements the program. F&ES provides training for all fire department personnel and, upon request, will provide training for other Air Station personnel. Hazard Communication training is conducted by Air Station Safety for all Air Station personnel. Spill response exercises will be conducted at least once annually. Response to an actual spill will satisfy the annual requirement for spill response exercises. New response team members will be trained on the contents of the FRP/DPRP and the Air Station's disaster control/response plan when they are assigned to the team.

Training programs will be conducted once per year for personnel working at oil and HazMat sites, within 6 months (2 weeks recommended) for personnel starting a supervised position, before starting work for personnel entering an unsupervised position, after any significant revisions to the training program or to the FRP/DPRP or the Air Station's disaster control/response plan, and after a spill response in which training deficiencies were noted. Any training that private firms or institutions specializing in HazMat provide must satisfy the training requirements of 29 CFR 1910.120 and applicable Navy requirements.

Navy policy requires personnel assigned to POL and HazMat response teams be trained to the levels specified in Chapter 3, *Environmental Readiness Training*, of OPNAV M-5090.1D and also corresponding sections of the OSHA HAZWOPER regulations (29 CFR 1910.120[q]). It is each installation's responsibility to ensure all employees with HazMat emergency response duties are properly trained in accordance with OSHA and Navy requirements before they take part in an actual response.

Emergency response training records will be maintained by F&ES for all of their members. For personnel outside of F&ES, records of response training are maintained by the personnel who received the training. The IMRO only maintains records for training events related to emergency management, fire, and safety that the Training Office organizes. Personnel training records are also available electronically through various types of personnel files. A synopsis of required training levels for specific response roles is provided in Table FRP 1.8.3.1.

TABLE FRP 1.8.3.1
HazMat Emergency Response Training, Knowledge and Certifications Requirements

HazMat Emergency Response Minimum Training Requirements	Training and Certification Level					
	1	2	3	4	5	6
Designated FIC and Alternates	X				O	X
PWO and Deputy PWO	X				O	O
Incident Commanders (Fire Chief and Assistant Fire Chiefs)	X	X	O		X	X
HazMat Emergency Response Team	X	X	X		O	
Fire Protection	X	X	X		O	O
Emergency Management Office	X	O	O	O	K/O	K/O
Explosive Ordnance Disposal	X	O	O	O		
Ambulance Service (not assigned to Fire Department)	X	X/0				
Medical Security Teams	X	X/0				
Casualty Management/Patient Administration Teams	X/0	X/0				
Industrial Hygienist	X	X	K			
In-Place Patient Decontamination Team	X	X				
Navy Police/Security Forces	X					
Disaster Response Force Representatives	O					

X- Designates Mandatory Training Levels; O- Designates Optional Training Level; K- Designates knowledge of tasks outlined in requirements; does not require Department of Defense certification; X/O- Level of training depends on team duties.

1- First Responder Awareness Level

2- First Responder Operations Level

3- HazMat Technician Level

4- HazMat Specialist Level

5- HazMat IC

6- On Scene Coordinator

Level 1-First Responder (Awareness Level) [29 CFR 1910.120(q)(6)(i)]

This level of training will be given to individuals who are likely to witness or discover a HazMat release and who have been trained to initiate an emergency response. They would take no further action beyond notifying the authorities of the release. First responders at this level will have sufficient training (8 hours annually) or experience to objectively demonstrate competency in the following areas:

- An understanding of what HazMat is, and the risks associated with them in an incident
- An understanding of the potential outcomes associated with an emergency created when HazMat is present
- The ability to recognize the presence of HazMat in an emergency
- The ability to identify the HazMat, if possible

- An understanding of the role of the first responder in overall response plan
- The ability to recognize the need for additional resources and to make appropriate notifications

Level 2-First Responder (Operations Level) [29 CFR 1910.120(q)(6)(ii)]

This level of training will be given to individuals who respond to releases or potential HazMat releases as part of the initial response to the site for protecting nearby persons, property, or the environment from the effects of the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposure. Personnel at this level will receive 24 hours of initial training and 8 hours annually and have sufficient experience to objectively demonstrate competency in the following areas, in addition to those listed in the awareness level:

- Knowledge of the basic hazard and risk assessment techniques
- Know how to select and use proper PPE provided to the first responder operational level
- An understanding of the basic HazMat terms
- Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and PPE available with their unit
- Know how to implement basic decontamination procedures
- An understanding of the relevant SOPs and termination procedures

Level 3- HazMat Technician [29 CFR 1910.120(q)(6)(iii)]

This level of training will be given to individuals who respond to releases or potential releases for stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch, or otherwise stop the release of HazMat. HazMat technicians will have at least 24 hours of initial training equal to the first responder operations level, 8 hours annually, and in addition have competency in the following areas:

- Know how to implement the NASCC emergency response plan
- Know the classification, identification, and verification of known and unknown materials
- Be able to function within an assigned role within the ICS
- Know how to select and use proper specialized chemical PPE provided to the HazMat technicians
- Understand hazard and risk assessment techniques
- Understand hazards and risks associated with employees working in chemical-protective clothing
- Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and PPE available with the unit
- Understand and implement decontamination procedures
- Understand termination procedures
- Understand basic chemical and toxicological terminology and behavior

Level 4- HazMat Specialist [29 CFR 1910.120(q)(6)(iv))

This level of training will be given to individuals who respond with and provide support to HazMat technicians. Their duties parallel those of the HazMat technician; however, their duties require a more-directed or specific knowledge of the various materials they may be called upon to contain. They also act as the site liaison with federal, state, local, and other government authorities in regards to site activities. HazMat specialists will have at least 24 hours of initial training equal to the technician level, 8 hours annually, and in addition have competency in the following areas:

- Know how to implement the local emergency response plan
- Knowledge of the state emergency response plan
- Know how to select and use proper specialized chemical PPE provided to the HazMat specialist
- Understand in-depth hazard and risk assessment techniques
- Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and PPE available with the unit
- Be able to determine and implement decontamination procedures
- Have the ability to develop a site safety and control plan
- Understand chemical, radiological, and toxicological terminology and behavior

Level 5-FIC [29 CFR Part 1910.120 (q)(6)(v)]

This level of training will be given to all personnel who will assume control of the incident beyond the first responder awareness level. They will receive at least 24 hours of training equal to the first responder operations level and in addition, demonstrate competency in the following areas:

- Implementation of the ICS
- Implementation of applicable emergency response plan
- Decontamination procedures

Level 6-Post-emergency Response Operations [29 CFR Part 1910.120(q)(11)]

This level of training is necessary for personnel who will clean up releases immediately after the emergency portion of the incident is concluded, but do not become involved in the emergency response. They will receive training in the following areas:

- Emergency action plans
- Respiratory protection
- Hazard communication

Generally, Level 6 training is specific to a particular cleanup operation. Post-emergency response personnel will be given training in the safe handling of specific HazMat involved onsite.

1.8.3.1. Personnel Response Training Logs

General response training will be conducted for Air Station personnel and contractors who work with petroleum products in bulk quantities to comply with EPA Response Planning regulations. This training will be incorporated into the Hazard Communication Program (29 CFR 1910.1200) and associated Naval training requirements described in OPNAV M-5090.1D, Chapter 3. General response training will include, but is not limited to, the following subjects:

- EPA Region IV and State of Texas requirements
- The site-specific drill and exercise program instituted at the Air Station
- Communication system used for notifications
- Personnel responsibilities and procedures for use of equipment to mitigate or prevent an oil discharge
- The NCP
- Roles and responsibilities of federal and state agencies in pollution response
- OSHA requirements for worker health and safety (29 CFR 910.120) and hazard communication requirements

Form FRP 1.8.3.1 can be used to document Personnel Response Training. An additional copy is provided in Appendix J.

FORM FRP 1.8.3.1

Personnel Response Training Log

1. Date Performed:	
2. Location of Training:	
3. Time Started:	
4. Time Completed:	
5. Instructor(s):	
6. Subject(s) Covered:	
7. Employees in Attendance:	
8. Identify which of the 15 core components of your response plan were included in this particular training:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
9. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

1.8.3.2. Discharge Prevention Meeting Logs

Discharge prevention meetings are conducted in accordance with direction specified in the NASCC SPCC Plan.

1.9 Diagrams

Diagrams FRP 1.9.1 through FRP 1.9.4 depict the location map, site plan, site drainage plan, and the site evacuation plan, respectively. Diagrams FRP 1.9.5-1 and FRP 1.9.5-2 present an overview of the ESIs for the area surrounding NASCC and within the responsibility of USCG Sector Corpus Christi. Diagrams FRP 1.9.5-3 through FRP 1.9.5-6 depict individual ESIs for the region surrounding NASCC. These diagrams are taken from the TGLO Oil Spill Response Planning Toolkit and include the areas that encompass NASCC's planning distance.

Diagram FRP 1.9.6 presents an overview map of all protection strategies that have been developed at NASCC. Diagram FRP 1.9.7 provides a key to the NASCC protection strategies. Individual protection strategies for NASCC are provided in Diagrams FRP 1.9.8 through FRP 1.9.21.

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DIAGRAM FRP 1.9.1
Location Map

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Tank Number	Contents	Tank Capacity (gal)	Tank Number	Contents	Tank Capacity (gal)
1	Unleaded gasoline	10,000	231	VARSOL	2,000
2	Unleaded gasoline	10,000	232	Turbine Oil	2,000
3	ULSD	10,000	233	Preservation oil	2,000
7-1	ULSD	4,500	235	Out-of-service	250
10-1	ULSD	2,500	236	ULSD	250
11-1	ULSD	500	252	Out-of-service	250
41	Out-of-service	1,000	340-1	ULSD	200
41-A	ULSD	300	1238-1	ULSD	1,000
47-1	Preservation oil	500	1241	ULSD	500
47-2	Preservation oil	500	1260-1	ULSD	400
47-3	Preservation oil	500	1289	ULSD	130
47-4	Preservation oil	500	1292	ULSD	83
47-5	F-24	3,000	1700-1	ULSD	250
50-1	ULSD	250	1700-2	ULSD	450
50-2	ULSD	250	1716-1	F-24	272,000
50-3	ULSD	630	1720-2	Out-of-service	272,000
50-4	ULSD	357	1717A	Out-of-service	5,000
55-1	ULSD	280	1735-1	Used Cooking Oil	294
62-1	Out-of-service	1,000	1737-1	Used Oil	500
68-1	ULSD	300	1743-1	Out-of-service	250
89-1	Out-of-service	1,000	1757-1	Gasoline	2,000
90-1	Used Cooking Oil	294	1797G	ULSD	194
104-1	ULSD	80	1804-1	ULSD	1,000
121-1	ULSD	250	1833	ULSD	2,000
154-1	Gasoline	4,000	1848-1	ULSD	425
154-2	ULSD	8,000	2607	ULSD	500
216-1	Out-of-service	150	GM-1	ULSD	500
227	F-24	10,000	GM-2	Gasoline	500
228	F-24	10,000	H100-A	ULSD	180
229	F-24	10,000	PAR-1	ULSD	211
230	VARSOL	2,000	W-1-1	ULSD	500

Corpus Christi Bay

Oso Bay

Laguna Madre

North Gate

Mobile Refueler Parking Area

GOV Gas Station

CCAD Fuel Farm

HW Storage Area

Fire Station #1

Fire Station #2

Golf Course Fueling Area

Fuel Farm

NEX Gas Station

Grounds Maintenance Fueling Area

MWR Marina and Fueling Area

South Gate

Legend

- Aboveground Storage Tank
- Underground Storage Tanks
- Drum Storage
- SRES Location
- Electric Transformers
- Fence
- RoadCenterline
- Road Areas
- Airfield Surface Areas
- Building/Structure
- Docks and Wharfs
- Golf Course Area
- Recreation Areas
- Water Body
- Installation Boundary
- Areas of Interest (high-hazard areas, fuel transfer areas, entry/exit points)

Note:
Refer to the NASCC SPCC Plan for a list of HM Storage locations

N

0 300 600 1,200 Feet

Diagram FRP 1.9.2
Site Plan
NAS Corpus Christi
Corpus Christi, Texas

Page holder for back of plot

Legend

- Fire Hydrant
- Storm Sewer Discharge Point
- Storm Sewer Inlet
- Storm Sewer Line
- Storm Sewer Open Drainage Line
- Wastewater Line
- Water Line
- Fence
- RoadCenterline
- Road
- Airfield Surface
- Building/Structure
- Docks and Wharfs
- Golf Course
- Recreation
- Water Body
- Installation Boundary

N

0 300 600 1,200
Feet

Diagram FRP 1.9.3
Site Drainage Plan
NAS Corpus Christi
Corpus Christi, Texas

Page holder for back of plot.

Corpus Christi Bay

Oso Bay

North Gate

Safe Haven

South Gate

Laguna Madre

Legend

- Evacuation Route
- Fence
- RoadCenterline
- Road Areas
- Airfield Surface Areas
- Building/Structure
- Docks and Wharfs
- Golf Course Area
- Recreation Areas
- Water Body
- Installation Boundary
- Entry/Exit Point

N

0 300 600 1,200
Feet

Diagram FRP 1.9.4
Evacuation Plan
NAS Corpus Christi
Corpus Christi, Texas

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DIAGRAM FRP 1.9.5-1

Corpus Christi Bay Area Overview

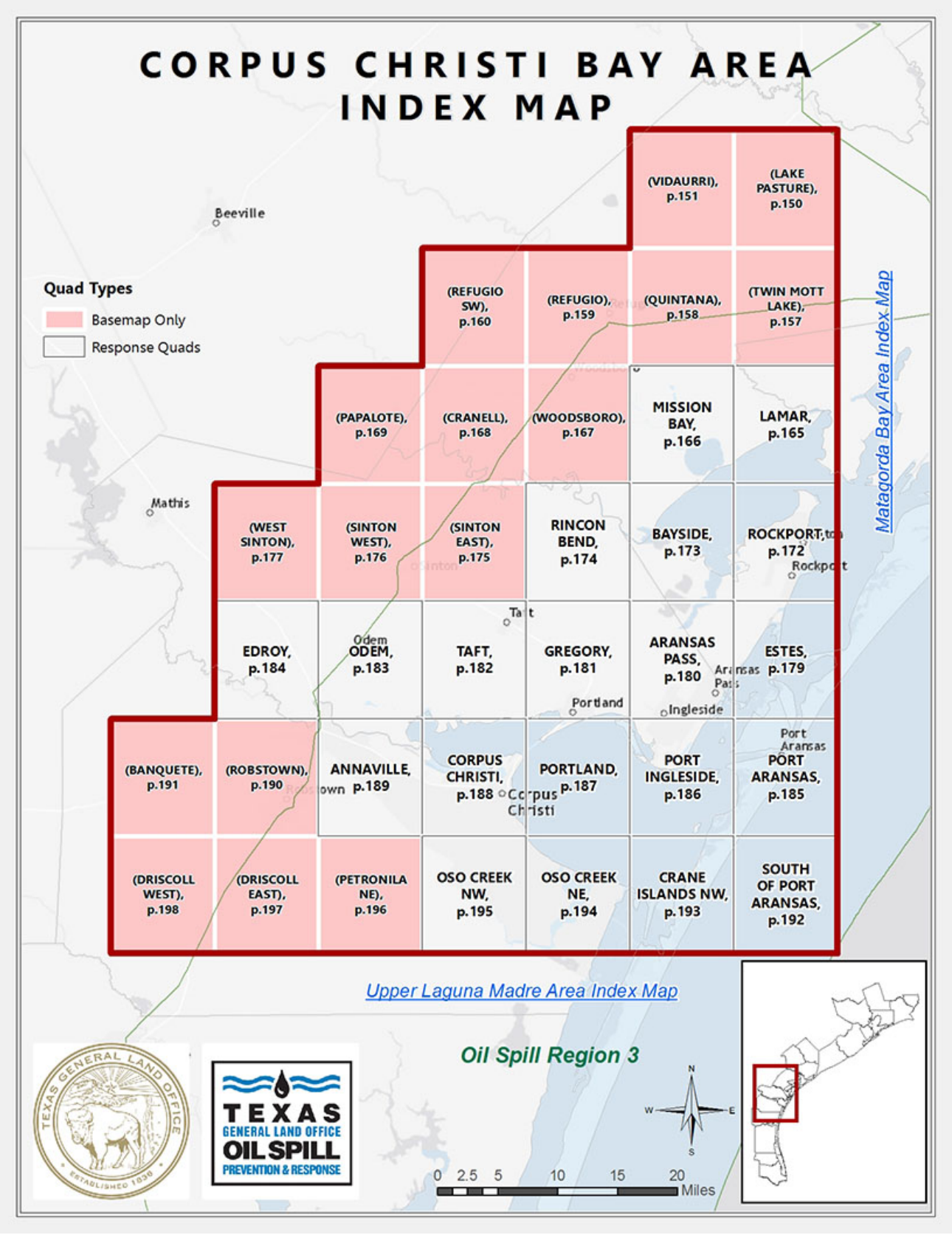

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DIAGRAM FRP 1.9.5-2

Upper Laguna Madre Area Overview

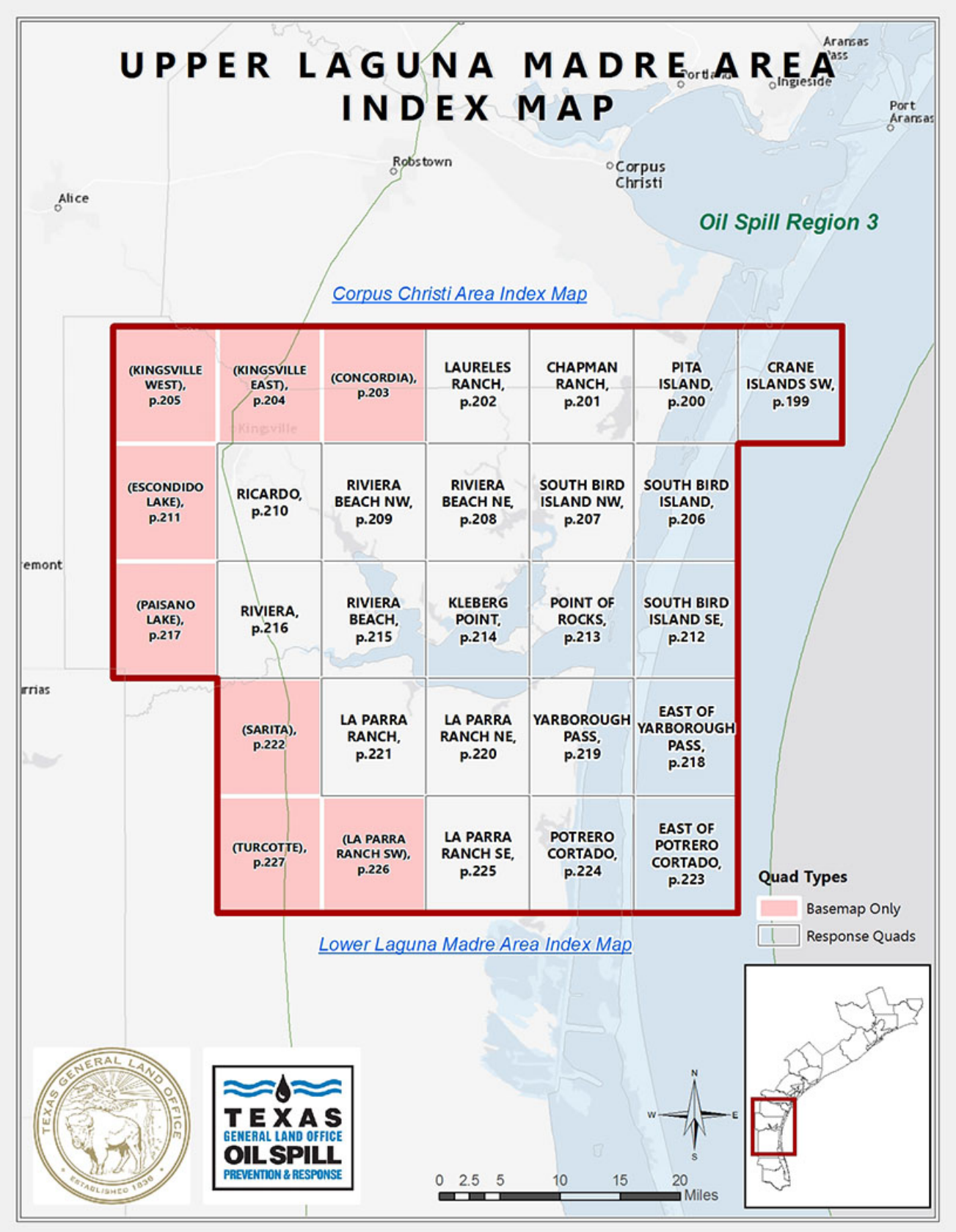

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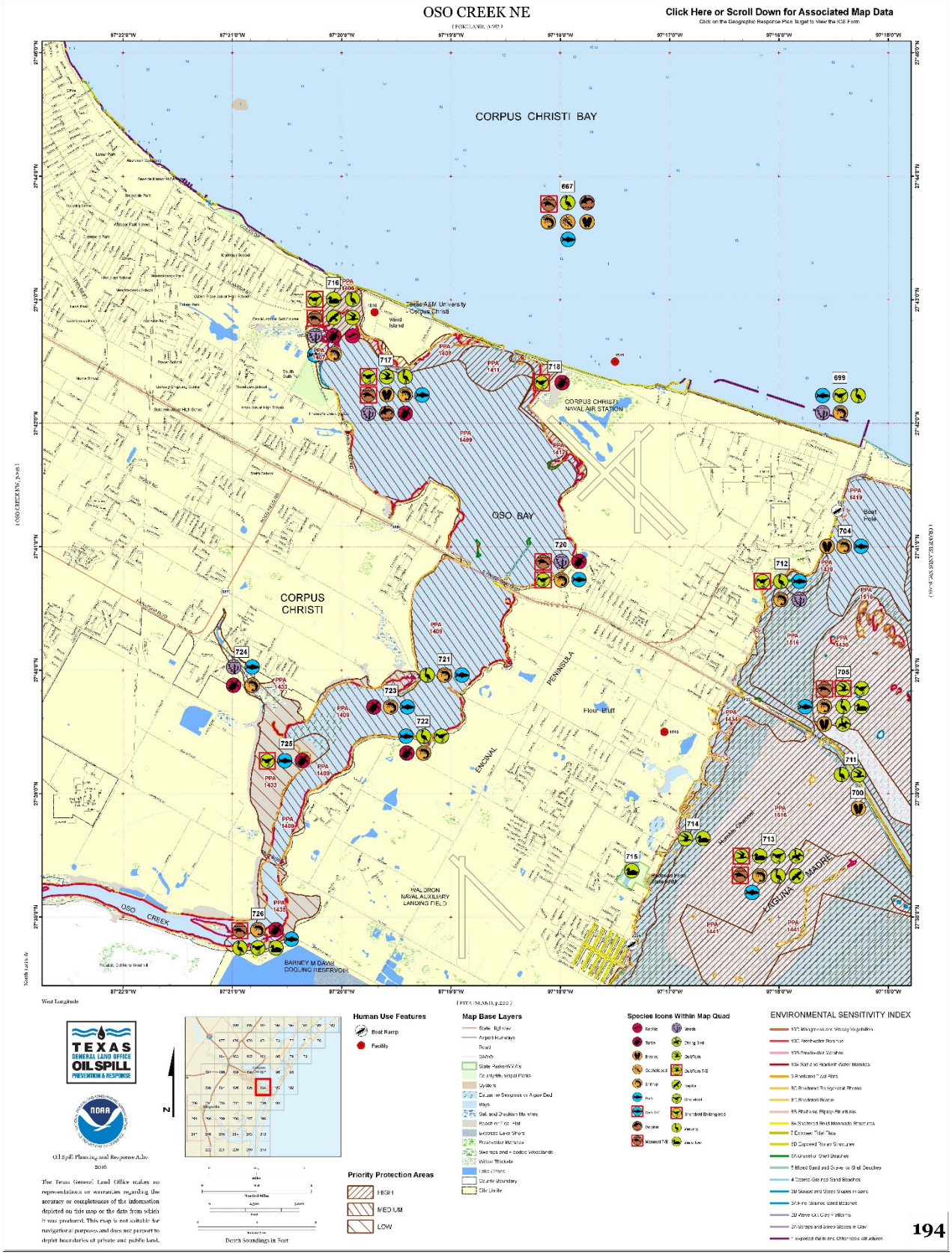
DIAGRAM FRP 1.9.5-3
ESI 194, Oso Creek NE



Back To Map

Quadrant: OSO CREEK NE

Map # :194

Biological Information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
	HIGH	Oso Bay colonial waterbird rookery, colony code 614-220	High	Gull-billed terns, Forster's terns, Black skimmers				
PPA1406	HIGH	Oso Bay blind cut	HIGH	Piping and snowy plovers, other shorebirds year-round, pelicans, wading birds, peregrine falcons	Nursery	MEDIUM		Mud and algal flats fringed by Spartina, Salicornia marsh
PPA1407	HIGH	Marsh, wastewater outfall near Oso Bay blind cut	MEDIUM	High wading birds, shorebirds, pelicans, others	Nursery	HIGH	HIGH	Fresh to brackish marsh
PPA1408	HIGH	Shoreline of Ward Island	LOW	Habitat for shorebirds, wading birds	Nursery	HIGH	HIGH	Batis-Salicornia marsh, Halodule, mud flats
PPA1409	MEDIUM	Oso Bay	MEDIUM	Shorebirds, wading birds, reddish egrets feeding on shorelines	Nursery	MEDIUM	MEDIUM	Seagrass at bay margins
PPA1411	HIGH	Mouth of Oso Bay	MEDIUM	Piping plovers, shorebirds, terns	Nursery	MEDIUM		
PPA1412	HIGH	Flats west of Corpus Christi N.A.S.			Nursery	HIGH	HIGH	Batis-Salicornia marsh, mud flats
PPA1419	MEDIUM	Boat Hole, Laguna Madre south of Demit Island, and ICW	MEDIUM		Nursery, deep water refuge, migration route, recreational fishing	HIGH		
PPA1429	HIGH	Cove northeast of Flour Bluff	HIGH		Nursery area	HIGH	HIGH	
PPA1430	HIGH	Islands north of Kennedy Causeway	HIGH	Important rookery (614-221) for gulls, terns, skimmers, some wading birds; heavy waterfowl use (redhead, pintail), shorebirds, occasional ospreys	Nursery area, excellent fishing	HIGH	HIGH	Extensive high-quality seagrass beds (Halodule, some Syringodium), Spartina alterniflora fringe marsh on islands
PPA1433	LOW	Oso Bay flats northwest of Mud Bridge	MEDIUM	Shorebirds, nesting snowy plovers	Nursery	MEDIUM	LOW	Sand and algal flat grading into high marsh (Scirpus, Batis, Salicornia, cattails)
PPA1434	HIGH	Laguna Madre shoreline east of Flour Bluff and Laguna Shores Road	HIGH	Wading birds, piping plover, black skimmers on spits of land from mainland	Nursery area	HIGH	HIGH	Fringe marsh on shoreline
PPA1438	LOW	Oso Creek south of Mud Bridge		White pelicans, reddish egrets at outfall	Nursery	MEDIUM	MEDIUM	Some seagrass (Halodule)
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
667	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
699	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
705	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill			6	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			26	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
711	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP

Map # : 194

Back To Map

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
712	Red knot		T					X	X			X	X							
	Piping plover		T	LOW	X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
713	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull			5774	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		42	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern			122	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern			917	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern			24	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Sandwich tern			190	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			2	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			94	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			46	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			42	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		30	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			1	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
714	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl			HIGH	X	X	X	X	X	X	X	X	X	X	X	X				
715	Waterfowl			HIGH	X	X	X	X	X	X	X	X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
716	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Black-necked stilt				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Wood stork				X	X	X	X	X	X	X	X	X	X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
717	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
718	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
720	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
721	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
722	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
725	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
726	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
667	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
699	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
704	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
705	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
712	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
716	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Gizzard shad				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	MAR-AUG
717	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Gizzard shad				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	MAR-AUG
720	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
721	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
722	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
723	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
724	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
726	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
727	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
667	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
700	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
704	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
705	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
712	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
716	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
717	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
720	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
721	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
722	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
723	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
724	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
726	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
727	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Marine Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
667	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
705	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
713	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
716	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
717	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
720	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
726	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
716	Gulf salt marsh snake				X	X	X	X	X	X	X	X	X	X	X	X				
	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
717	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
718	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
720	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
722	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
723	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
724	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
725	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
726	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	

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Human Use Resources

Boat Ramp	RARNUM	NAME	CONTACT	CONTACT INFO
	2221	Naval		
	2225	Tropic Isles Boat Ramp		nuecesnuecesrio@tropicisles
Facility	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	1515	Texas A&M University - Corpus Christi	Roy Coons	361-825-4444
	1516	Naval Air Station (NAS) Corpus Christi	Bernice Snyder	360-722-2429
	1518	Amerril Energy - Flour Bluff Compressor Station and Pita Island Tank Battery	Windsor Wen	361-881-5059

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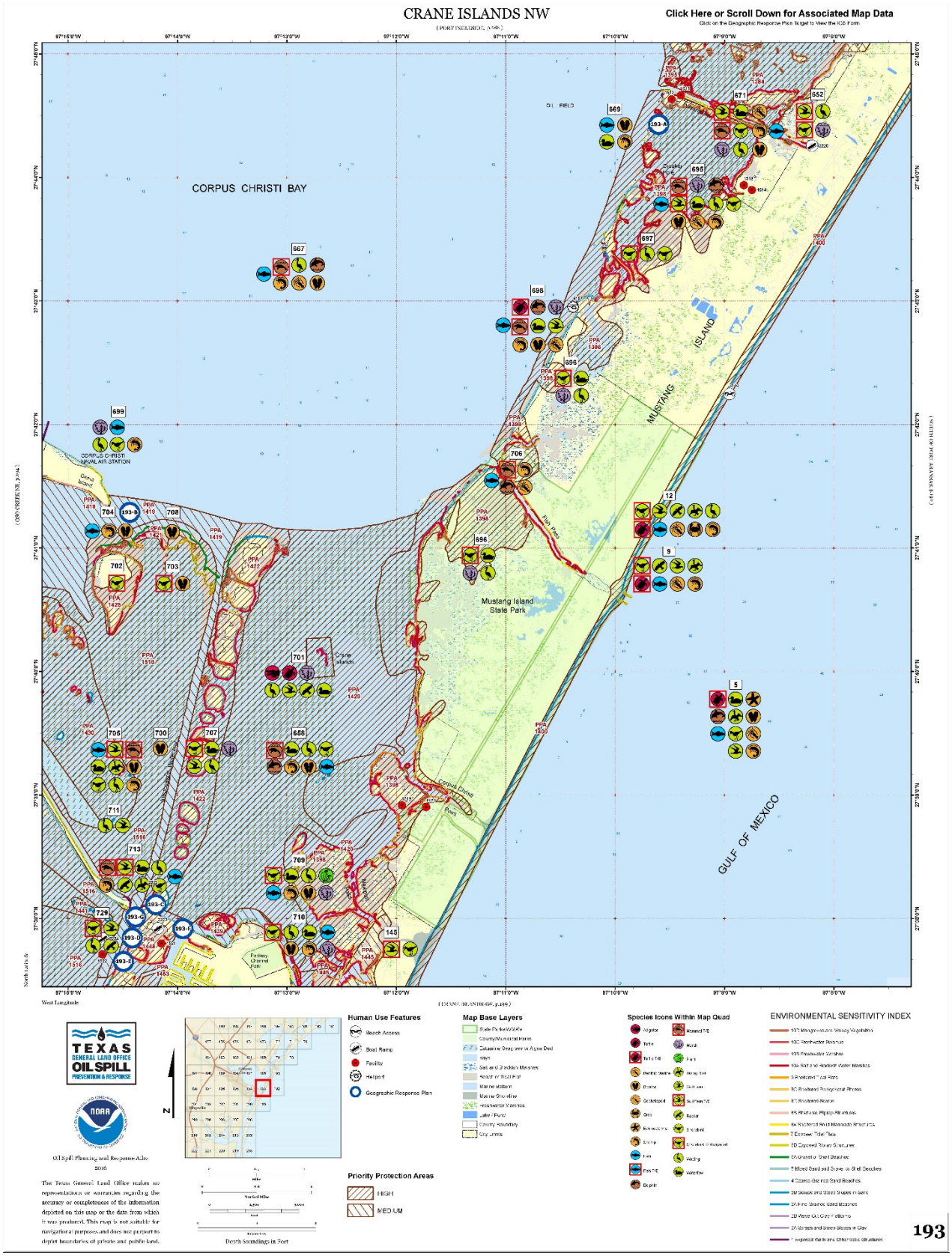
DIAGRAM FRP 1.9.5-4

ESI 193, Crane Island NW



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Quadrant: CRANE ISLANDS NW

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Biological Information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
	HIGH	Crane Islands colonial waterbird rookery, colony code 614-241	High	Tri-colored herons, Reddish egrets, Gull-billed terns				
PPA1384	HIGH	Flats, marshes on west shore of Mustang Island	HIGH		Important nursery	HIGH	HIGH	Mud flats, low salt marsh (Spartina, Salicornia, Batis)
PPA1395	HIGH	Flats on west side of Mustang Island	HIGH	Piping plover use, other shorebirds				Algal mat
PPA1398	HIGH	West shore of Mustang Island	MEDIUM		Nursery; recreational fishing (spotted seatrout)	HIGH	HIGH	Seagrass (Halodule)
PPA1400	HIGH	Mustang Island Gulf beach	HIGH	Heavy piping plover use, snowy plover, shorebirds, wading birds, reddish egret; sea turtles				
PPA1419	MEDIUM	Boat Hole, Laguna Madre south of Demit Island, and ICW	MEDIUM		Nursery, deep water refuge, migration route, recreational fishing	HIGH		
PPA1420	HIGH	Laguna Madre east of ICW	HIGH	Heavy waterfowl use; shorebirds, reddish egrets, occasional ospreys	Important nursery, excellent recreational fishing, scattered oyster	HIGH	HIGH	Extensive seagrass (Halodule, occ. Syringodium); Spartina fringe marsh on islands
PPA1421	MEDIUM	Islands in Laguna Madre	HIGH	Piping plover				Algal flat, shell grading to marsh
PPA1422	HIGH	Northernmost spoil islands east of ICW	HIGH	Causeway Islands colonial waterbird rookery (614-240) with gulls, wading birds, least tern; few piping plover,black skimmer, reddish egret, Forsters tern			LOW	Fringe marsh (Batis-Salicornia), mud and algal flat
PPA1426	HIGH	Flats of island in Laguna Madre	MEDIUM	Naval Air Station colonial waterbird rookery (614-221),Piping plovers,reddish egret, Forster's tern, black skimmers				LOW
PPA1430	HIGH	Islands north of Kennedy Causeway	HIGH	Important rookery (614-221) for gulls, terns, skimmers, some wading birds; heavy waterfowl use (redhead, pintail), shorebirds, occasional ospreys	Nursery area, excellent fishing	HIGH	HIGH	Extensive high-quality seagrass beds (Halodule, some Syringodium), Spartina alterniflora fringe marsh on islands
PPA1439	MEDIUM	Packery Channel	HIGH	foraging area for wading birds, reddish egret,shorebirds	Red drum,southern flounder,shrimp,green sea turtles,snappers,juvenile barracuda, tarpon,	HIGH	MEDIUM	Seagrass,black mangroves
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1445	MEDIUM	Flats east of Route 361	MEDIUM	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM	MEDIUM	
PPA1446	HIGH	Flats east of Packery Channel	HIGH	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM		
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1453	HIGH	Western Padre Island flats	MEDIUM	Piping plover use	Nursery	HIGH	MEDIUM	Mud and algal flat, high and low marsh
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
145	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
652	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wilson's plover	C					X	X	X	X	X	X	X	X			MAR-AUG			
	American avocet				X	X	X	X				X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
658	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
667	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
669	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB–AUG	FEB–AUG	FEB–AUG	MAR–SEP
671	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
695	Least tern		E				X	X	X	X	X	X	X	X			APR–SEP	APR–SEP	MAY–SEP	MAY–SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
696	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Mottled duck	C			X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
697	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
698	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
699	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
701	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Laughing gull			720	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		25	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern			18	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern			41	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Rails				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			6	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C		26	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	American wigeon				X	X	X	X						X	X	X				
	Gadwall				X	X	X	X					X	X	X	X				
702	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
703	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
705	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Roseate spoonbill			6	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			26	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			12	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Waterfowl				X	X	X	X				X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead				X	X	X	X	X					X	X	X				
	American white pelican	C			X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
707	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Laughing gull			9	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Black-crowned night-heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			8	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Cattle egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	APR-AUG
	Great egret			2	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C		4	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Black-bellied whistling-duck				X	X	X	X	X	X	X	X	X	X	X	X			MAY-OCT	JUL-OCT
709	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
710	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Northern pintail	C			X	X	X	X				X	X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
711	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
713	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Laughing gull			5774	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		42	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern			122	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Sooty tern					X	X	X	X	X	X	X	X	X						
	Royal tern			917	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern			24	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Sandwich tern			190	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X				
	Black-crowned night-heron			2	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Great blue heron			94	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Great egret			46	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Reddish egret			42	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		24	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		30	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			1	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
9	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X		
	Snook				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X	X			
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	JAN-AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
658	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
667	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
669	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
671	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-AUG
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Spotfin mojarra				X	X	X	X	X	X	X	X	X	X	X	X		
	Silver jenny				X	X	X	X	X	X	X	X	X	X	X	X		APR-AUG
	Cownose ray				X	X	X	X	X	X	X	X	X	X	X	X		
695	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Silver perch				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	APR-SEP
	Silver jenny				X	X	X	X	X	X	X	X	X	X	X	X		APR-AUG
698	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Atlantic stingray				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Cownose ray				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
704	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
705	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
706	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
	Blackcheek tonguefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
709	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
710	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
9	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Mackerels						X	X	X	X	X	X	X	X				
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
658	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
667	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
669	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
671	Eastern oyster			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
695	Eastern oyster			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
698	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Quahog (hard clam)				X	X	X	X	X	X	X	X	X	X	X	X		JUN-DEC
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
699	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
700	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
703	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
704	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
705	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
706	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
708	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
709	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
710	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JAN	MAR-NOV
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
713	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
9	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Marine Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
658	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
667	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
671	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
695	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
698	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
705	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
706	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						
713	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X						

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

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Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR–OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
698	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
701	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN–SEP	JUN–DEC	JUN–DEC	ALLYEAR
	Texas diamondback terrapin	C			X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	MAY-JUL	APR-AUG	
9	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

Beach Access	RARNUM	NAME	CONTACT	CONTACT INFO
	3140	Beach Access Road 2		
Boat Ramp	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	2220	Wilsons Cut		nuecesnuecesrio@wilsonscut
	2222	Clems Marina and Fishing Pier		nuecesnuecesrio@clemsmarina
	2223	Billings Bait and Tackle		nuecesnuecesrio@billings
	2224	Marker 37		nuecesnuecesrio@marker37
Facility	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	1511	Fieldwood MU 883 Tank Battery	Terry Delahoussaye	337-354-8000
	1512	Mustang Island ST 428 & 436	Chris Cole	866-478-8770
	1513	TR North Pipeline System Battery	David Williams	800 333-9246
	1514	TR Tejas Gathering System Battery	David Williams	800 333-9246
	1519	TR South Mustang Island Separation Facility	David Williams	1-800-333-9246
	1520	Mustang Island 901 South Separation	Glen Fiew	866-478-8770
	1521	Billing's Bait & Tackle	Eugene R. Gianotti	361-549-8227
	1522	Marina 37 Services L.L.C. DBA Marker 37	Matthew McNeill	3619494750
Heliport	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	6157	MUSTANG ISLAND	XS45	HOUSTON, TX 77042

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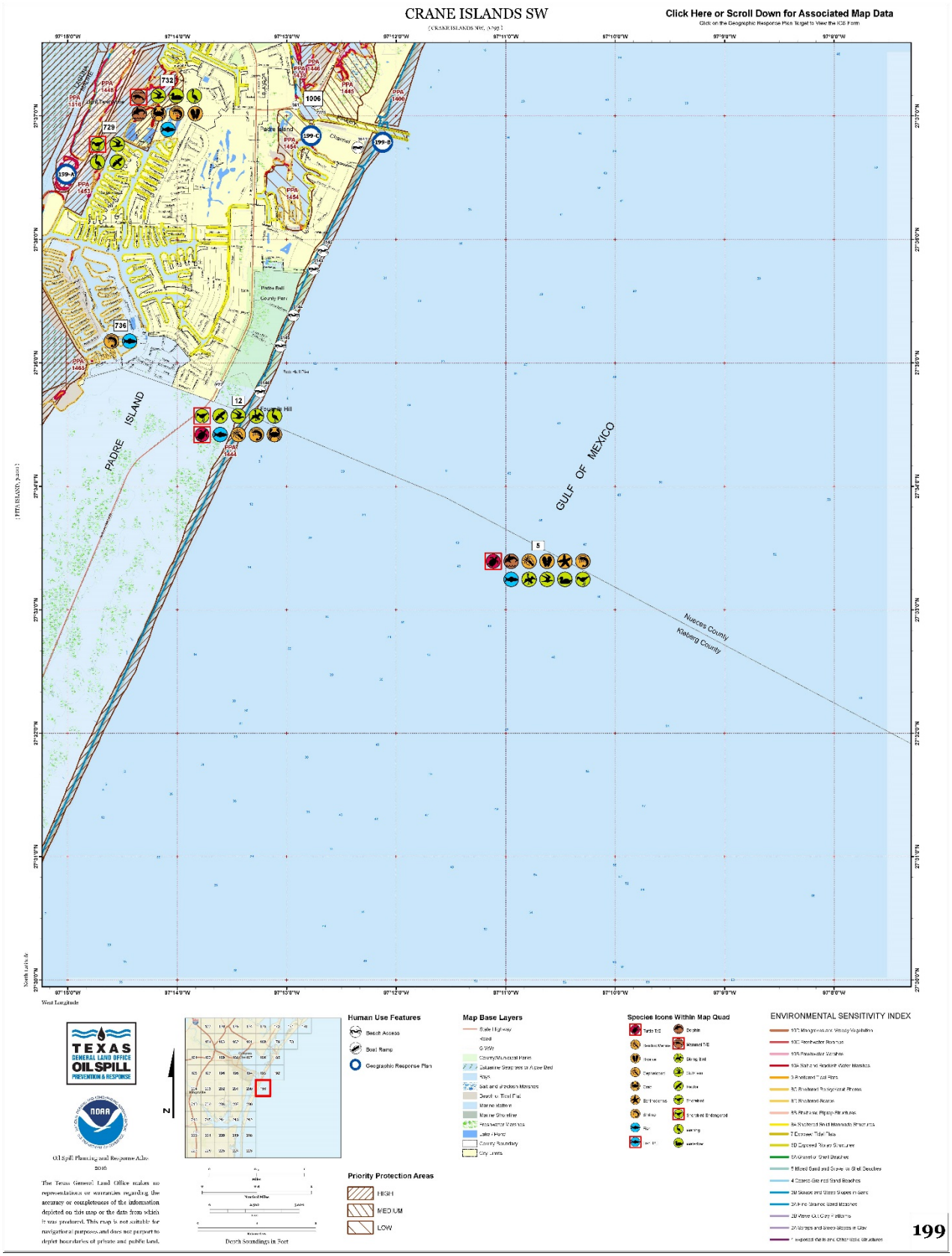
DIAGRAM FRP 1.9.5-5

ESI 199, Crane Island SW



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Quadrant: CRANE ISLANDS SW

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Biological information for this quadrant represents known concentration areas of occurrance.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
PPA1400	HIGH	Mustang Island Gulf beach	HIGH	Heavy piping plover use, snowy plover, shorebirds, wading birds, reddish egret; sea turtles				
PPA1439	MEDIUM	Packery Channel	HIGH	foraging area for wading birds, reddish egret,shorebirds	Red drum,southern flounder,shrimp,green sea turtles,snappers,juvenile barracuda, tarpon,	HIGH	MEDIUM	Seagrass,black mangroves
PPA1444	HIGH	Padre Island Gulf beach	HIGH	Shorebirds, piping plover, snowy plover, terns, pelicans; sea turtles				
PPA1445	MEDIUM	Flats east of Route 361	MEDIUM	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM	MEDIUM	
PPA1446	HIGH	Flats east of Packery Channel	HIGH	Numbers of piping plover, foraging area for wading birds, reddish egret	Nursery	MEDIUM		
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1453	HIGH	Western Padre Island flats	MEDIUM	Piping plover use	Nursery	HIGH	MEDIUM	Mud and algal flat, high and low marsh
PPA1454	LOW	South end of Packery Channel marsh			Some fishing	LOW	LOW	Fresh to brackish marsh (cattails, Batis)
PPA1465	HIGH	Laguna Madre	HIGH		Nursery	HIGH	HIGH	Seagrass (primarily Halodule)
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
732	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X				X	X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X				X	X	X					

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X		
	Snook				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X				
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	JAN-AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
732	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
736	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
732	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR–OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

Beach Access	RARNUM	NAME	CONTACT	CONTACT INFO
	3141	Zahn Road		
	3142	Whitecap Boulevard		
	3143	Beach Access Road 4		
	3144	Beach Access Road 5		
	3145	Padre Balli Park Road		
	3146	Beach Access Road 6		
Boat Ramp	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	2226	Packery Channel		

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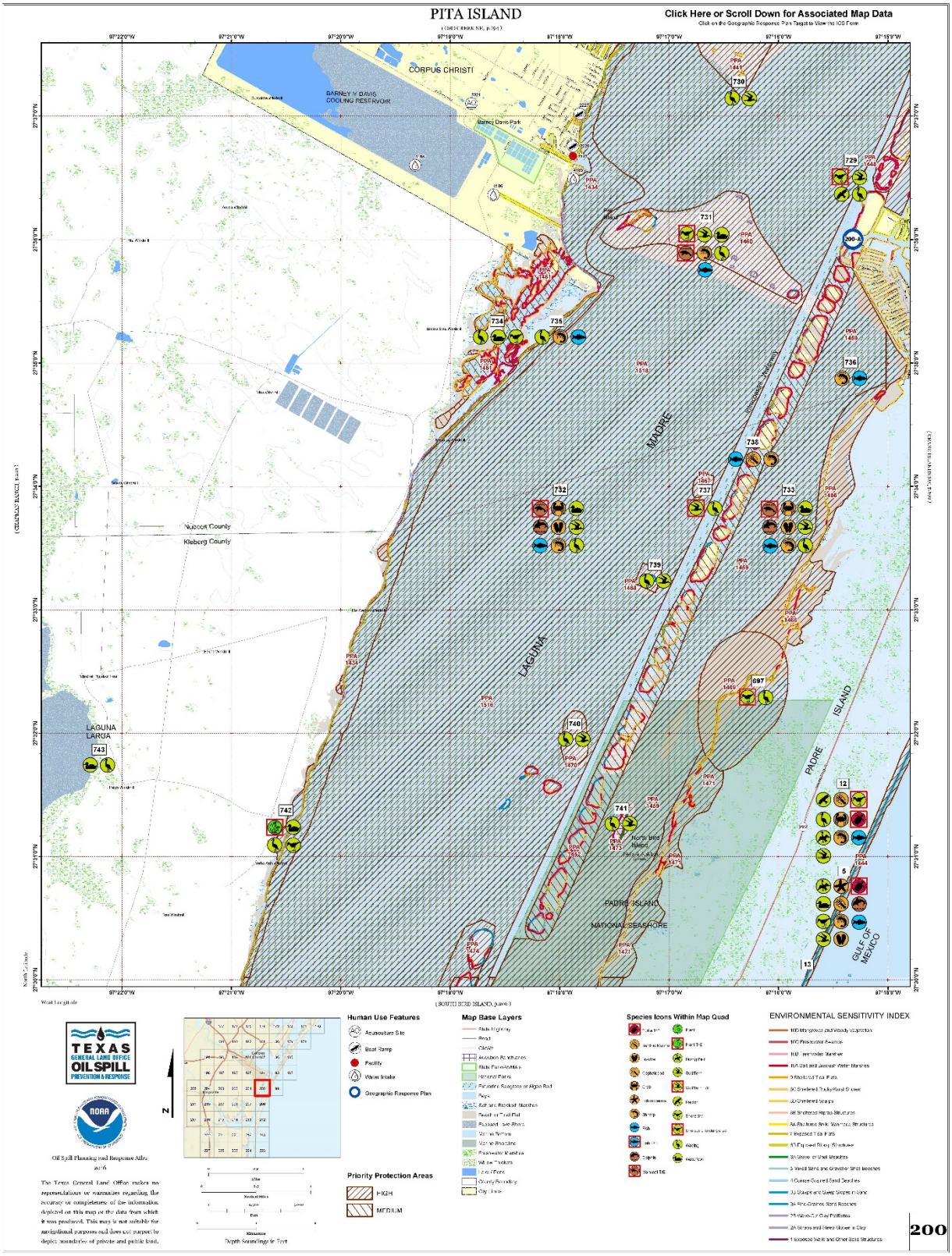
DIAGRAM FRP 1.9.5-6
ESI 200, Pita Island



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Quadrant: PITA ISLAND

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Biological information for this quadrant represents known concentration areas of occurrence.

Habitat Priority Protection Areas

PPA ID	PRIORITY	POLY DESC	BIRDS RANK	BIRDS DESC	FISH DESC	FISH RANK	WETLANDS R	WETLANDS D
PPA1434	HIGH	Laguna Madre shoreline east of Flour Bluff and Laguna Shores Road	HIGH	Wading birds, piping plover, black skimmers on spits of land from mainland	Nursery area	HIGH	HIGH	Fringe marsh on shoreline
PPA1441	HIGH	Spoil islands south of Kennedy Causeway	HIGH	Rookery (614-222); gulls, terns, wading birds				Sand and algal flat, low marsh, Spartina fringe
PPA1444	HIGH	Padre Island Gulf beach	HIGH	Shorebirds, piping plover, snowy plover, terns, pelicans; sea turtles				
PPA1448	HIGH	Spoil islands east of Light Twenty-one	HIGH	TCWS rookery (614-300), piping plover use, few waterfowl,peregrine falcons	Nursery	HIGH	MEDIUM	Seagrass (primarily Halodule); Salicornia, Batis, sand and algal flat fringing spoil islands
PPA1459	HIGH	Laguna Madre	HIGH		Important nursery area and highly productive fishing (red and black drum, spotted seatrout); all juvenile fish, shrimp, crabs	HIGH	HIGH	Very extensive high-quality seagrass flats (Halodule); algal flats on shoreline, spoil islands
PPA1460	HIGH	Pita Island and nearby spoil islands	HIGH	Rookery (614-300) for gulls, many wading birds, terns; waterfowl, wading birds, reddish egrets	Important nursery	HIGH	HIGH	Seagrass flats (Halodule, some Syringodium), mid to high marsh on islands
PPA1461	MEDIUM	Marsh, flats southwest of Pita Island			Nursery	HIGH	HIGH	Mid to high marsh, small interspersed upland areas, diverse biota
PPA1462	MEDIUM	Spoil islands east of ICW	MEDIUM	Rookery (614-305), piping plovers,red knots, peregrine falcons	Nursery		HIGH	Seagrass
PPA1466	HIGH	West shore of north Padre Island	MEDIUM	Piping plovers	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1467	HIGH	Spoil island west of ICW (Marker 31-33)	HIGH	Colonial waterbird rookery (614-301),reddish egrets, black skimmers, Forster's terns				
PPA1468	HIGH	Spoil island rookery west of ICW (Marker 37-38)	HIGH	Marker 37-38 spoil island colonial waterbird rookery (614-302),reddish egrets,great blue herons,black skimmers				
PPA1469	HIGH	Flats northeast of North Bird Island	HIGH	Numbers of piping plover, snowy plover other shorebirds	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1470	HIGH	Spoil island bird rookery west of ICW (Marker 43)	HIGH	Marker 43 colonial waterbird rookery (614-304); Caspian terns,black skimmers				
PPA1471	HIGH	West shore of north Padre Island	MEDIUM	Piping plovers	Nursery	HIGH	HIGH	Seagrass (high quality)
PPA1473	MEDIUM	North Bird Island	MEDIUM	Intermittent rookery (614-306); gulls, reddish egret, terns, wading birds	Nursery		HIGH	Seagrass
PPA1474	HIGH	Spoil island west of ICW (Marker 37, Spoil NM 79)	HIGH	Colonial waterbird rookery,piping plovers,peregrine falcons				
PPA1516	HIGH	Laguna Madre seagrass flats	HIGH	Waterfowl feeding area; very important redhead feeding area.	Fish and invertebrate nursery	HIGH	HIGH	SAV: Halodule wrightii dominant with scattered Syringodium filiforme, Ruppia maritima and Halophila engelmanii, drift algae

Biological Resources

Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
12	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-AUG	APR-AUG	APR-AUG
	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Ruddy turnstone				X	X	X	X	X				X	X	X	X				
	Sanderling				X	X	X	X	X			X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Western sandpiper	C			X	X	X	X			X	X	X	X	X	X				
	Snowy plover				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
5	Franklin's gull							X	X	X			X	X	X					
	Northern gannet				X	X	X	X						X	X	X				
	Black tern						X	X	X	X	X	X	X	X	X					JUL-JUN
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
697	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
729	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP

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Bird

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
	Peregrine falcon				X	X	X	X	X				X	X	X	X				
	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
730	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
731	Laughing gull			7038	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C		16	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern			132	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern			31	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Red knot		T					X	X			X	X							
	Piping plover		T		X	X	X	X	X		X	X	X	X	X	X				
	Wilson's plover	C					X	X	X	X	X	X	X	X			MAR-AUG			
	Black-crowned night-heron			9	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Roseate spoonbill			70	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Great blue heron			146	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Cattle egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	APR-AUG
	Great egret			100	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	JAN-MAR	FEB-APR	MAR-MAY
	Little blue heron			58	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Reddish egret			50	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Snowy egret	C		26	X	X	X	X	X	X	X	X	X	X	X	X				
	Tricolored heron	C		112	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White ibis			4	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	FEB-JUN	FEB-JUN	MAR-JUL
	Black-necked stilt				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
732	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X					X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			VERY HIGH	X	X	X	X	X					X	X	X				
733	Terns				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C		HIGH	X	X	X	X					X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				
	Redhead			HIGH	X	X	X	X	X					X	X	X				
734	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern pintail	C			X	X	X	X					X	X	X	X				
735	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
737	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Least tern		E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
739	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
740	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
741	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Black skimmer	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	MAR-SEP
	Gull-billed tern				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Tricolored heron	C			X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	White-faced ibis				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
742	Shorebirds				X	X	X	X	X	X	X	X	X	X	X	X				
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	MAR-JUL	MAR-AUG
	Reddish egret				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	APR-AUG	APR-AUG	APR-SEP
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
743	Sandhill crane				X	X	X	X					X	X	X	X				
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X				
	Northern shoveler				X	X	X	X	X				X	X	X	X				
	Lesser scaup				X	X	X	X					X	X	X	X				

Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
5	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Striped anchovy				X	X	X	X	X	X	X	X	X	X	X	X		MAR-MAY
	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	FEB-APR
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAY-OCT

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Fish

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
	Ladyfish							X	X	X	X	X	X	X				SEP-OCT
	Tarpon				X	X	X	X	X	X	X	X	X	X	X	X		APR-JUL
	Southern kingfish (whiting)				X	X	X	X	X	X	X	X	X	X	X	X		JUL-NOV
	Gulf kingfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X		
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X		
	Snook				X	X	X	X	X	X	X	X	X	X	X	X		JUN-JUL
	Pigfish				X				X	X	X	X	X	X	X	X		MAR-APR
	Rays				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic threadfin				X	X	X	X	X	X	X	X	X	X	X	X		DEC-APR
	Soles				X	X	X	X	X	X	X	X	X	X	X	X		
	Inshore lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	ALLYEAR
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		FEB-OCT
	Crevalle jack				X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-SEP
	Mackerels						X	X	X	X	X	X	X	X				
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Sergeant major				X	X	X	X	X	X	X	X	X	X	X	X		ALLYEAR
	Gray triggerfish				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Blue runner				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	JAN-AUG
	Atlantic spadefish				X	X	X	X	X	X	X	X	X	X	X	X		MAY-SEP
	Atlantic bumper				X	X	X	X	X	X	X	X	X	X	X	X		
	Little tunny				X	X	X	X	X	X	X	X	X	X	X	X		APR-NOV
	Grunts				X	X	X	X	X	X	X	X	X	X	X	X		
	Scaled sardine				X	X	X	X	X	X	X	X	X	X	X	X		FEB-JUL
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	JUN-SEP
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X		
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Leatherjacket				X	X	X	X	X	X	X	X	X	X	X	X		
	Harvestfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf butterfish				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	
	Bluefish				X	X	X	X	X	X	X	X	X	X	X	X		SEP-NOV
	Atlantic moonfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X		
	Longspine porgy				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic needlefish				X	X	X	X	X	X	X	X	X	X	X	X		JUN-AUG
	Permit				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic cutlassfish				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern hake				X	X	X	X	X	X	X	X	X	X	X	X		
731	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
733	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
735	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	ALLYEAR	DEC-MAY
738	Native fish community				X	X	X	X	X	X	X	X	X	X	X	X		
	Code goby				X	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL

Invertebrate

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING
12	Ghost crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
5	Molluscs				X	X	X	X	X	X	X	X	X	X	X	X		
	Echinoderms				X	X	X	X	X	X	X	X	X	X	X	X		
	Cnidarians				X	X	X	X	X	X	X	X	X	X	X	X		
	Polychaetes				X	X	X	X	X	X	X	X	X	X	X	X		
	Mantis shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
731	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
732	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
733	Dwarf surf clam				X	X	X	X	X	X	X	X	X	X	X	X		MAY-NOV
	Gulf grassflat crab				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
735	Arrow shrimp				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
736	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		
738	Atlantic brief squid				X	X	X	X	X	X	X	X	X	X	X	X		
	Native shrimp and crab community				X	X	X	X	X	X	X	X	X	X	X	X		

Mammal

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	LARV/JUV	SPAWNING	MATING	CALVING
5	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
731	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
732	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					
733	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUL-AUG	JAN-DEC	JAN-DEC
	West Indian manatee		E	LOW			X	X	X	X	X	X	X	X	X					

Map # : 200

Back To Map

Reptile

RARNUM	NAME	S	F	CONC	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	LARV/JUV
12	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
5	Loggerhead sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Green sea turtle		T		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR
	Leatherback sea turtle		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X				ALLYEAR
	Atlantic hawksbill sea turtle		E	LOW				X	X	X	X	X	X	X						APR-OCT
	Kemp's ridley sea turtle		E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG		MAY-OCT	ALLYEAR

Human Use Resources

Aquaculture Site	RARNUM	NAME	CONTACT	CONTACT INFO
	5021	Texas A&M University Shrimp Mariculture		4301 Waldron Road, Corpus Christi, TX 78418 -
Boat Ramp	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	2227	Laguna Shores Resort and Marina		nuecesnuecesrio@lagunashores
	2228	Bluff's Landing Marina		nuecesnuecesrio@bluffslanding
Facility	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	1523	Bluff's Landing Marina Bait & Tackle	Mike Beers	512-632-1897/512-970-7831
Water Intake	**RARNUM**	**NAME**	**CONTACT**	**CONTACT INFO**
	4184	SOUTHWEST MARICULTURE INC		
	4185	TEXAS A&M UNIVERSITY		
	4186	CENTRAL POWER & LIGHT CO		

Map # : 200

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DIAGRAM FRP 1.9.6

Locations of Protection Strategies

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DIAGRAM FRP 1.9.7

Key to Protection Strategies

Symbol	Definition
	Boom – Used to contain, divert, or exclude free-flowing oil from the water's surface from a site for recovery. This includes the necessary equipment and resources needed for the proper placement and maintenance of the equipment, including mooring, anchoring, shackles, etc.
	Permanent Boom – Also used to contain, divert, or exclude free-flowing oil from the water's surface. These booms have foam-filled floats that provide high visibility, high impact resistance, reserve buoyancy-to-weight ratio, wave conformance, and wind stability. Often left in place because they are not as susceptible to marine growth or ultraviolet rays.
	**Utility Boat –** support vessel used to deploy boom and/or skimmer configurations for containment and recovery, set anchor systems, and prop wash.
	**Boom Platform Boat –** response asset used for high speed on water delivery and deployment of shoreline protection boom to remote sensitive areas.deploy configurations, set anchor systems, and prop wash.
	**Boom Reel –** response asset for stationary and mobile boom storage.
	**Boat Launch Area** – location used to launch water craft.
	**Staging Area** – location used to store equipment, resources, and personnel to properly carry out a protection configuration.
	**Standard Navy Mooring System** –denotes the use of a 25- or 40-pound Danforth anchor with necessary recovery line and recovery buoy. Recovery line should be 5 feet longer than high tide depth. Proper Navy mooring systems are required with at least a 5-to-1 anchor line scope (anchor line length 5 times the water depth where the anchor is placed). Use of towing bridles at boom ends is highly recommended to distribute the load, and to keep the boom vertical when it's floating. When sufficient towing bridles are not available, securing the boom through the chain tension member should prevent damage due to tensile loading. Boats should have anchor lines rigged for running long before they are directed to attach the anchor system.
	Shore Attachment (white, yellow, or black) – denotes the use of a steel post driven into the shoreline above the high tide line and used to secure one end of the boom; may also include attachment to a tide-riser, buoy, or other fixed object (e.g., pier, wall, piling, tree, etc.)
	Tide Riser or Bollard (orange) – denotes the location of a pre-installed boom connection point (assembly) that allows for a permanent, rapid connection point for boom for the establishment of containment or recovery operations.
	Sorbent Boom (white or black) – shown as a thick, straight line
	Span Line – used to create a collection or recovery pocket for the floating product within the response configuration.
	Collection Point – An area or resource where oil is collected and stored for oil recovery/removal.

DIAGRAM FRP 1.9.7

Key to Protection Strategies

Symbol	Definition
	**On-water Recovery –** The use of an on-water skimming system (rapid response skimmer [RRS]) to collect and remove oil floating on the water surface. In many of the areas designated as sensitive shorelines, the water depths are too shallow and submerged obstructions are numerous, so the use of the skimming system is not recommended.
	**Vacuum Truck or Hand-held Skimmer –** used for on water recovery close to shore.
	**Boom box (BB) or Conex Storage Container (CB) –** used to pre-stage the quantities of boom and other response resources necessary to ensure a rapid response by the facility response team for strategies identified in this guide.

DIAGRAM FRP 1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) - Blind Oso	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

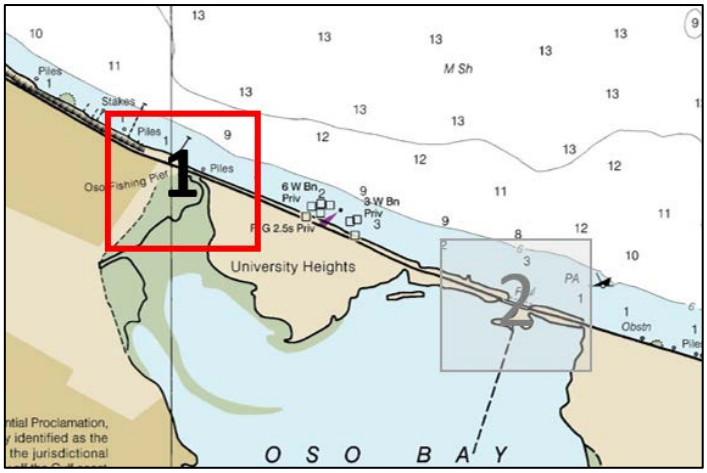
6. Assignments: **Image**

Both configurations of strategy (A1) were developed by the South Texas Coastal Area Committee – USCG Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp. This strategy was incorporated into NASCC's FRP/DPRP and retains the original nomenclature (A1) from the document referenced above.

1A - PRIMARY CONFIGURATION: - **Exclusion** configuration to prevent further spread of oil west beyond location.

1B - SECONDARY CONFIGURATION (OPTIONAL) – Exclusionary booming in a continuous length of boom in a shallow chevron configuration to address an easterly wind to redirect the oil away from the inlet.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil).



Aerial oblique view of Blind Oso Inlet

View of Blind Oso Back Bay

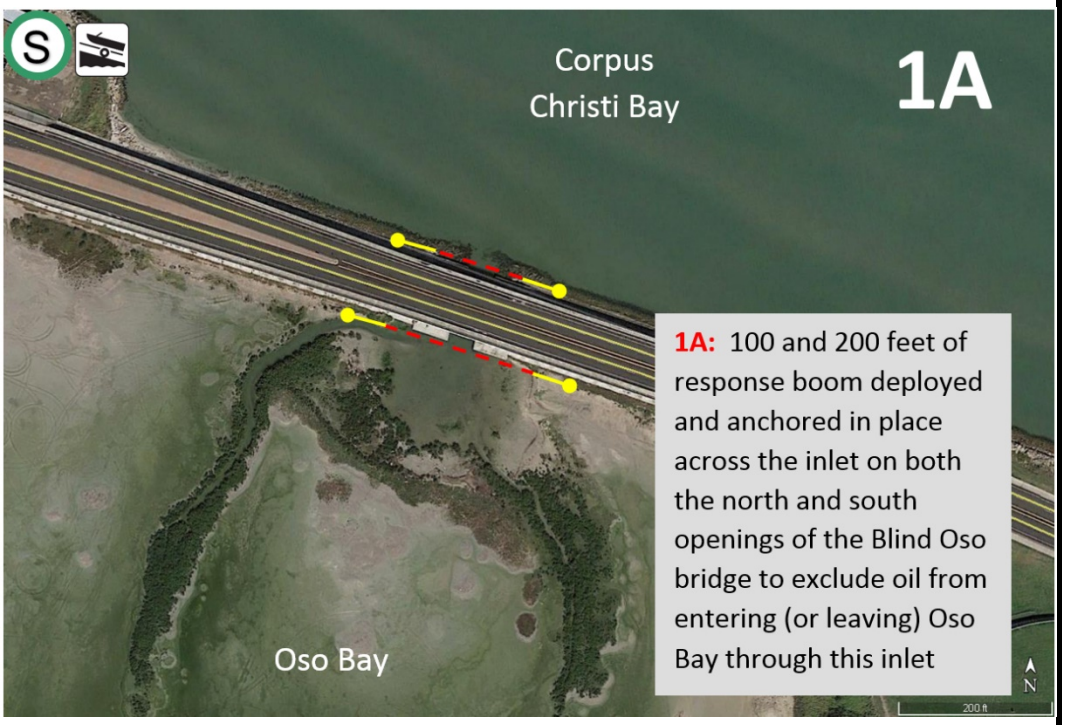
DIAGRAM FRP 1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) - Blind Oso	

1A - PRIMARY CONFIGURATION – Exclusion

- 100 and 200 foot sections of 12- to 18-inch response boom deployed across the inlet mouth on both the north and south sides of Blind Oso bridge to exclude oil from entering Oso Bay through this inlet.
- Stake boom in place.



7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats - Recommend two, shallow draft boats; possible to complete with only one			One (1) SeaArk River Runner and one Jon Boat; or one (1) Jon Boat	Three (3) crew per boat	☐
Response Boom – 12- to 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			100 feet (north side) 200 feet (south side)	Two (2) sections	☐
Shore Stakes – to attach boom to shoreline. Drive shore Stakes into ground above high tide line or tie off onto rocks/or other permanent structure			Four (4) or more, as needed		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate personal flotation devices (PFDs)			Two (2), two-man teams	Arrive by truck	☐

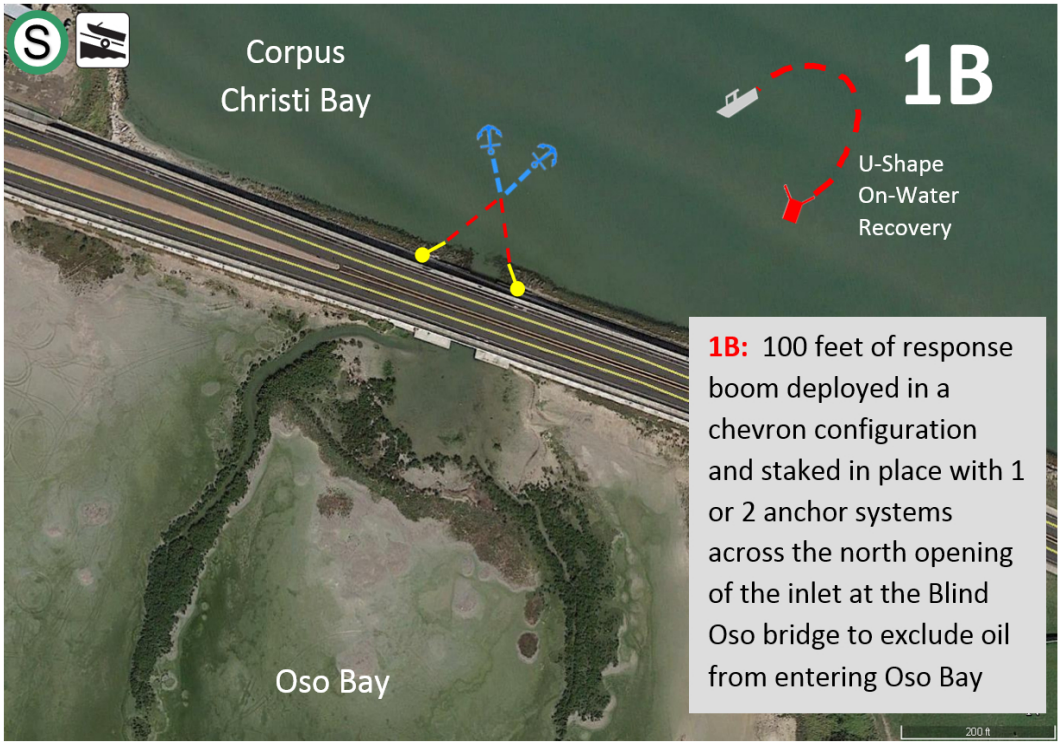
DIAGRAM FRP 1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 1: (A1) - Blind Oso	

1B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion

- Deploy 100 feet of 18-inch boom in a continuous length in a chevron configuration to address an easterly wind to redirect the oil away from the inlet for **Recovery**.
- A good Easterly wind and the expected very low current under the span should keep oil moving on past.
- For an Easterly wind, the midpoint anchor should just hold the apex out slightly from a straight line–to prevent oil from collecting in the middle.
- But if oil is coming from the North, the more standard chevron drawn would be appropriate.



This configuration should only be needed to prevent current flowing in under the span from creating enough catenary to allow oil to collect in the middle or for oil moving in from the North.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats - Recommend two, shallow draft boats; possible to complete with only one			One (1) SeaArk River Runner and one (1) Jon Boat; or one (1) Jon Boat	Three (3) crew per boat	☐
Response boom – 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			100 feet		☐
Mooring Systems - Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

DIAGRAM FRP 1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 1: (A1) - Blind Oso**	

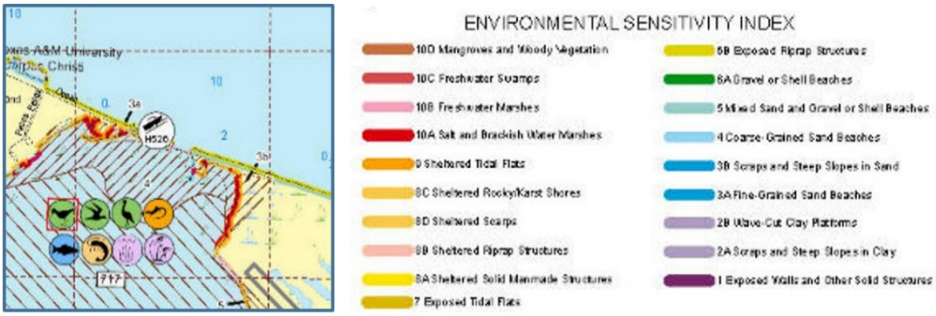
8. Special Instructions for Division/Group:	
Site Conditions:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and other personal protective equipment (PPE) (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is a brackish water inlet that is listed as an environmentally sensitive wetland characterized by wind/tidal flats. The tidal flats are free of water throughout the year but under certain high tide and wind conditions, the tidal flats have been known to flood. The Hans and Pat Suter Wildlife Area is habitat to many avian species and is a popular bird watching area. The inlet is approximately 33 feet wide with currents being wind driven. The seasonal tidal range is less than 1 foot. 
Potential Impacts:	Any discharge from or near the Seaplane basin could adversely affect this area with an easterly wind.
Operational Considerations:	Sufficient depth at the island piers and shorelines for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**1A - PRIMARY CONFIGURATION:** ½ inch chain on riprap or steel posts, as appropriate; attach boom; seal with sorbents/sandbags to minimize leaks. **1B - SECONDARY CONFIGURATION (OPTIONAL):** ½ inch chain on riprap or steel posts, as appropriate; seal with sorbents/sandbags to minimize leaks.
Water Attachment:	**1A - PRIMARY CONFIGURATION:** Two (2) shoreside mooring points consisting of chain shackled on riprap to tie off one end of the boom using the towing bridle on shore; **1B - SECONDARY CONFIGURATION (OPTIONAL):** Two (2) shoreside mooring points consisting of chain shackled around riprap to tie off one end of the boom using the towing bridle on shore plus one (1) anchor point forming the apex of the chevron (may need more than one anchor to achieve).
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Jon boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; SeaArk will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **1A - PRIMARY CONFIGURATION:** 30 minutes to 1 hour **1B - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour

DIAGRAM FRP 1.9.8

Strategy 1 (A1) – Blind Oso

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 1: (A1) - Blind Oso	

Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) Date/Time	12. Approved By (Planning Section Chief): Date/Time

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DIAGRAM FRP 1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

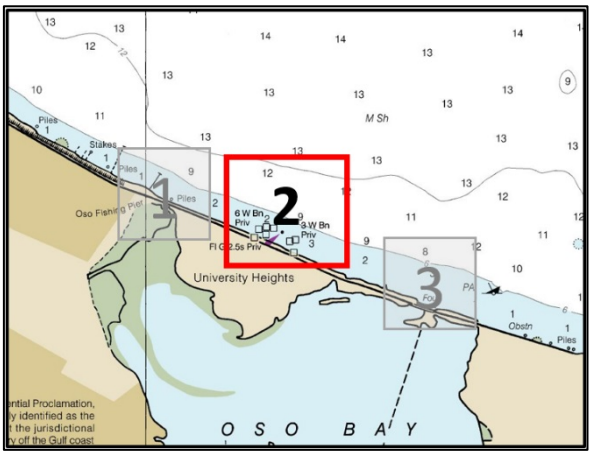
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

2A - PRIMARY CONFIGURATION: **Exclusion** boom to prevent further spread of oil west beyond location. This configuration is strategy (A2) of the South Texas Coastal Area Committee – Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp.

2B - SECONDARY CONFIGURATION (OPTIONAL): **Exclusion** booming with a continuous length of boom to completely encircle the beach to redirect the oil away from the beach. This optional configuration was developed for the NASCC FRP/DPRP.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil).



Aerial oblique view of TAMCC University Beach

View of TAMCC University Beach from land

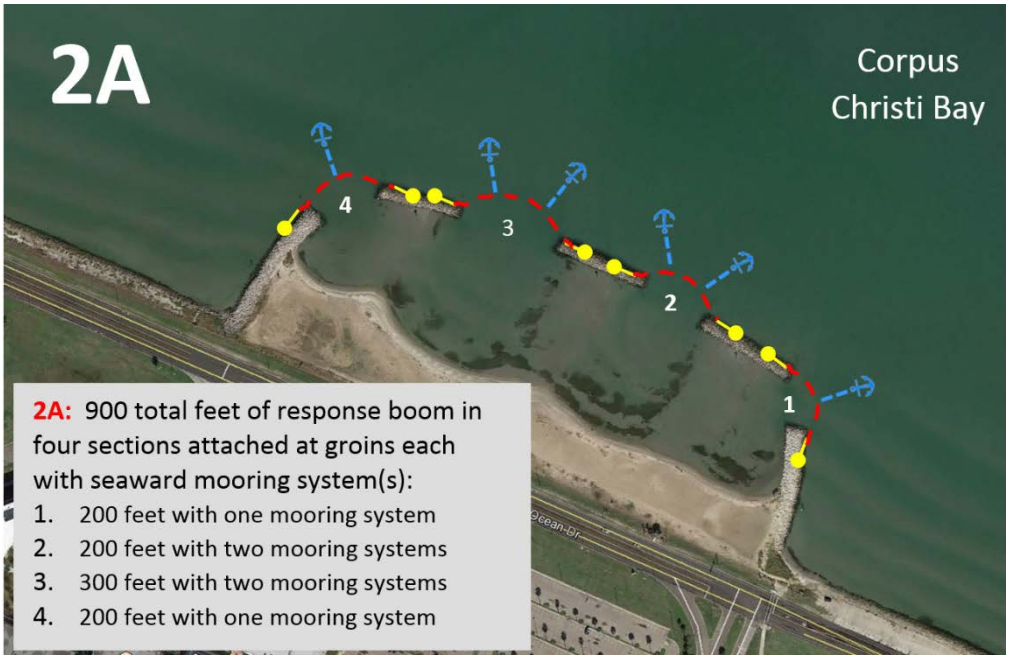
DIAGRAM FRP 1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

2A - PRIMARY CONFIGURATION: Exclusion

- Boat 1 deploys boom from boom trailer from the eastern side of the groin; Shore crew establishes shoreline anchor point. Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.
- Boat 1 pulls boom off trailer and proceed to western anchor point where the boom is secured to the first breakwater.
- Boat 2 secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.



- Boat 2 then stretch out boom and deploy mooring mid-point mooring system(s) to complete shallow chevron configuration.
- Repeat for each Boom length section.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response boom – 12- to 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points.			900 feet response boom: 1. 200 feet 2. 200 feet 3. 300 feet 4. 200 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per section		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs.			Two (2), two-man teams	Arrive by truck	☐

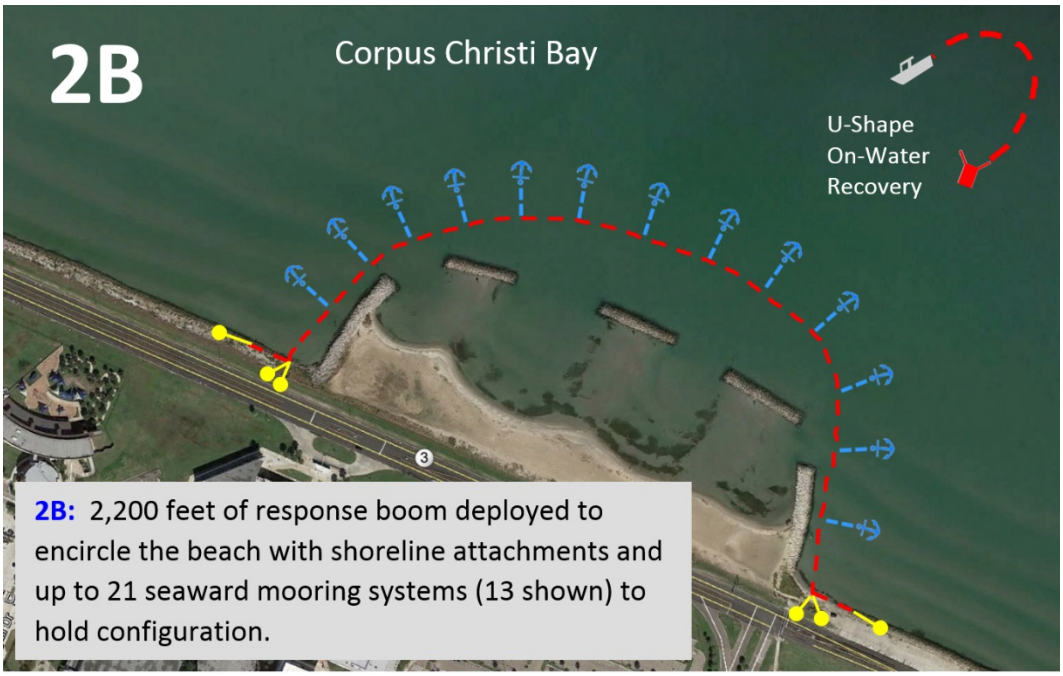
DIAGRAM FRP 1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 2: (A2) – University Beach	

2B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion

- Boat 1 deploys boom from boom trailer from the eastern side of the groin; Shore crew establishes shoreline anchor point. Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.
- Boat 1 pulls boom around University beach seaward of the three breakwaters to western anchor point where the boom is secured to the last shoreline (around the westernmost breakwater). Shore crew establishes shoreline anchor point on the western end of this length.
- Boats 2, 3, and 4 secure mooring systems every 100 feet along the length of the boom run at the seaward anchor points.



Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Four (4), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response boom – 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			2,200 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per section		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

DIAGRAM FRP 1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 2: (A2) – University Beach**	

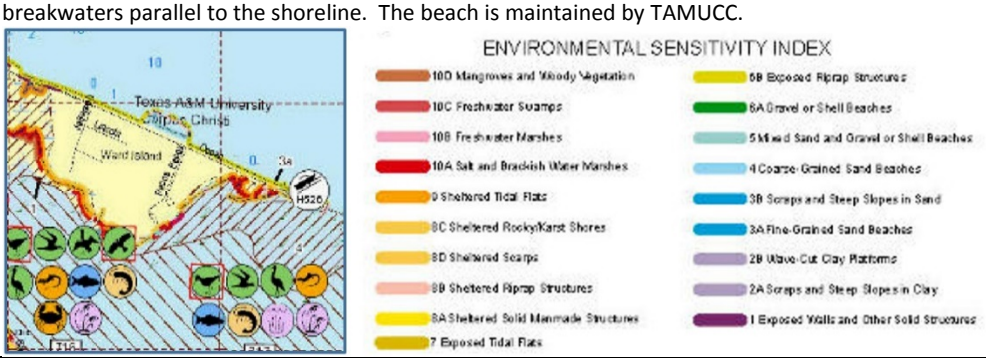
8. Special Instructions for Division/Group:	
Site Conditions:	Tie off the boom and seal as best we can with sorbents and sandbags on shorelines. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of a sandy public beach, approximately 1,300 feet long bordered to the east and west by riprap groins used to encircle the university beach. The overall average water depth is 2 to 3 feet, but is variable due to tidal fluctuations. Additionally, there are three very shallow sand bars behind three breakwaters parallel to the shoreline. The beach is maintained by TAMUCC. 
Potential Impacts:	This area has a low wildlife and habitat ESI/Atlas rating (fish, shrimp, crab, squid, foraging birds); however, it does provide significant socio-economic value as a public accessible beach and access point for recreation (fishing, kayaking).
Operational Considerations:	Sufficient depth for small boat and platform booming operations. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**2A - PRIMARY CONFIGURATION**: eight (8) shoreline mooring systems consisting of ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline; **2B - SECONDARY CONFIGURATION (OPTIONAL)**: - four (4) shoreline mooring systems consisting ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks;
Water Attachment:	**2A - PRIMARY CONFIGURATION**: six (6) mooring systems attached at the seaward anchor points at the apex of each boom section (may need more than one anchor to achieve) into the wind. **2B - SECONDARY CONFIGURATION (OPTIONAL)**: twenty-one (21) mooring systems attached at the seaward anchor points along the boom length.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **2A - PRIMARY CONFIGURATION**: 2.5 hours; **2B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 +hours
Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.

DIAGRAM FRP 1.9.9

Strategy 2 (A2) – University Beach

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 2: (A2) – University Beach**	

Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

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DIAGRAM FRP 1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

The configurations for strategy (A3) came directly from of the South Texas Coastal Area Committee – Sector Corpus Christi, Texas Protective Action Strategies for Resources at Risk Along the Southeast Shoreline of Corpus Christi Bay (2010), available from www.glo.texas.gov/ost/acp.

3A - PRIMARY CONFIGURATION: **Exclusionary** boom to prevent oil from entering Oso Bay and keep the oil moving west.

3B - SECONDARY CONFIGURATION (OPTIONAL): **Exclusionary** boom in chevron configuration with **Recovery** system (Secondary) to keep the oil moving west away from the Oso Bay entrance. Recovery pockets may be established for deflecting oil for collection on both the east and western sides of the chevron.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil)

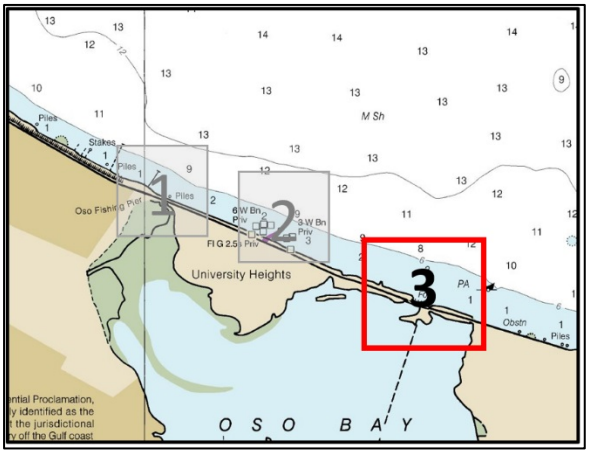


DIAGRAM FRP 1.9.10

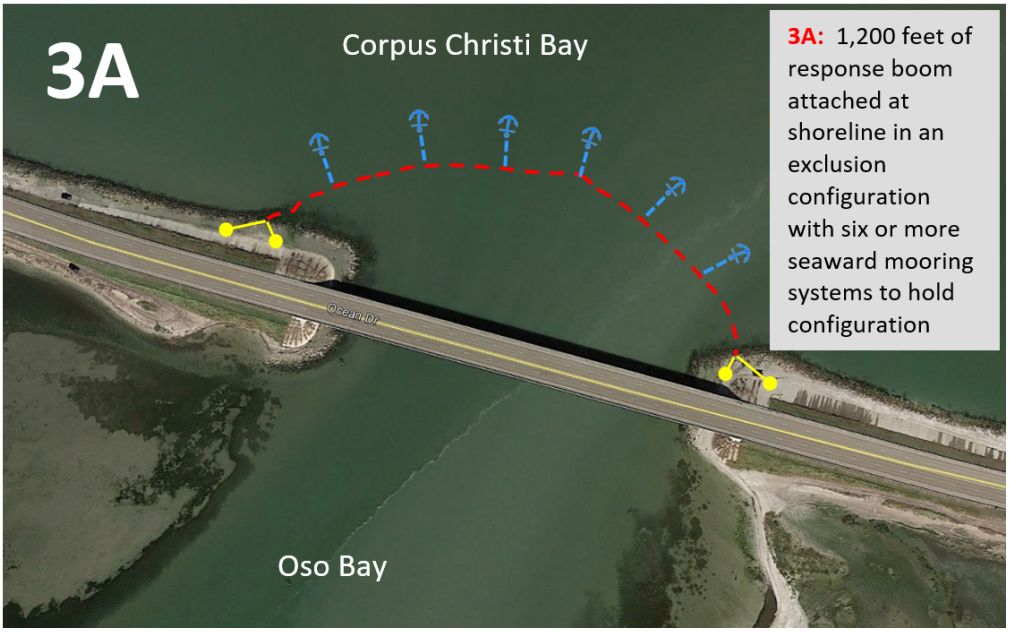
Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

3A - PRIMARY CONFIGURATION: Exclusion

Exclusion boom; 1,200 feet of 18-inch response boom in a continuous length of boom in a shallow arc configuration to address an easterly wind to redirect the oil away from the inlet.

- Have first boat deploy boom from boom trailer from the eastern side of the bridge.
- Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline.
- Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.
- Second boat then stretch out boom and deploy mooring the five (5) additional mid-point mooring system(s) to complete the configuration.



Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			1,200 feet response boom		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per shoreline attachment	Attached at the seaward anchor points along the configuration	☐
Anchor Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

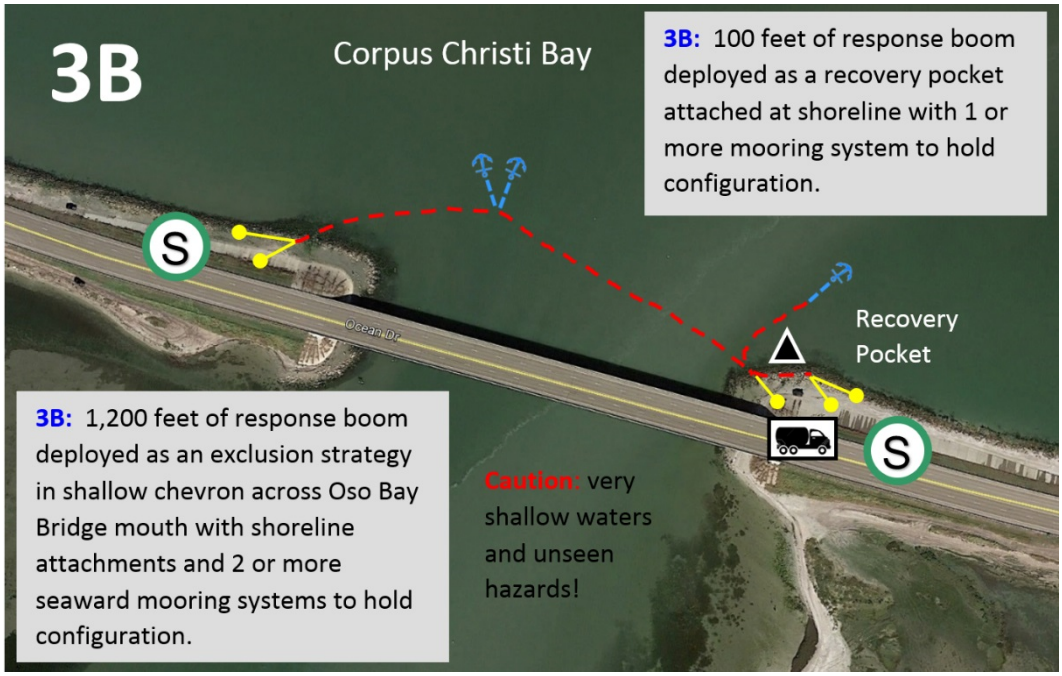
DIAGRAM FRP 1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

3B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion with Recovery

Exclusion boom in a shallow chevron to redirect the oil moving away from the Ocean Drive Bridge inlet and for recovery (if possible) at shoreline prior to reaching the Ocean Drive Bridge at Oso Bay (primary configuration). A recovery pocket may be located just offshore in water depth sufficient for skimmer head operation at apex along shore to contain surface oil for recovery using Vacuum Truck with skimmer head.



- Have first boat deploy boom from boom trailer from the eastern side of the bridge.
- Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline.
- Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew.
- Second boat then stretch out boom and deploy mooring mid-point mooring system(s) to complete shallow chevron configuration. ***The apex of the chevron needs to be pointed directly into the direction the oil is moving due to wind and/or currents***; if the wind shifts, the anchor point must be changed to appropriately change the chevron's direction.
- First Boat deploy boom from boom trailer to redirect oil to shore prior to reaching the bridge for recovery.
- First boat secures mooring system at the seaward end of the configuration to allow the development of a collection pocket. Shore crew secure shore side of configuration.
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline. Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place. If riprap chain anchor point is not sufficient to hold boom, provide a secondary mooring line to a shore stake wherever possible.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) or more, shallow draft boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			1,300 feet	100 feet used for recovery pocket	☐

DIAGRAM FRP 1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 3: (A3) – Oso Bay Bridge**	

Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline	Five (5) or more, as needed per shoreline attachment		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines	Three (3) or more as needed per section	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐
Vacuum Truck – for removal of oil contained within recovery pocket	One (1), two-man team		☐

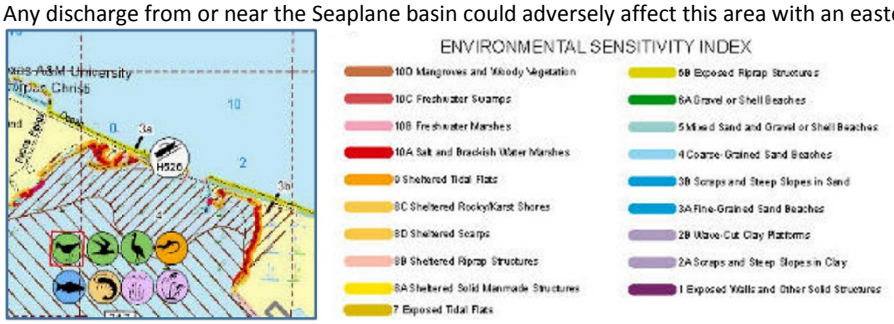
8. Special Instructions for Division/Group:	
Site Conditions:	Tie off the boom and seal as best you can with sorbents and sandbags on shorelines. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along Ocean Drive. The bridge separates the open Corpus Christi Bay from the Oso Bay which is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (nursery area, seagrass beds, and wetlands). This area is also highly utilized for shoreline fishing. Boat traffic is light but present. Any discharge from or near the Seaplane basin could adversely affect this area with an easterly wind. 
Potential Impacts:	Wildlife, habitat, and recreational fishing.
Operational Considerations:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**3A - PRIMARY CONFIGURATION:** Two (2) shoreside anchor points consisting of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring using a shoreside stake may be required to hold the **Exclusionary** boom configuration.

DIAGRAM FRP 1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 3: (A3) – Oso Bay Bridge	

	3B - SECONDARY CONFIGURATION (OPTIONAL): Shoreside Bitter end – towing bridle secured to a chain shackled around riprap; ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring using a shoreside stake may be required to hold the **Exclusionary** boom configuration and may be necessary for the Recovery pocket.
Water Attachment:	**3A - PRIMARY CONFIGURATION: Exclusion** – six (6) anchor systems attached at the seaward anchor points along the configuration. **3B - SECONDARY CONFIGURATION (OPTIONAL): Exclusion** - One anchor point forming the apex of the chevron (may need more than one anchor to achieve). More than one mooring system (25 to 40 pound) may be required at the apex. **Recovery** - a 25 pound anchor to hold open the collection pocket on the seaward end will be required. An additional line (drawn in yellow in Option 2) tied to the seaward end of the pocket and anchored on shore will be required to maintain the configuration of the recovery pocket
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location (20+ minute transit time). **3A - PRIMARY CONFIGURATION**: 2.5 hours; **3B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 hours
Oil Recovery:	Using vacuum truck with skimmer head and or sorbents as required from collection pocket. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

DIAGRAM FRP 1.9.10

Strategy 3 (A3) – Oso Bay Bridge

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 3: (A3) – Oso Bay Bridge**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST	**JUNE 2017**	**ICS 204-OS**

DIAGRAM FRP 1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

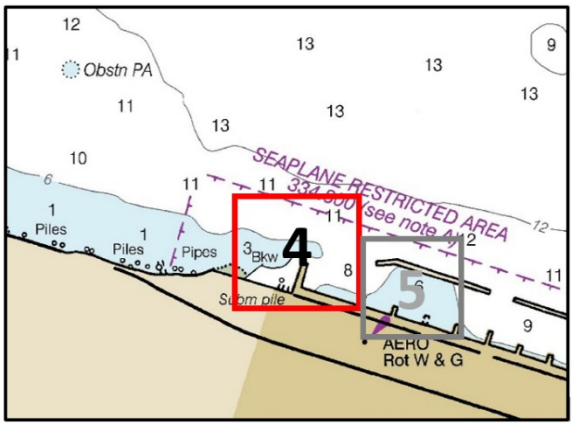
PRIMARY CONFIGURATION:

- **4A: Diversion** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for Recovery.

SECONDARY CONFIGURATIONS (OPTIONAL):

- **4B: Diversion** configuration to assist with diverting floating oil into the partially shielded cove between the pier and the seawall for Recovery.
- **4C: Diversion** configuration from the NE corner of the Barge Dock to divert floating oil into the SE corner of the Barge dock and the seawall for **Recovery**.
- **4D:** 500 feet of 18-inch boom in a **Diversion** configuration from the westernmost end of the seaplane breakwater to divert floating oil into the SE corner of the Barge Dock and the Seawall for **Recovery**.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; preservation oil, Varsol, turbine oil)



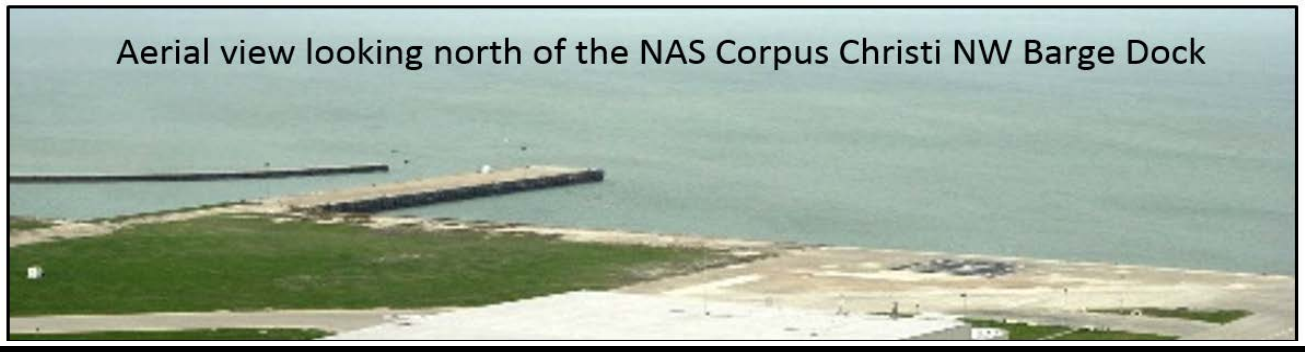
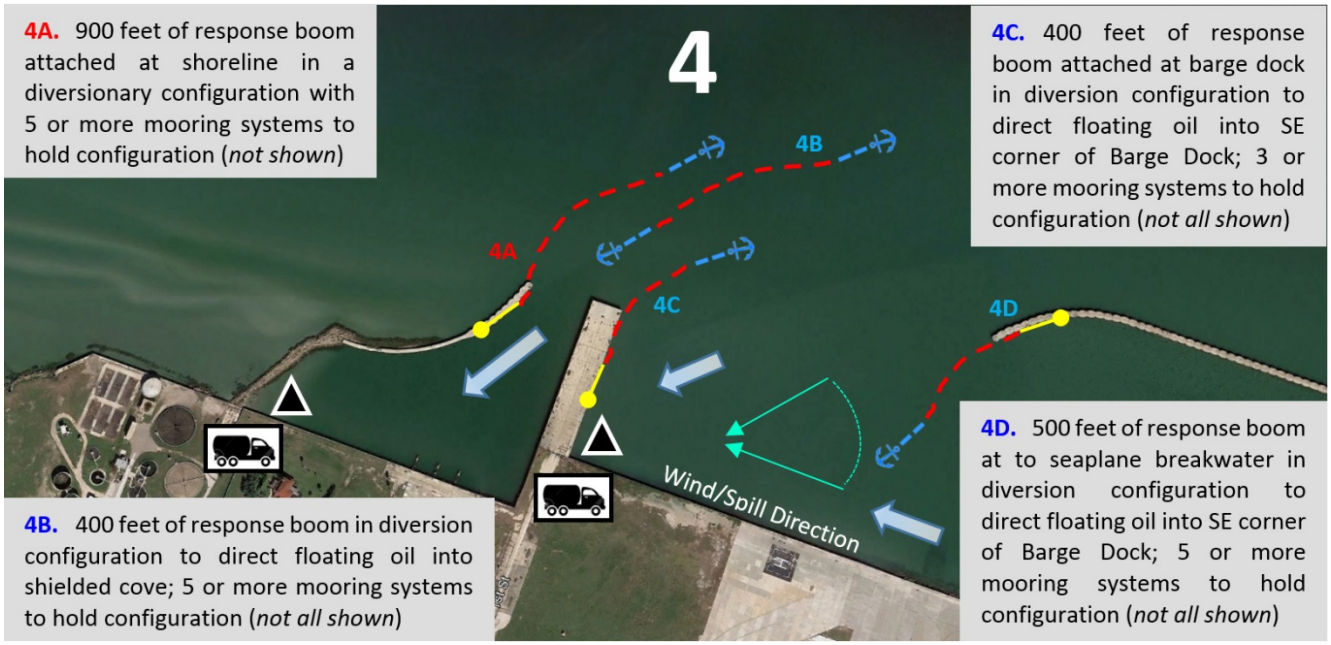


DIAGRAM FRP 1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	



4A. 900 feet of response boom attached at shoreline in a diversionary configuration with 5 or more mooring systems to hold configuration (*not shown*)

4B. 400 feet of response boom in diversion configuration to direct floating oil into shielded cove; 5 or more mooring systems to hold configuration (*not all shown*)

4C. 400 feet of response boom attached at barge dock in diversion configuration to direct floating oil into SE corner of Barge Dock; 3 or more mooring systems to hold configuration (*not all shown*)

4D. 500 feet of response boom at to seaplane breakwater in diversion configuration to direct floating oil into SE corner of Barge Dock; 5 or more mooring systems to hold configuration (*not all shown*)

PRIMARY CONFIGURATION:

4A: 900 feet of 18-inch boom in a **Diversionary** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for **Recovery**.

SECONDARY CONFIGURATIONS (OPTIONAL):

4B: 400 feet of 18-inch boom in a **Diversion** configuration to assist with diverting floating oil into the partially shielded cove between the pier and the seawall for **Recovery**.

4C: 400 feet of 18-inch boom in **Diversion** configuration from the NE corner of the Barge Dock to divert floating oil into the SE corner of the Barge dock and the seawall for **Recovery**.

4D: 500 feet of 18-inch boom in a **Diversion** configuration from the westernmost end of the seaplane breakwater to divert floating oil into the SE corner of the Barge Dock and the Seawall for **Recovery**.

1. Deploy boom from boom trailer from the Barge Dock.
2. Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place. The chain is only required to prevent chafing of the mooring line on sharp or rough surfaces, like rip rap or concrete pilings with barnacles or shellfish. When sufficient towing bridles are not available, securing the boom through the chain tension member should prevent damage due to tensile loading.
3. Set mooring systems as described to hold configuration.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

DIAGRAM FRP 1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 4 – NASCC NW Barge Dock	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) work boats and one (1) jon boat	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shore attaching to on water or shoreline attachment points			**4A** - 900 feet **4B** – 400 feet **4C** – 400 feet **4D** – 400 feet		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more, as needed per section	Attached at the seaward anchor points along the configuration	☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Two (2) or more as needed to hold each configuration	25 to 40 pound anchors	☐
Vacuum Truck – to recover floating oil diverted to collection points			One (1), two-man team		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

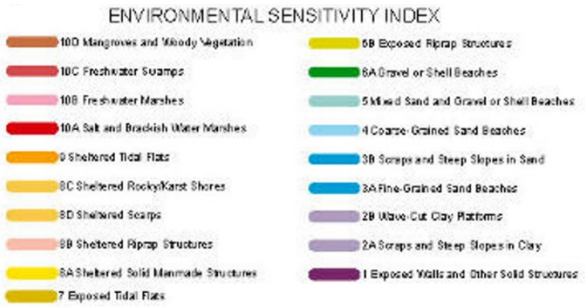
Site Conditions:	Where present, heavy riprap armoring along sea walls, piers, and pilings can interfere with placement of boom. To attach boom to shoreline using chain around pilings with shackle; attach boom. Once tested and refined, leave permanent chain anchor points in position for future use. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for position boom and setting anchors.
General Sensitivity:	This location is composed of extensive riprap and man-made bulkhead and pier structures. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge within the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.  
Potential Impacts:	Oiling of pier, bulkhead and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.

DIAGRAM FRP 1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 4 – NASCC NW Barge Dock**	

Operational Considerations:	Heavy riprap armoring along the pier, bulkheads, and other structures interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION -** difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION -** shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**4A - PRIMARY CONFIGURATION:** Two (2) shoreside mooring points consisting of ½ inch chain shackled around riprap to tie off the end of the boom through a towing bridle on shore; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring may be required to hold the **Diversion** configuration. Attach boom; seal with sorbents/sandbags to minimize leaks. **4B, 4C, 4D - SECONDARY CONFIGURATIONS (OPTIONAL):** Shoreside Bitter end—towing bridle secured to a chain shackled around riprap; ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup anchoring may be required to hold the **Diversion** configuration for configuration **C** and **D**. NOTE: It is highly recommended that a permanent tide risers be installed for connection points at the pier (assuming the pier face is solid); this will provide a better "seal" for the configuration and will minimize the quantity of boom required to deploy an effective configuration. As a substitute, heavy weights hung from cleats can be used in place of permanent tide risers as shore attachment points.
Water Attachment:	**4A - PRIMARY CONFIGURATION:** Two (2) 25 pound or one 40 pound anchor(s) with standard boom mooring systems may be required for the seaward end of the boom attachment point. Five (5) additional mooring systems, spaced evenly along the 100 foot intervals at connection points. **NOTE**: The total number of mooring systems identified in this configuration seems excessive and may be adjusted for the incident-specific conditions. **SECONDARY CONFIGURATIONS (OPTIONAL):** **4B:** Two (2) 25 pound or one (1) 40 pound anchor(s) with standard boom mooring systems will be required at the seaward end of the boom configuration; one (1) mooring system to secure the shoreward end of the configuration. Three (3) additional mooring systems, spaced evenly along the 100 foot intervals at the connection points to maintain the configuration will be required. **NOTE**: The total number of mooring systems identified in this configuration seems excessive and may be adjusted for the incident-specific conditions. **4C:** Two (2) 25 pound or one (1) 40 pound anchor(s)s with standard boom mooring systems may be required for the seaward end of the boom attachment point. Two (2) additional mooring systems spaced at the 100 foot intervals at connection points to maintain the configuration. The remaining 100 feet of boom is secured to the barge dock. **4D:** Two (2) 25 pound or one (1) 40 pound anchor(s) with standard boom mooring systems may be required for the shoreward end of the boom attachment point. Three (3) additional mooring systems, spaced at the 100 foot intervals at connection points to maintain the configuration. The remaining 300 feet of boom is secured to the westernmost seaplane area breakwater.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Jon boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; SeaArk will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. When the boat ramp at Paradise Cove Marina on base is completed, all boats can be launched from this location. **PRIMARY CONFIGURATION** **4A:** – 1 hour

DIAGRAM FRP 1.9.11

Strategy 4 – NASCC NW Barge Dock

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 4 – NASCC NW Barge Dock	

	SECONDARY CONFIGURATIONS (OPTIONAL): **4B:** 1.5 hours **4C:** 1.5 hours **4D:** 1.5 hours
Oil Recovery:	Vacuum truck positioned on pier with skimmer head inserted in the collection apex for all configurations. Using vacuum truck with skimmer head and or sorbents as required from collection pocket. **CAUTION** - Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) Date/Time	12. Approved By (Planning Section Chief): Date/Time

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DIAGRAM FRP 1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 5 – NASCC Stormwater Outfall H-1	

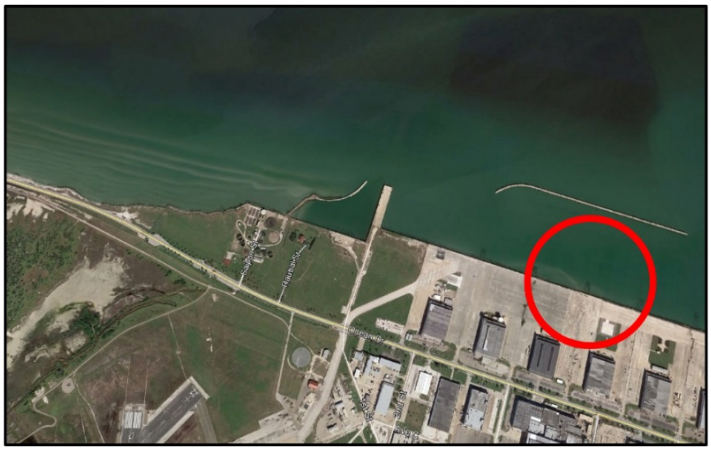
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

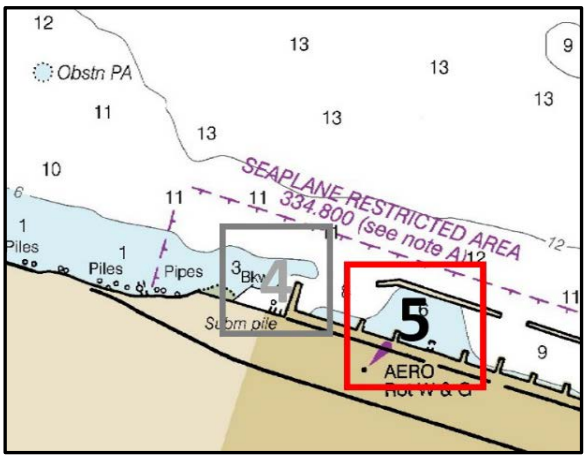
6. Assignments: **Image**

5A - PRIMARY CONFIGURATION: **Containment** booming to prevent further spread of oil beyond the stormwater outfall.

5B - SECONDARY CONFIGURATION (OPTIONAL): **Containment** booming with a continuous length of boom to completely encircle the primary configuration to further contain the oil, preventing its spread.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street discharged from Outfall H-1 (F-24; Preservation oil, Varsol, turbine oil).



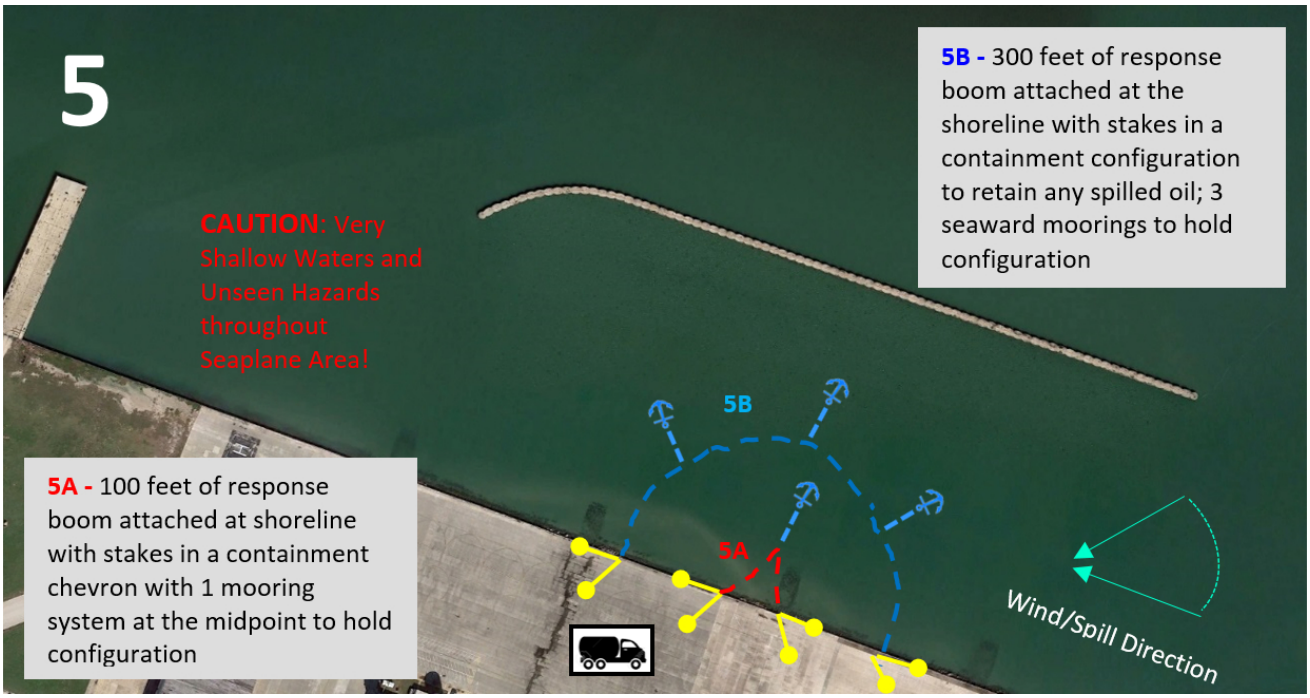


Aerial view looking south to the NAS Corpus Christi Stormwater Outfall H-1

DIAGRAM FRP 1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 5 – NASCC Stormwater Outfall H-1	



5A - PRIMARY CONFIGURATION: 100 feet of boom in a **Containment** configuration to prevent further spread of oil beyond the stormwater outfall H-1.

- Deploy boom from boom trailer pier side in vicinity of outfall.
- Tie off the boom and seal with sorbents and sandbags to prevent loss of oil from containment.
- Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place.
- Use vacuum truck to recovery any oil within containment; U-shaped on water recovery can also be used if recoverable quantities of oil remain in the seaplane area.

5B - SECONDARY CONFIGURATION (OPTIONAL): 300 feet of boom in a continuous length for a **Containment** configuration to completely encircle the primary configuration to further contain the oil and preventing its spread.

- Deploy boom from boom trailer pier side in vicinity of outfall.
- Tie off the boom and seal with sorbents and sandbags to prevent loss of oil from containment.
- Boom should be secured to chain anchor point through towing bridle or anchor point on bottom of boom to prevent boom damage once in place.
- Sorbent boom should be deployed between the primary and secondary boom configurations to passively recover any floating oil.
- Use vacuum truck to recover any oil within containment; U-shaped on water recovery can also be used if recoverable quantities of oil remain in the seaplane area.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

DIAGRAM FRP 1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			**5A** - 100 feet **5B** - 300 feet		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Eight (8) total; four (4) or more, as needed, per strategy		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			**5A** – one (1) system **5B** – three (3) or more systems	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐
Vacuum Truck with Skimming System – to recover floating oil within the configuration; all personnel must wear appropriate PFDs			One (1), two-man team		☐

8. Special Instructions for Division/Group:

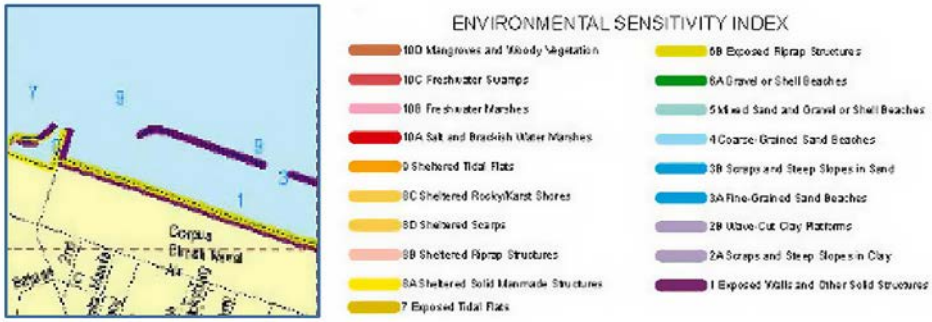
Site Conditions:	Heavy riprap armoring at base of sea wall interferes with placement of boom against the sea wall. Secure the boom and seal at shoreline with sorbents and sandbags **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of extensive riprap and man-made bulkhead and pier structures. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge escaping the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present. 
Potential Impacts:	Oiling of pier, bulkhead and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening. Any oil that escapes the **containment** configuration(s), could impact sensitive areas offsite. This configuration was developed to contain and recover surface oil close to the source to protect other sensitive areas to the East.

DIAGRAM FRP 1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

Operational Considerations:	Heavy riprap armoring along the roadway on either side of bridge interferes with placement of boom. Tie off the boom and seal at shoreline with sorbents and sandbags. Sufficient depth for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time.
Shore Attachments:	**5A - PRIMARY CONFIGURATION**: ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional backup stakes or alternate anchoring may be required to hold the **Containment** configuration. **5B - SECONDARY CONFIGURATION (OPTIONAL)**: ½ inch chain around riprap with shackle; seal with sorbents/sandbags to minimize leaks. Additional backup stakes or alternate anchoring may be required to hold the **Diversion** configuration. **NOTE:** It is highly recommended that permanent attachment points at or near the high tide water level (tide-risers, installed connection points on riprap) are highly recommended for this location as it would speed the boom deployment process. It would not be easy to install shore stakes in the concrete or amongst the riprap permanent tide risers.
Water Attachment:	**5A - PRIMARY CONFIGURATION**: One (1) or more standard boom mooring system will be attached at the seaward anchor points (may need more than one anchor to achieve) into the wind. Additional mooring systems, at intermediate boom anchor points may also be required depending on prevailing wind and current conditions. **5B - SECONDARY CONFIGURATION (OPTIONAL)**: Three (3) or more standard mooring systems attached at the seaward anchor points along the boom length. Additional mooring systems, at intermediate boom anchor points may also be required depending on prevailing wind and current conditions.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; Larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. Boats can also be deployed from the Paradise Cove Marina on base; all boats can be launched from this location (20+ minute transit time). **5A - PRIMARY CONFIGURATION**: 2.5 hours **5B - SECONDARY CONFIGURATION (OPTIONAL)**: 4 +hours
Oil Recovery:	If recoverable oil is present, on water recovery operations could be deployed using a Vacuum truck or U-shape skimming configuration for recoverable oil that has escaped containment. **CAUTION** - Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

DIAGRAM FRP 1.9.12

Strategy 5 – NASCC Stormwater Outfall H-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 5 – NASCC Stormwater Outfall H-1**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

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DIAGRAM FRP 1.9.13

Strategy 6 – NASCC Fishing Pier

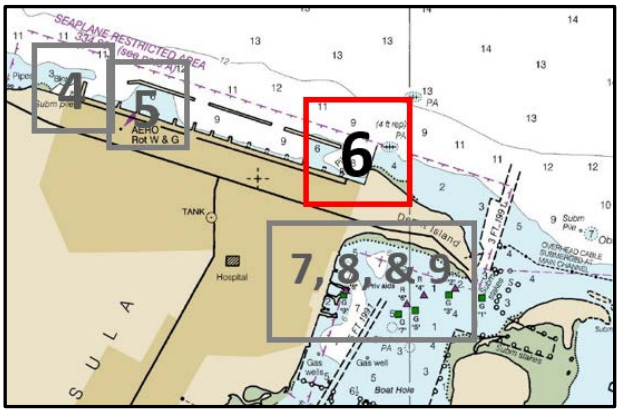
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 6 – NASCC Fishing Pier	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATION: Diversion configuration using vacuum truck with skimmer head for **Recovery**; appropriate with winds from the West.

Likely source of pollution is from the CCAD Fuel Farm on Fourth Street (F-24; preservation oil, Varsol, turbine oil) or other source traveling within the Seaplane area during a westerly wind.



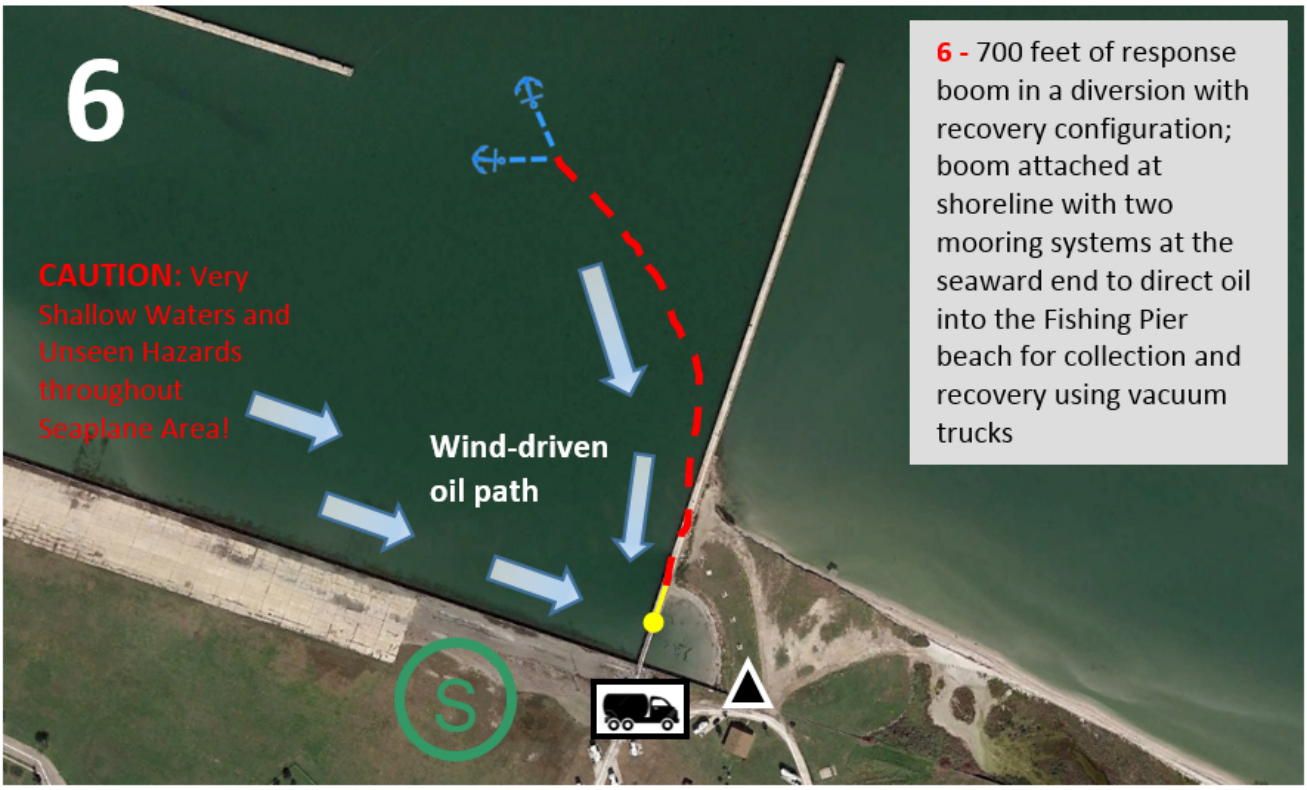
View of NAS Corpus Christi Fishing Pier strategy area

A – entrance to the fishing pier sensitive area, looking north; *B* – view of sensitive shoreline and opening to seaplane area, looking west

DIAGRAM FRP 1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 6 – NASCC Fishing Pier	



PRIMARY CONFIGURATION:

700 feet of boom in a **Diversion** configuration using a vacuum truck with skimmer head for oil **Recovery**.

- Deploy boom from boom trailer pier side in vicinity of fishing pier.
- Secure the shoreside end of the boom to a fishing pier piling that will result in diversion of oil moving east into the designated recovery area.
- Boom should NOT be secured to chain anchor point through towing bridle or anchor point on the bottom tension chain when the boom is floating – this will result in the boom losing its vertical orientation (it will lay over on the water). The chain prevents chafing of the mooring line on rough concrete, barnacles, etc.
- Position vacuum truck on fishing pier or adjacent to cove with skimmer head inserted in the downwind apex of the primary configuration. Evaluate options for removal and recovery using sorbents.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2) work boats	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			700 feet response boom		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at connection points			As needed		☐

DIAGRAM FRP 1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 6 – NASCC Fishing Pier	

Shoreline Attachment – to attach boom to shoreline using chain around pilings with shackle; attach boom Once tested and refined, leave permanent chain anchor points in position for future use	One (1) or more, as needed, per strategy	Seal with sorbents to minimize leaks at shoreline	☐
Mooring Systems – attach seaward to hold configuration; check water depth with fathometer and adjust recovery/anchor lines; scope minimum 5 to 1 on anchor lines	Two (2) or more systems, as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration on the Fishing Pier; all personnel must wear appropriate PFDs	One (1), two-man team	Arrive by truck	☐
Vacuum Truck with Skimming System – to recover floating oil within the configuration; all personnel must wear appropriate PFDs	One (1), two-man team		☐

8. Special Instructions for Division/Group:

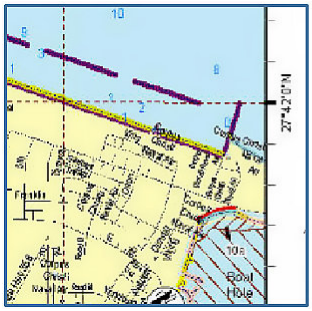
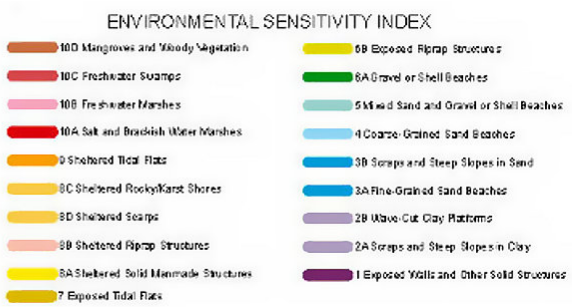
Site Conditions:	Concrete walls of the fishing pier sea wall may adversely impact the boom. Constant observation of boom condition and maintenance is required. Tie off the boom and seal with sorbents at connection points on shoreline.
General Sensitivity:	This location is composed of man-made bulkhead, pier structures and beach shoreline. It is an active military operations site. The sensitivity of the actual area is minimal due to the extensive industrialization of the area; however, any discharge escaping the basin could adversely affect many other sensitive areas within Corpus Christi Bay. Significant bird and dolphin populations are known to be present within the seaplane basin.  
Potential Impacts:	Oiling of pier, bulkhead, beach, and riprap. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening; oil on beach surfaces may lift and refloat with the changing tides. Any oil that escapes the **Diversion** configuration could impact sensitive areas offsite. Failure to divert, contain, and recover the oil here could result in impacts to sensitive areas elsewhere.
Operational Considerations:	Sufficient depth for small boat and platform booming operations. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp on base have a 20+ minute transit time. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	**PRIMARY CONFIGURATION**: ½ inch chain around pier piling with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. Additional attachments may be required to hold the **Diversion** configuration. **NOTE:** Permanent attachment points at or near the high tide water level (pre-installed connection points on pier pilings) are highly recommended for this location as it would speed the boom deployment process.
Water Attachment:	**PRIMARY CONFIGURATION**: Two (2) standard mooring systems attached at the seaward anchor point of the boom (may need more than two anchors to achieve) into the wind to hold the deflection angle.

DIAGRAM FRP 1.9.13

Strategy 6 – NASCC Fishing Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 6 – NASCC Fishing Pier	

Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. All boats can be launched from the Paradise Cove Marina on base (20+ minute transit time). **PRIMARY CONFIGURATION**: 60 minutes
Oil Recovery:	Vacuum truck position on pier with skimmer head inserted in the downwind apex of the Primary boom configuration. Recovery along shoreline can also be considered. Evaluate options for removal and recovery using sorbents.
Sorbent Boom:	If appropriate, use sorbents as required to seal boom at shoreline, passively recover surface oiling on water or along shorelines. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader)	Date/Time	12. Approved By (Planning Section Chief):	Date/Time

DIAGRAM FRP 1.9.14

Strategy 7 – NASCC ACOE Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 7 – NASCC ACOE Sensitive Area	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

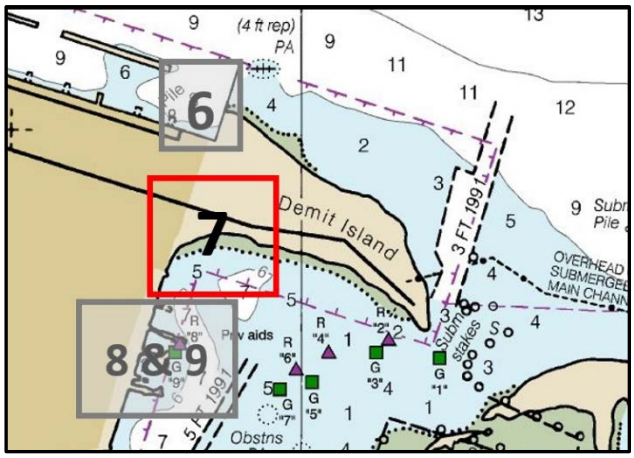
PRIMARY CONFIGURATION:

- **7A:** deploy up to 1,600 feet of response boom in an **Exclusion** configuration to keep oil out of this sensitive area.

SECONDARY CONFIGURATION (OPTIONAL):

- **7B**: evaluate site to determine if two (2) or more small sections of boom would be sufficient at high tide to exclude oil from this sensitive area in lieu of the full 1,600-foot deployment.

Likely source of pollution is from the Paradise Cove Marina.



View of NAS Corpus Christi Army Corps of Engineers Sensitive area

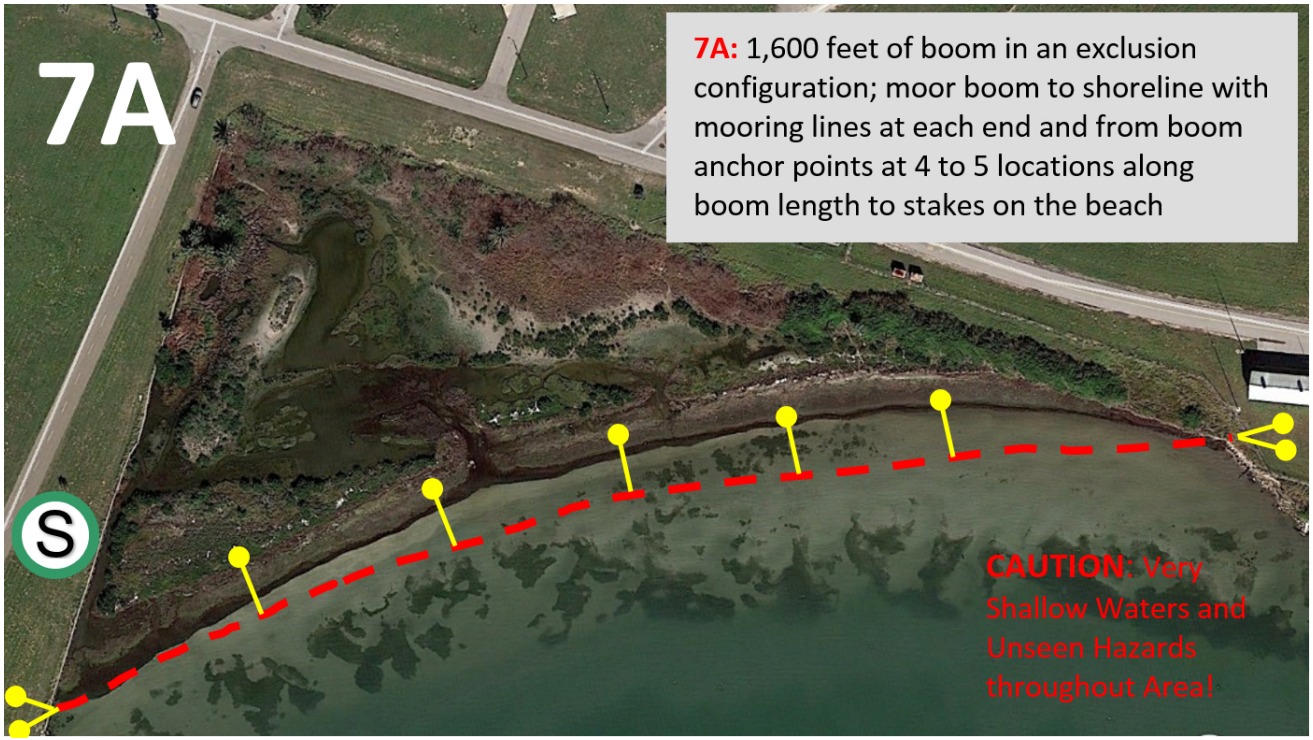
A – view of sensitive area from Wise Owl Lane, looking SSE towards Paradise Cove Marina;

B – aerial view of ACOE sensitive habitat

DIAGRAM FRP 1.9.14

Strategy 7 – NASCC ACOE Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 7 – NASCC ACOE Sensitive Area	



7A - PRIMARY CONFIGURATION:

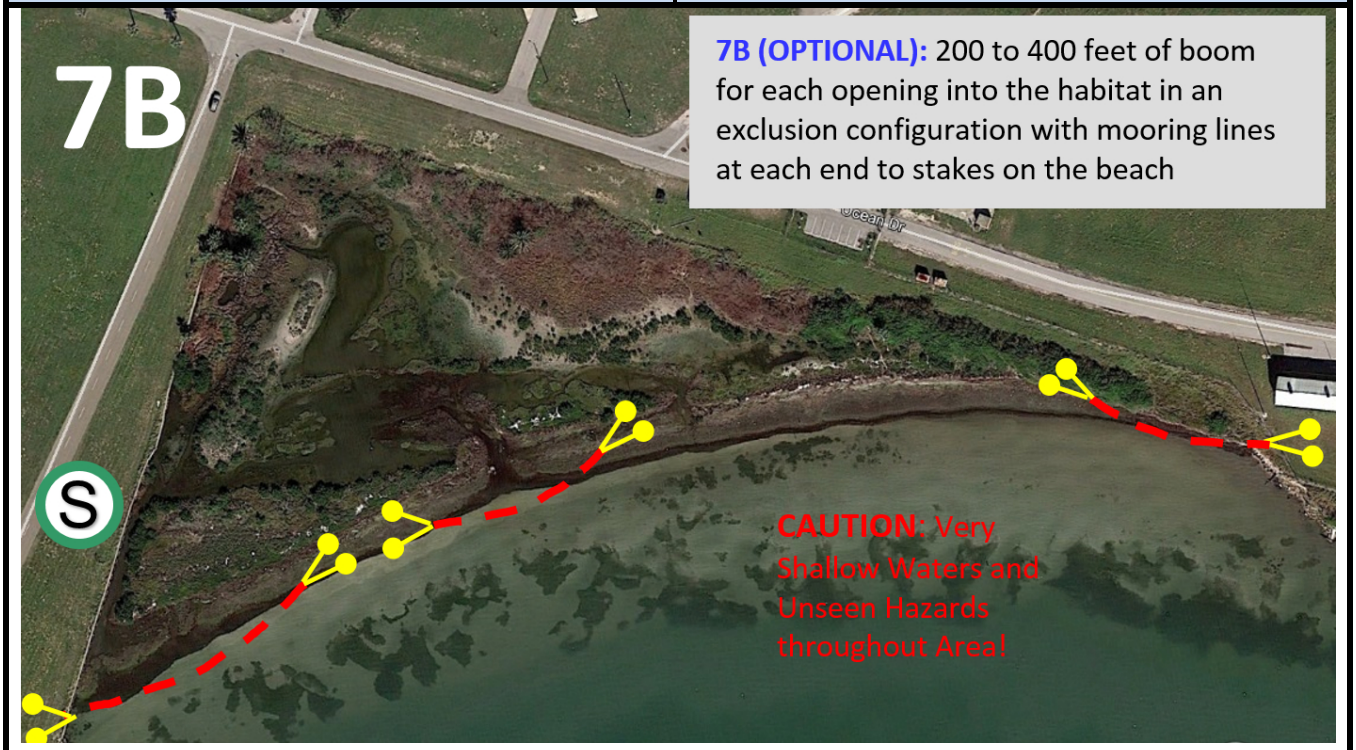
1,600 feet of response boom deployed in an **Exclusion** configuration to exclude the entire area from spilled oil on water from entering and impacting the ACOE sensitive area site.

- Deploy boom from boom trailer in the vicinity of the site from Wise Owl Lane or along Ocean Drive on Dimmick Island (access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) may be required due to shallow water conditions.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Use mooring lines to moor the boom in to the beach from boom anchor points at 4 to 5 locations along the configuration to prevent the boom from swinging outward due to wind or ebb tide or possibly getting hung up on bottom obstructions. Attach mooring lines to shore stakes on the beach.

DIAGRAM FRP 1.9.14

Strategy 7 – NASCC ACOE Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 7 – NASCC ACOE Sensitive Area	



7B - SECONDARY CONFIGURATION (OPTIONAL):

Two (2) or more (200- to 400-foot section) lengths of response boom, each with two (2) shore mooring points on each end to protect creek mouth entrances from oil entering this area at high tide.

- Deploy boom from boom trailer in the vicinity of the site from Wise Owl Lane or along Ocean Drive on Dimmick Island (access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) may be required due to shallow water conditions.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Set mooring systems as described to hold configuration.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; manual deployment (wading) may be required due to shallow water conditions	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shoreline mooring points			**7A:** 1,600 feet **7B:** 1 to 3 sections, each 200 to 400 feet in length		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐

DIAGRAM FRP 1.9.14

Strategy 7 – NASCC ACOE Sensitive Area

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**		**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 7 – NASCC ACOE Sensitive Area**		
Shore Stakes – to attach boom to shoreline; seal with sorbents to minimize leaks at shoreline	**7A:** Eight (8) or more, as needed **7B:** Two (2) to four (4) per section		☐
Shore Crew – to assist with setting configuration at the ACOE sensitive area site; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:	
Site Conditions:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. Water depth at low tide should be sufficient to float the boom with a vertical skirt; i.e., boom not aground. Tie off the boom and seal with sorbents at connection points on shoreline. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is lined with riprap and man-made bulkhead structures. It is located in an active military operations site. The sensitivity of the actual area is high as this location has been set aside and established by the ACOE. Any discharge from the marina has the potential to adversely affect this sensitive location with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	Oiling of wildlife, plants, and habitat throughout, as well as bulkhead and riprap along the exterior borders of the property. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.
Operational Considerations:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp on base have a 5+ minute transit time. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. **7A PRIMARY CONFIGURATION and 7B SECONDARY CONFIGURATION (OPTIONAL)**: Use mooring lines to anchor the boom in to the beach from boom anchor points at 4 to 5 locations along the configuration to prevent the boom from swinging outward due to wind or ebb tide or possibly getting hung up on bottom obstructions. Attach mooring lines to shore stakes on the beach.

DIAGRAM FRP 1.9.14

Strategy 7 – NASCC ACOE Sensitive Area

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 7 – NASCC ACOE Sensitive Area	

Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	All boats can be launched from the Paradise Cove Marina on base (5+ minute transit time). Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats will be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **7A - PRIMARY CONFIGURATION**: 2 hours **7b - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour per location
Oil Recovery:	Use a vacuum truck and skimmer head if possible, or at least sorbents, to remove any oil collected on the boom or the boom ends.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shoreline. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader)	Date/Time	12. Approved By (Planning Section Chief):	Date/Time

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DIAGRAM FRP 1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

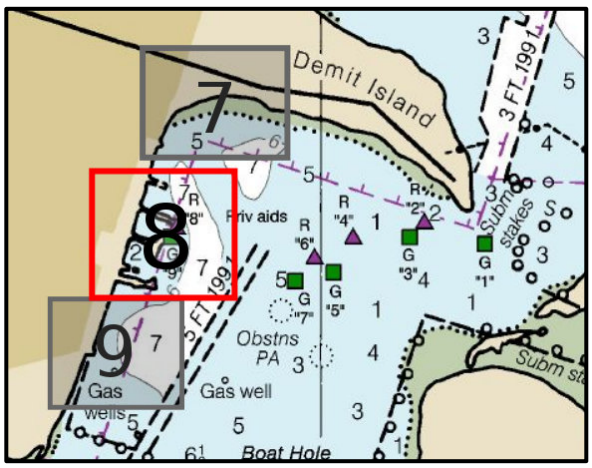
PRIMARY CONFIGURATION: Containment

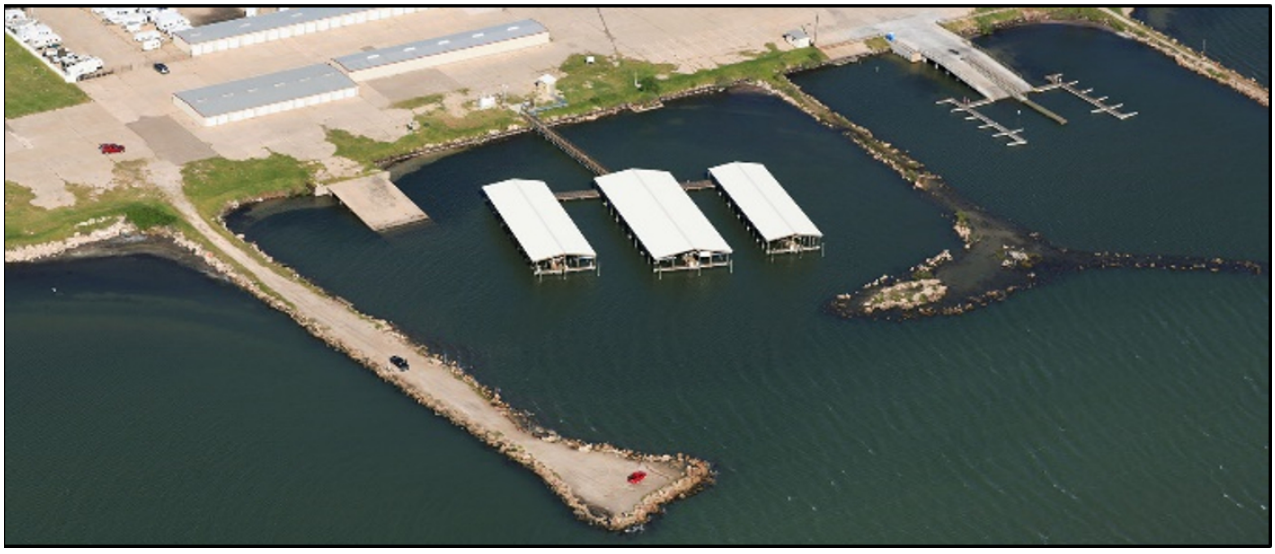
- **8A:** deploy 50 to 100 feet of 18-inch response boom in a **Containment** configuration to contain spilled oil at the fueling location at the marina; recovery with sorbent pads or boom. DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.

SECONDARY CONFIGURATION (OPTIONAL): Containment or Exclusion

- **8B**: To further isolate the affected marina section (or entire marina) to contain discharge and allow for evaporation. Can also be used as an **exclusion** configuration to prevent oil from outside the marina from penetrating its boundaries.

Likely source of pollution is from the Paradise Cove Marina. **NOTE**: Because most discharges will be gasoline from the fueling operations, all response operations should be under the direction of the F&ES.





Oblique aerial view of the Paradise Cove Marina

DIAGRAM FRP 1.9.15

Strategy 8 – NASCC Paradise Cove Marina

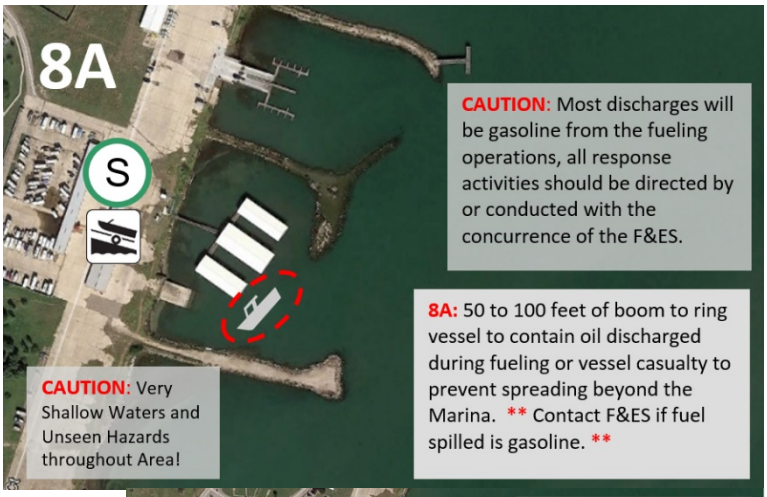
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

View of the Paradise Cove Marina from shore; gasoline refueling facility is in the right-most docking bay, bay-side

8A - PRIMARY CONFIGURATION:

50 to 100 feet of response boom deployed in a **Containment** configuration to prevent oil from fueling or from vessel casualty from spreading beyond the area.

- All response operations should be directed by F&ES.
- Secure the bitter ends of the boom to the shoreline using ½ inch chain around riprap or other permanent structure with shackle; attach boom.
- Seal with sorbents and/or sand bags at connection to minimize leaks.
- DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.



8B - SECONDARY CONFIGURATIONS (OPTIONAL):

500 or 1,000 foot lengths of response boom, with one shore mooring points (or more as needed) on each end to contain spilled oil within marina.

- Deploy boom from Marina.
- Secure the bitter ends of the boom to the shoreline as shown using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom.
- Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Set mooring systems as described to hold configuration.
- DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES.
- Can also be used as an **Exclusion** strategy to prevent oil from entering the Marina.

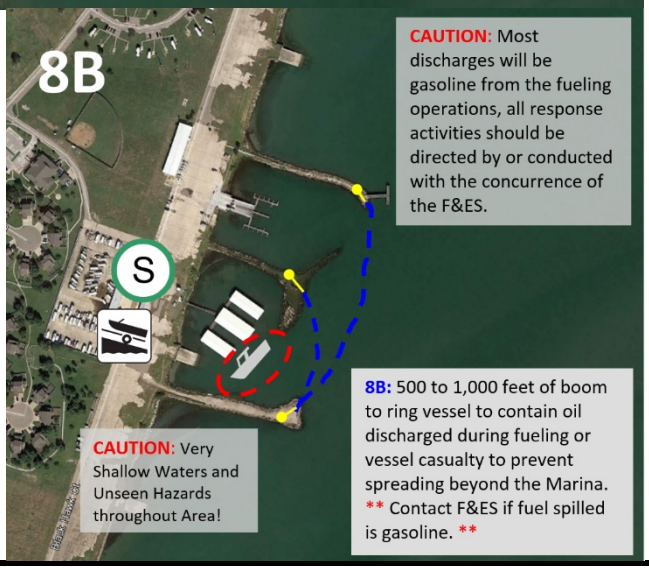


DIAGRAM FRP 1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 8 – NASCC Paradise Cove Marina	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; manual deployment	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles/line on bitter ends for shoreline mooring points			**8A:** 50 to 100 feet **8B:** 500 or 1,000 feet		☐
Sorbents, Sorbent Boom, and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks.			**8A:** none **8B:** 2 to 4		☐
Shore Crew – to assist with setting configuration at the Paradise Cove Marina; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

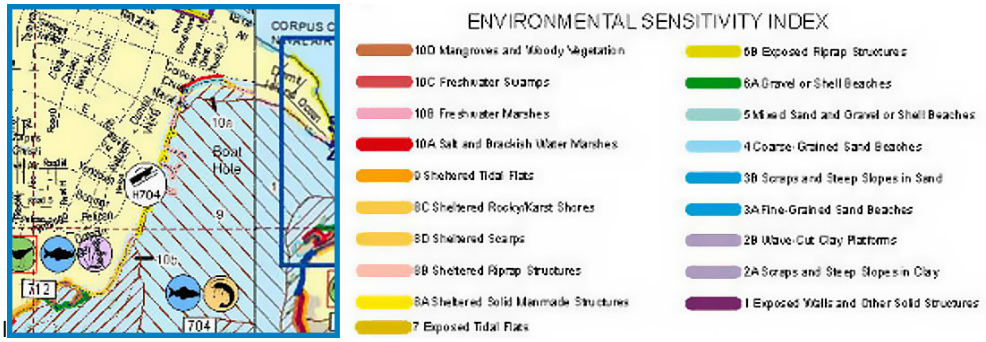
Site Conditions:	This location is a public marina. The existing area is lined with riprap and man-made bulkhead structures. It is located in an active military base. The sensitivity of the actual marina area is relatively low; the sensitivity of the surrounding area is high due to the extensive habitat and resources located in Laguna Madre. Any discharge from the marina fueling facility or from a small craft casualty has the potential to impact more sensitive areas in and around Laguna Madre. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is lined with riprap and man-made bulkhead structures. It is located in an active military operations site. The sensitivity of the actual area is high as this location has been set aside and established by the ACOE. Any discharge from the marina has the potential to adversely affect this sensitive location with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	There are significant health & safety concerns from a gasoline discharge. Environmental impacts are typically associated with the acute toxicity and volatility/flammability concerns for the product. Review the product Safety Data Sheet (SDS) and the United States (U.S.) Department of Transportation (DOT) Emergency Response Guide for more information (health & safety as well as response considerations) on gasoline responses. Significant bird and dolphin populations are known to be present in and around this area. Oiling of wildlife, plants, and habitat throughout, as well as bulkhead and riprap along the exterior borders of the property. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.

DIAGRAM FRP 1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 8 – NASCC Paradise Cove Marina	

Operational Considerations:	Laguna Madre is a VERY SHALLOW area; stay in marked channels – water depths of 6 inches or less are not uncommon at low tide in many areas. Manual deployment of boom at water's edge may be the best option. Tie off the boom and seal with sorbents and sandbags to prevent entrainment of oil behind the boom. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	All boats can be launched from the Paradise Cove Marina boat ramp. Boats can also be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; boats deployed from the boat ramp at JFK Causeway have a 20+ minute transit time.
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks. **8A** - Use mooring lines to anchor the boom in to the marina. Attach mooring lines to ½ inch chain around riprap with shackle.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	All boats can be launched from the Paradise Cove Marina on base. Shallow water boats can be deployed from small boat ramp at Ocean Drive at the Oso Bay Bridge; larger workboats can also be deployed from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **8A - PRIMARY CONFIGURATION**: 30 minutes **8B - SECONDARY CONFIGURATION (OPTIONAL):** 1 hour
Oil Recovery:	Allow natural evaporation under fire department direction/coordination due to volatility issues. **CAUTION** – Use of vacuum recovery or sorbents on discharged gasoline is NOT recommended due to flammability/volatility issues.
Sorbent Boom:	If appropriate, use sorbents as required. As required to seal boom at shoreline. Any oiled sorbent material will be manually removed and bagged for disposal.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent chain anchor points in position for future use.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

DIAGRAM FRP 1.9.15

Strategy 8 – NASCC Paradise Cove Marina

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 8 – NASCC Paradise Cove Marina**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**		

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DIAGRAM FRP 1.9.16

Strategy 9 (A9) – NASCC Southern Pier

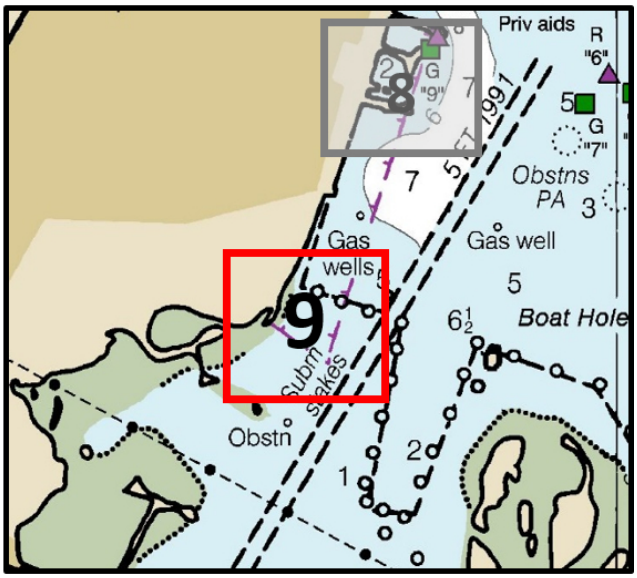
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATION: **Diversion** configuration with collection pocket at the south end of the seawall for **Recovery** by sorbent boom or allow to evaporate in place (secure all ignition sources); appropriate with winds from the North/Northeast

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the North/Northeast. **NOTE:** Because the most discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the F&ES.



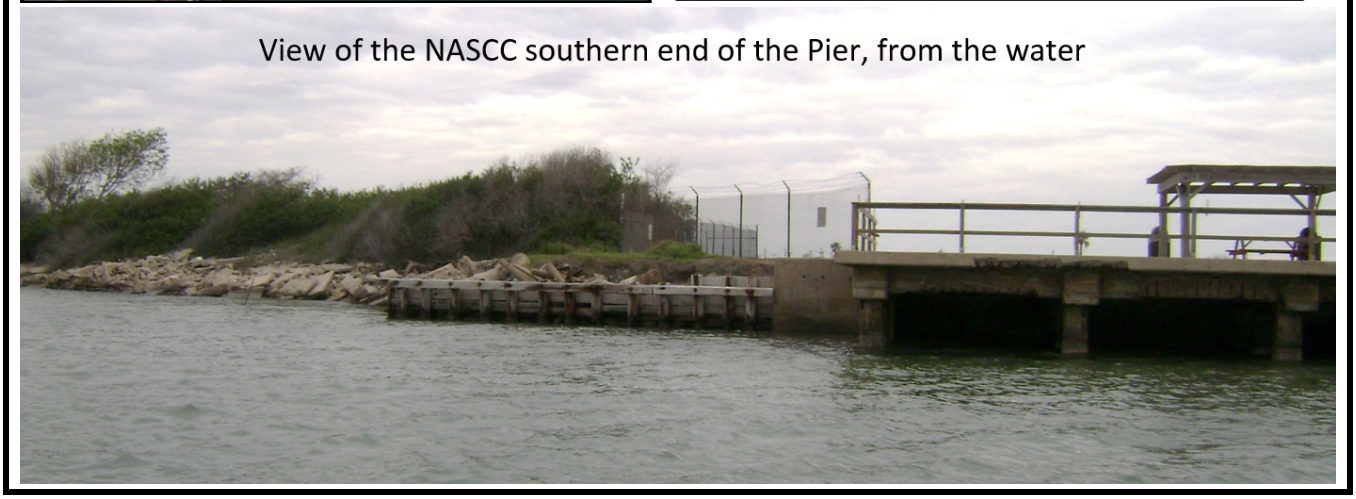


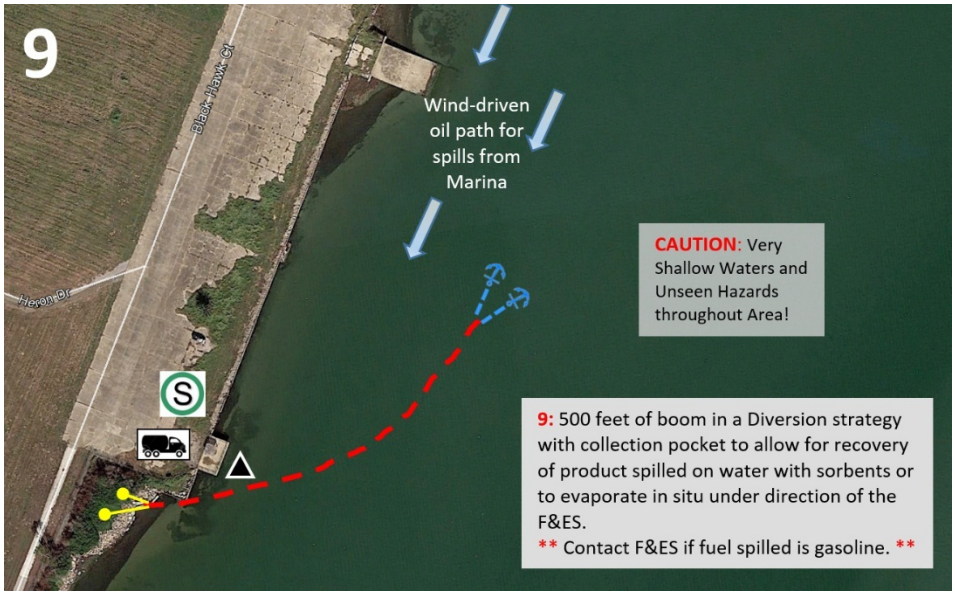
DIAGRAM FRP 1.9.16

Strategy 9 (A9) – NASCC Southern Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

PRIMARY CONFIGURATION:
Diversion with Recovery

500 feet of 18-inch boom in a **Diversionary** configuration to divert the floating oil into the partially shielded cove between the pier and seawall for **Recovery**.



4. Deploy boom from boom trailer from the Pier or tow boom to site from Paradise Cove Marina.
5. Secure the bitter ends of the boom to the shoreline using ½ inch chain around riprap shore stakes, or other permanent structure with shackle; attach boom.
6. Seal at shoreline with sorbents and/or sandbags at connection to minimize leaks.
7. Set mooring systems as described to hold configuration.
8. DO NOT RECOVER GASOLINE; allow to dissipate. Coordinate with F&ES. For diesel fuel or other heavier oils, recover with vacuum truck if recoverable quantities are present.

Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats w/tow posts, adequate hp	Three (3) crew per boat	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline anchor points			500 feet response boom		☐
Anchor Chain – to attach boom to riprap or pier pilings with shackle; secure boom; seal with sorbents/sandbags to minimize leaks at shoreline			As needed		☐
Sorbents and/or Sandbags – used to passively recover floating oil between strategies and prevent/minimize leaks at shoreline			As needed		☐
Mooring Systems – position seaward at intermediate anchor points. Check water depth with fathometer and adjust recovery/anchor lines			Two (2), 25 pound or one (1), 40 pound anchor(s)	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			One (1), two-man team		☐

8. Special Instructions for Division/Group:

Site Conditions:	The boom may be damaged by contact with the seawall, pilings, or rip rap. Constant observation of boom condition and maintenance is required. **CAUTION** - difficult footing on riprap; PFD and buddy system required.

DIAGRAM FRP 1.9.16

Strategy 9 (A9) – NASCC Southern Pier

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 9: (A9) – NASCC Southern Pier	

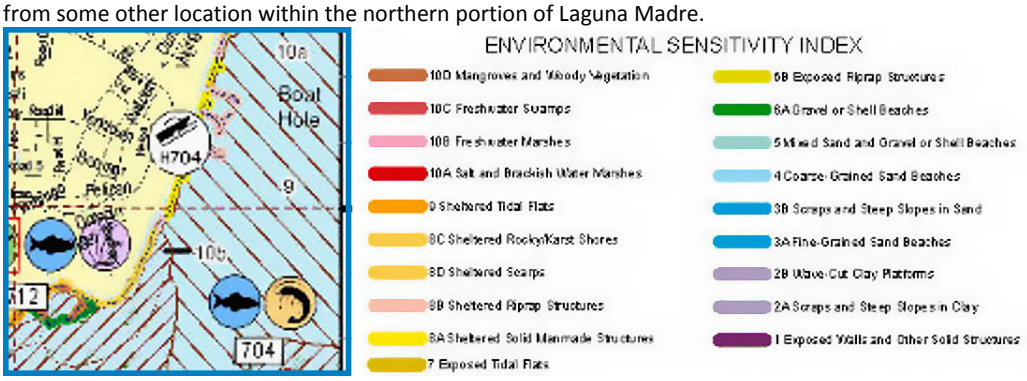
	CAUTION – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of man-made bulkhead and pier structures. The area directly to the south is armored by riprap. It is an active military operations site. The sensitivity of the actual area is high due to the extensive habitat and resources located in Laguna Madre. This configuration assumes that the winds are from the north/northeast following a release from the Marina or from some other location within the northern portion of Laguna Madre. 
Potential Impacts:	There are significant health & safety concerns from a gasoline discharge. Environmental impacts are typically associated with the acute toxicity and volatility/flammability concerns for the product. Review the product SDS and the U.S. DOT Emergency Response Guide for more information (health & safety as well as response considerations) on gasoline responses. Significant bird and dolphin populations are known to be present and may be impacted by spilled gasoline.
Operational Considerations:	The boom may be damaged by contact with the seawall, pilings, or rip rap. Constant observation of boom condition and maintenance is required. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	On location; Paradise Cove Marina can also provide staging area.
Shore Attachments:	**PRIMARY CONFIGURATION:** ½ inch chain around riprap or pier pilings with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where appropriate
Water Attachment:	**PRIMARY CONFIGURATION**: 1 to 2 standard mooring systems attached at the seaward anchor point of the boom (may need more than two anchors to achieve) into the wind to hold the deflection angle. **NOTE:** Permanent attachment points at or near the high tide water level (pre-installed connection points on pier pilings) are highly recommended for this location as it would speed the boom deployment process.
Boom Sources:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Boats can be deployed from the Paradise Cove Marina. Small boats can be deployed from the boat ramp at Ocean Drive and at the Oso Bay Bridge; or from the boat ramp at JFK Causeway Point C with a 20+ minute transit time. **PRIMARY CONFIGURATION**: 1 hour
Oil Recovery:	With Gasoline, allow natural evaporation under F&ES direction/coordination due to volatility issues. For diesel fuels or other persistent fuels, position Vacuum truck on pier with skimmer head inserted in the downwind apex of the Primary boom configuration. Evaluate options for removal and recovery using sorbents. **CAUTION** - Use of vacuum recovery or sorbents on discharged gasoline is NOT recommended due to flammability/volatility issues.
Sorbent Boom:	Use sorbents to seal boom at shorelines as required. Any oiled sorbent material will be manually removed and bagged for disposal.

DIAGRAM FRP 1.9.16

Strategy 9 (A9) – NASCC Southern Pier

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 9: (A9) – NASCC Southern Pier**	
Secondary Booming:	Not applicable.	
Other:	Once this system has been tested and refined, leave permanent anchor points in position for future use.	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM FRP 1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 10 – NASCC Stormwater Outfall R-1	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

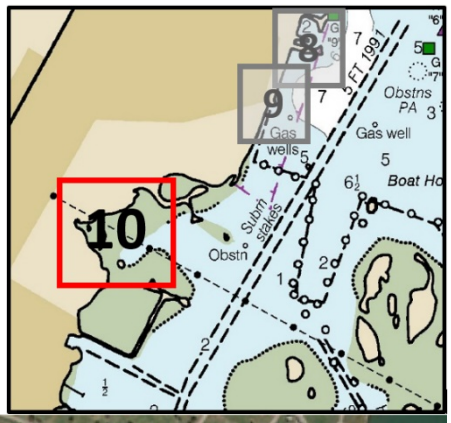
6. Assignments:

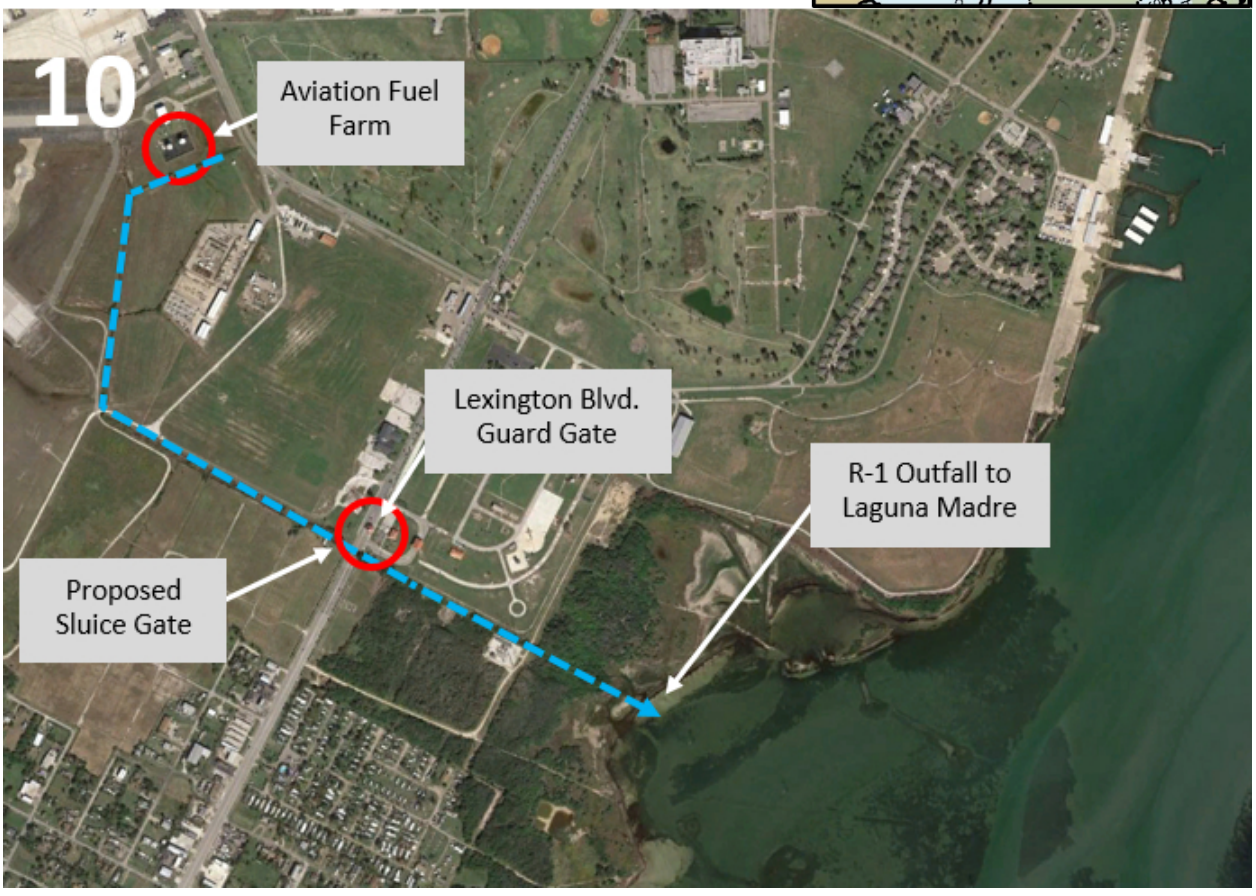
PRIMARY CONFIGURATION: Diversion with Recovery: This configuration is designed to contain any discharge/release BEFORE it reaches navigable waters. A sluice gate or gates should be installed along the drainage pathway from the Aviation Fuel Farm to stop the spread of oil downflow.

Most likely oil type encountering this drain field and outfall would be from a catastrophic loss of either one of the 272,000-gallon F-24 storage tanks (contractor operated) or from an accidental discharge on the flightline.

Access to the discharge site along the drainage pathway is through the Held Industrial Tract, a 77 acre undeveloped property owned and maintained by Nueces County. The pictures below identify the location for access to the site from land. Access from the water is **NOT** recommended as this area is very shallow and has unseen obstructions. Contact the Nueces County Coastal Parks (361-949-8121) for access.

Image



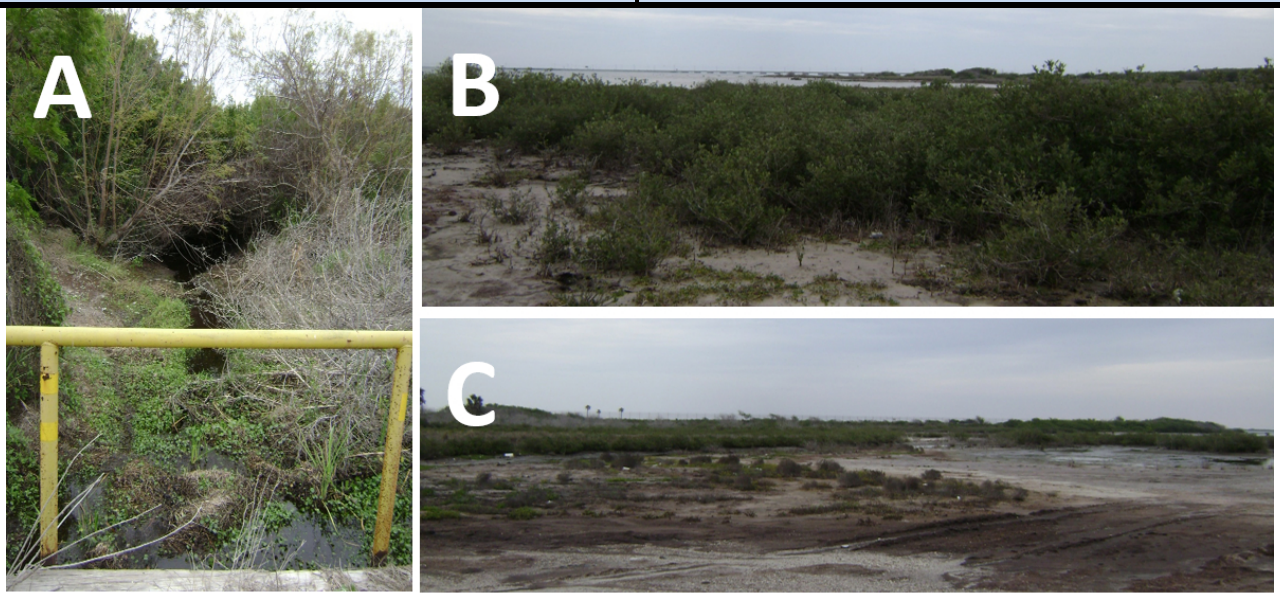


Likely spill path for a significant Aviation Fuel Farm tank loss.

DIAGRAM FRP 1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 10 – NASCC Stormwater Outfall R-1	

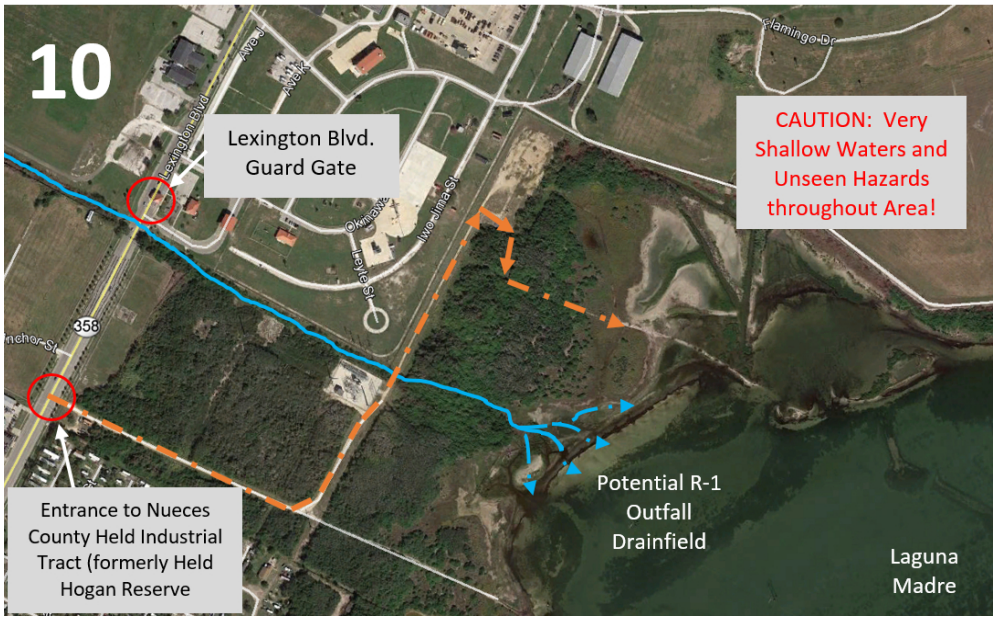


View of the NASCC R-1 Outfall Drainage; A – initial discharge site for Outfall R-1;
B – R-1 drainfield through the scrub, outfall path not visible, Laguna Madre in the distance;
C – R-1 drainfield into Laguna Madre

PRIMARY CONFIGURATION:

Stopping and containing the discharge BEFORE it reaches navigable water.

- The installation of a sluice gate along the drainage pathway (blue) or rapid blocking of the drainfield with earthen works is recommended.
- Sorbent boom anchored in place could be placed along the drainage field before the discharge reaches the outfall. Regular monitoring and replacement/disposal would be required.



- **Containment** and **recovery** operations once any oil reaches the riparian shrub/scrub drain field that empties directly into Laguna Madre will be difficult if not impracticable. Access from the water is NOT recommended as this area is very shallow and has unseen obstructions. Contact the Nueces County Coastal Parks (361-949-8121) for access.

DIAGRAM FRP 1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 10 – NASCC Stormwater Outfall R-1**	

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐
Sorbent Boom – placed along drainage field to passively recover spilled product			As needed	Stake in place	☐
Shore Stakes – to hold sorbent boom in place			As needed		☐

8. Special Instructions for Division/Group:

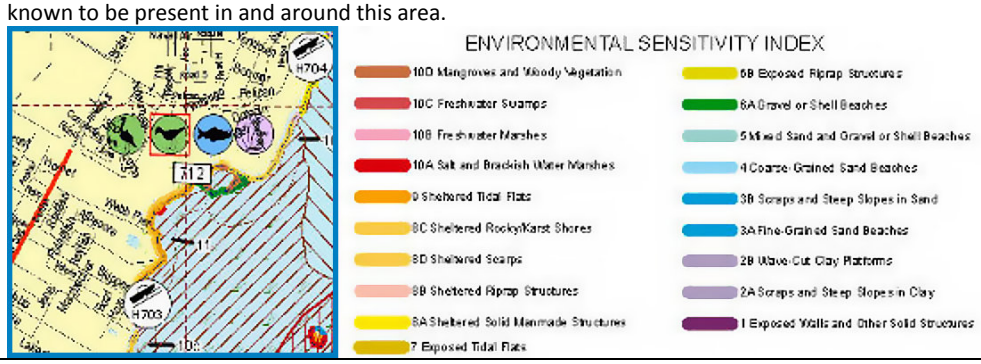
Site Conditions:	The drainage ditch that will allow flow from the Government-Owned/Contractor-Operated (GOCO) tank farm is a heavily overgrown freshwater riparian habitat that runs along the edge of large grassy field areas. The area is being monitored by Environmental as providing significant habitat to natural resources on base. Access to the drainage ditch is easily accomplished by truck or by foot. The coastal zone area of the drain field is a VERY SHALLOW wildlife habitat area.
General Sensitivity:	The area along this drainage pathway is composed of riparian habitat with freshwater plants and associated wildlife. The sensitivity of the actual area is high as this location has been set aside and established by the Nueces County. Any discharge from the GOCO tanks, flightline, or other discharge source that drains into this area has the potential to adversely affect this sensitive location. Significant bird and dolphin populations are known to be present in and around this area. 
Potential Impacts:	Oiling of riparian habitat, freshwater plants and animals along the expected drainage flow, and the natural habitat of the Nueces County Held-Industrial Tract. This area provides shelter and habitat for many animal species. Oiling of this area would likely have long-term impacts to the natural resource community associated with this habitat.
Operational Considerations:	This is a VERY SHALLOW wildlife habitat area. Limited access. Contact Nueces County Coastal Parks (361-949-8121) for access. Access from on water is not recommended. Limited foot traffic in area. **CAUTION** - difficult footing in areas; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present restrict operating small boats.
Staging Area:	Nueces Industrial Tract Parking undeveloped parking lot.
Shore Attachments:	Stakes in the ground to hold sorbent boom in place; on water strategies not applicable.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Within 5 minutes following notification for sluice gate closure (if installed) Less than 1 hour for manual earthmoving equipment.

DIAGRAM FRP 1.9.17

Strategy 10 – NASCC Stormwater Outfall R-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 10 – NASCC Stormwater Outfall R-1**	

Oil Recovery:	Vacuum truck positioned on near sluice gate with skimmer head inserted in the drainage ditch for product recovery.
Sorbent Boom:	Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Installation of a sluice gate (s) along the drainage ditch just west of the Guard gate on Lexington Blvd. A second sluice gate could be installed on the eastern side of Lexington Blvd within easy access by the gate guards. In the event that a sluice gate is not installed, use earthmoving equipment to transport sand/soil to block the drainage ditch ahead of the spill discharge. Pre-placement of sand/soil or pre-identification of a ready source of sand/soil for blocking the drainage ditch needs to be worked out in advance of an incident.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM FRP 1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – NASCC Stormwater Outfall W-1	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

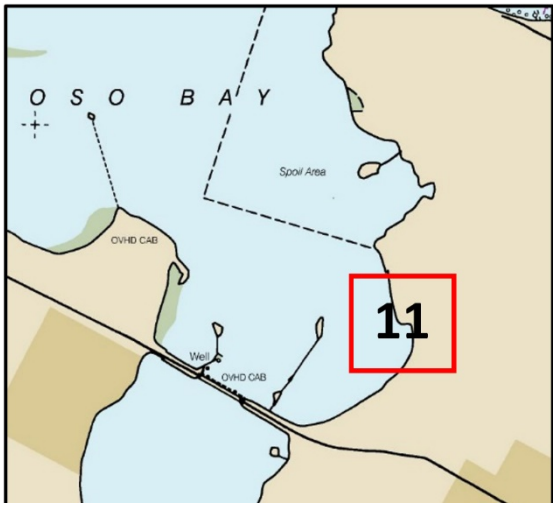
PRIMARY CONFIGURATION:

- **11A: Containment strategy:** deploy up to 100 feet of 18-inch boom to keep oil contained within the vicinity of this outfall and protect this sensitive area and OSO Bay from impacts.

SECONDARY CONFIGURATION (OPTIONAL):

- **11B:** Secondary strategy would be to block the drainage ditch using earthmoving equipment to dam drainage ditch with sand/dirt for removal/recovery with vacuum truck and skimmer head or sorbents. However, installation of a permanent sluice gate would prevent discharge from reaching Oso Bay (recommended construction).

Most likely oil type encountering this drainfield and outfall would be from a catastrophic loss of either one of the 272,000 F-24 storage tanks gravity flow via the stormwater drainage system (Contractor operated) or from an accidental discharge on the flightline.



View of the W-1 Outfall drain field, from the Flightline Boundary Road

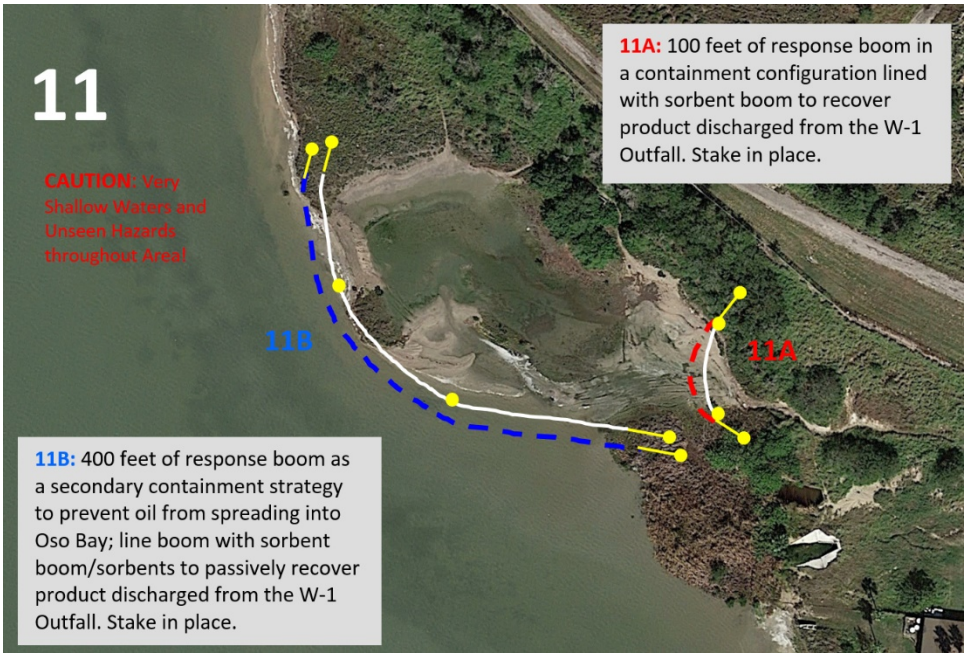
DIAGRAM FRP 1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – NASCC Stormwater Outfall W-1	

11A - PRIMARY CONFIGURATION:

100 feet of response boom lined with sorbent boom deployed in a **containment** configuration to prevent any oil discharged from the W-1 Outfall from leaving the base, entering this sensitive area and ultimately OSO Bay.



- Deploy boom adjacent to the W-1 Outfall (flightline/security access approval required).
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) will be required due to shallow water conditions. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Line area with sorbent boom; secure in place using shore stakes.

11B - SECONDARY CONFIGURATION (OPTIONAL):

- Deploy 400 feet of response boom from along the outer edge of the outfall drainage area. Tie off the boom and seal with sorbents and sandbags. Manual deployment (wading) may be required due to shallow water conditions.
- Secure the bitter ends of the boom to the shoreline using shore stakes or ½ inch chain around riprap or other permanent structure with shackle; attach boom. Manual deployment (wading) will be required due to shallow water conditions. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
- Line the containment area with sorbent boom; secure in place using shore stakes to maintain configuration.
- Due to site conditions, damage to boom may occur and must be monitored and adjusted/replaced as required. Sorbents and sorbent boom should be evaluated for replacement and disposal.

NOTE: An access gate needs to be installed in the fence along the flightline for entry to the site.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck with boom trailer	☐
Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points			11A: 100 feet 11B: 400 feet	Provided by Tier 1 OSRO	☐
Sorbents, Sorbent Boom – used to passively recover floating oil be and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			As needed to maintain configuration		☐

DIAGRAM FRP 1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 14 – NASCC Stormwater Outfall W-1**	

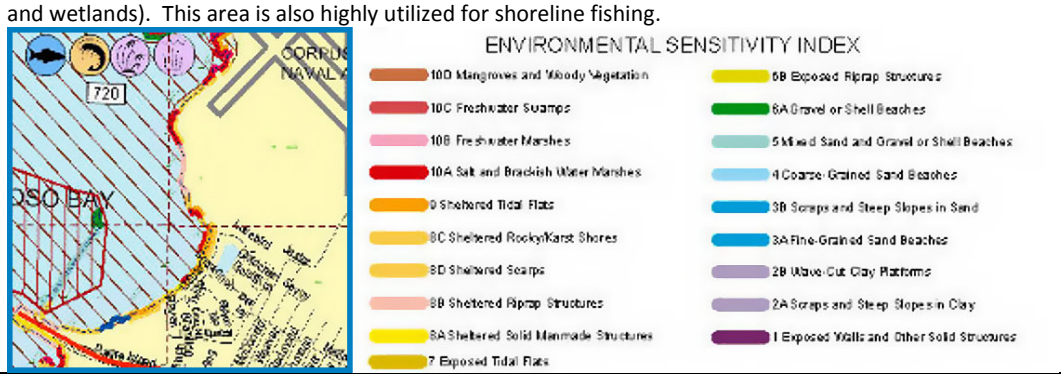
8. Special Instructions for Division/Group:	
Site Conditions:	This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. Water depth at low tide should be sufficient to float the boom with a vertical skirt; i.e., boom not aground. **CAUTION** - difficult footing on riprap; PFD and buddy system required. **CAUTION** – shallow water and submerged obstructions may present when setting boom or anchors.
General Sensitivity:	This location is adjacent to the flight line. This area is a sensitive habitat with sensitive habitat and man-made bulkhead structures, riprap and debris. It is located in an active military operations site. Oso Bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (nursery area, seagrass beds, and wetlands). This area is also highly utilized for shoreline fishing. 
Potential Impacts:	Oiling of wildlife, plants, and the shallow-water habitat in this area and beyond in Oso Bay. Exposed riprap covered in algal growth is present along the shoreline and presents a slip, trip and fall hazard to shoreline crews and vessels working nearshore. Oil penetrating riprap is very difficult to remove and can provided a long-term source of sheening.
Operational Considerations:	Access approval from Flightline/security required. This is a VERY SHALLOW wildlife habitat area. Manual deployment of boom just off the beach by personnel in waders may be the best option. **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Flightline Boundary road (with access and approval by flightline and security).
Shore Attachments:	Steel shore stakes or ½ inch chain around riprap or piling with shackle; attach boom; seal with sorbents/sandbags to minimize leaks.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom
Execution Time:	**11A:** 30 minutes **11B:** 1 hour
Oil Recovery:	Use a vacuum truck and skimmer head if possible, or at least sorbents, to remove any oil collected on the boom or the boom ends for Configurations 1 and 2.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to passively recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	Once this system has been tested and refined, leave permanent anchor points in position for future use. **NOTE**: Installation of a permanent access gate adjacent to the outfall is recommended.

DIAGRAM FRP 1.9.18

Strategy 11 – NASCC Stormwater Outfall W-1

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 14 – NASCC Stormwater Outfall W-1**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM FRP 1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 12: (A11) – Crane Islands	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

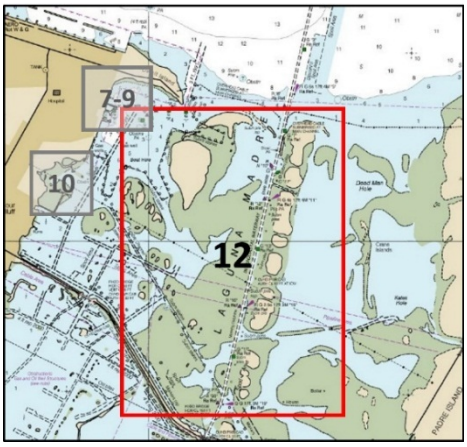
6. Assignments: **Image**

This strategy was provided to address the sensitive area designation (A11) by the South Texas Coastal Area Committee – Sector Corpus Christi 2014 Geographic Response Plan available from http://www.glo.texas.gov/ost/acp/corpus/oldsectorcorpuschristiacp.pdf.

PRIMARY CONFIGURATION: Exclusion with passive recovery

Sorbent boom used to encircle island and prevent further spread of oil from impacting these shallow water sensitive area habitats in the northern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the North/Northeast. **NOTE:** Because the most likely discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the F&ES.



Views of the Crane Islands and spoil areas within Laguna Madre; this area is marked with extreme shallow waters, seagrass beds, emergent grasses and shurb scrub that provides necessary habitat for fish and wildlife.

DIAGRAM FRP 1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 12: (A11) – Crane Islands	

PRIMARY CONFIGURATION:

Likely source of pollution will be a gasoline discharge from a fueling or vessel casualty associated with the Paradise Cove Marina. Consult with F&ES if significant gasoline discharge occurs.

6. Shallow draft boats transport boom and shore crews to location.
7. Shore crews, using lengths of sorbent boom to encircle islands to prevent spilled product from impacting these shorelines; stake in place to hold configuration.
8. Seal with sorbents and/or sand bags at shoreline to minimize leaks.
9. Continue with encircling staking the area for areas considered at risk from the discharge.

10. Regular boom tending will be required to ensure that the sorbent boom is not broken loose or is pushed inland on the island, resulting in additional damage to the habitat; any oiled sorbent material will be manually removed and bagged for disposal.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for sorbent boom and mooring system deployment			Shallow draft boats as needed	Three (3) crew per boat	☐
Sorbent Boom			As needed		☐
Shore Stakes – to attach boom to shoreline shore stakes pounded into the ground; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more as needed per sorbent boom section used		☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams per site	Must be transported to site	☐

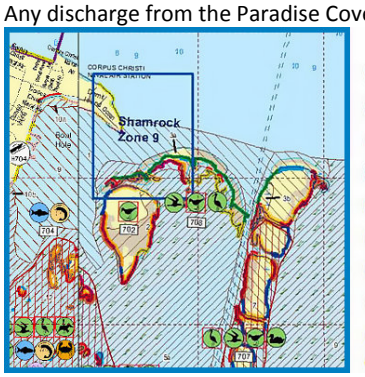
8. Special Instructions for Division/Group:

Site Conditions:	This location is located in upper Laguna Madre adjacent to an active military operations site. The entire bay is an extensive, extremely shallow water area habitat with designated traffic channels and submerged obstructions throughout the area outside of the established vessel travel pathways. Any discharge from the marina has the potential to adversely affect these locations. Significant bird and dolphin populations are known to be present in and around this area. Residential and recreational boat traffic is also high since the Intracoastal Waterway runs right through these habitats. **CAUTION** – shallow water and submerged obstructions present when operating small boats or when installing/positioning sorbent boom. **NOTE:** Consultation and coordination with state and Federal Fish &

DIAGRAM FRP 1.9.19

Strategy 12 (A11) – Crane Islands

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 12: (A11) – Crane Islands	

	Wildlife agency personnel will be required to determine the sensitivity and likely impacts to the habitat and the wildlife utilizing these shallow islands.
General Sensitivity:	The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Any discharge from the marina has the potential to adversely affect these sensitive locations with the typical southeasterly winds for this area. Significant bird and dolphin populations are known to be present in and around this area. Residential and recreational boat traffic is also significant since the Intracoastal Waterway run right through these habitats. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. Significant seagrass beds throughout the area. A significant portion of the world population (75%) of redhead ducks overwinters in Laguna Madre. Any response operations will likely affect regular boat travel. **NOTE:** Consultation and coordination with state and Federal Fish & Wildlife agency personnel will be required to determine the sensitivity and likely impacts to the habitat and the wildlife utilizing these shallow islands. This consultation is critical if threatened or endangered species are known to inhabit these areas. **Exclusionary** booming may not be allowed depending on season and life stages present for resources at risk.
Operational Considerations:	Extreme shallow waters and submerged obstructions are found throughout the area. Tidal heights at low tide can vary of ½ inch to several feet in depth; often transitioning depths within several feet. The average depth of the lagoon is 3 feet with many areas having an average 6- to 18-inch depth.
Staging Area:	NASCC Paradise Cove Marina
Shore Attachments:	**PRIMARY CONFIGURATION**: Anchor the sorbent boom with shore stakes to protect the shoreline and resources at risk from oiling. **NOTE:** Regular boom tending will be required to ensure that the sorbent boom is not broken loose or is pushed inland on the island, resulting in additional damage to the habitat. **NOTE:** Coordinate with state and Federal Fish & Wildlife personnel on best management practices for placement and removal of the sorbent boom.
Water Attachment:	Not applicable.
Boom Source:	Tier 1 OSRO Contractor to deploy boom.
Execution Time:	Dependent on the number of sites to be protected and the length of sorbent boom to be installed.
Oil Recovery:	Not applicable. If recoverable oil is present, on water recovery operations could be deployed using a U-shape skimming configuration. **CAUTION -** Be aware of water depths at all time; shallow water throughout area.
Sorbent Boom:	Sorbents are expensive to procure and dispose of; make storage and waste disposal arrangements in advance. Coordinate with state and Federal Fish & Wildlife personnel best management practices for placement and removal of the sorbent boom.
Secondary Booming:	Not applicable.
Other:	None.

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Strategy 12 (A11) – Crane Islands

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST ICS 204-OS Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 12: (A11) – Crane Islands**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**: Date/Time**

ASSIGNMENT LIST **JUNE 2017** **ICS 204-OS**

DIAGRAM FRP 1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

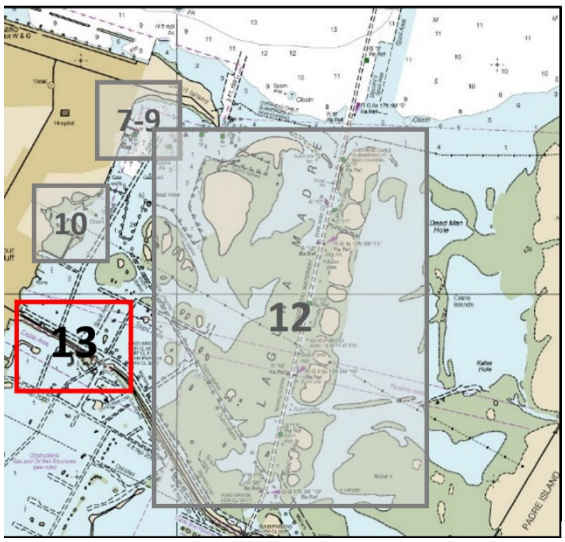
1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATIONS: **Exclusionary** boom established along the J.F. Kennedy Causeway bridge pilings to prevent any spilled oil from entering the southern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the north/northeast. **NOTE**: Because the most discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the responding fire department. **NOTE**: Permission from USCG required before initiating strategy.



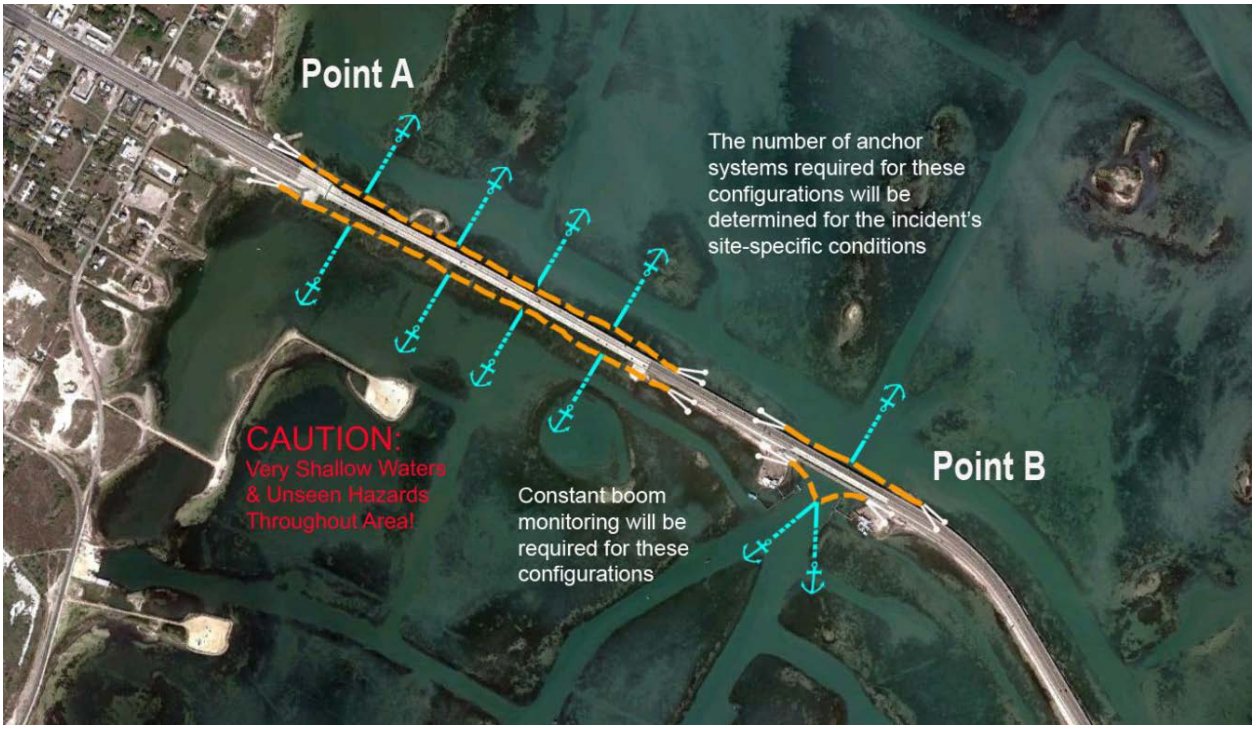
Photos of the JFK Bridge (*left*) – Looking west towards Point A - North; (*right*) looking across inlet at Point B – south side

DIAGRAM FRP 1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

PRIMARY CONFIGURATION: **Exclusion**



- Have first boat deploy boom from boom trailer from the eastern side of the bridge. [**NOTE**: for safety reasons, all boom deployment may be best served by deploying boom from the pier facilities accessible on the south side of the causeway bridge at **Point B**.]
- **Point A** (**north of bridge**) - Have first boat pull boom off trailer and proceed to western anchor point where the boom is secured to the shoreline. Repeat for **Point A south** and **Point B** (**north side**) side of bridge.
- **Point A** (**north and south**) and **Point B** (**north side**) Second boat secures mooring system to the mid-point anchor point and hold until the eastern side of boom is secured to shoreline by shore crew. For the **Point B** (**south side**) configuration, ***the apex of the chevron needs to be pointed directly into the direction the oil is moving due to wind and/or currents***; if the wind or current shift, the anchor point must be changed to appropriately change the chevron's direction.
- Second boat then stretch out boom and deploy mooring the 3 to 5 additional mid-point mooring system(s) to complete the configurations (north and south of the bridge).
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.

NOTE: constant boom maintenance will be required to ensure an effective configuration. Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required. **NOTE**: USCG permission will be required BEFORE initiating strategies.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats; possible to complete with only one (1)	Three (3) crew per boat	☐

DIAGRAM FRP 1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)**	

Response Boom - 18-inch height with tow bridles and line on bitter ends for shoreline mooring points	**A, North** –3,200 feet **A, South** –3,200 feet **B, North** – 1,300 feet **B, South** – 1,000 feet		☐
Sorbent Boom – or sandbags used to passively recover floating oil and prevent/minimize leaks at shoreline	As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline	8 total; 4 or more, as needed, per strategy		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines	**A - North** –4 to 6 systems **A - South** –4 to 6 systems **B – North** –1 or more system **B – South** –2 or more systems	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs	Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

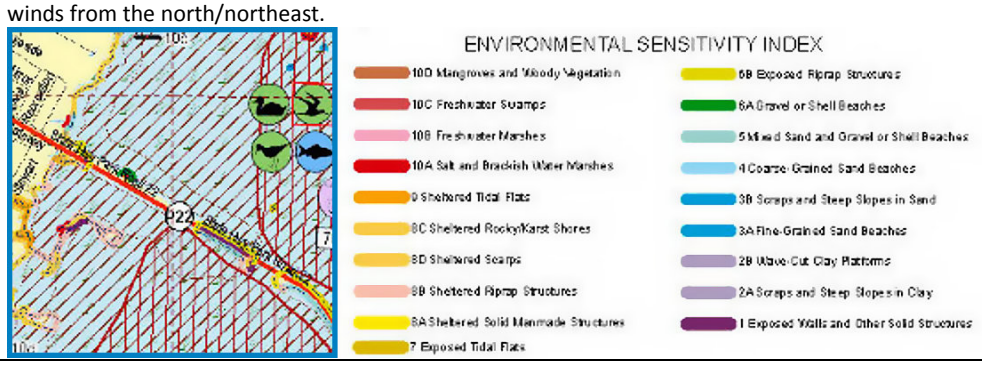
Site Conditions:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. **CAUTION** – difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along the J.F. Kennedy Causeway. The bridge separates the northern Laguna Madre Bay from the Southern Laguna Madre Bay. The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Residential and recreational boat traffic is significant. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area with winds from the north/northeast. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. Coordination with the USCG will be required if the Point B configurations are deployed as this will exclude regular boat travel along this path.
Operational Considerations:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags. USCG permission will be required BEFORE initiating strategies.

DIAGRAM FRP 1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	**4. Division/Group:** Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)	

	CAUTION – difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Paradise Cove Marina or marina at point B on J.F. Kennedy Causeway bridge.
Shore Attachments:	Two (2) or more shoreside stakes as anchor points at each end of the boom length. Additional shoreside attachment points may be required. They would consist of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where the boom leaves the water.
Water Attachment:	**Point A - North:** 4 to 6 mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point A - South:** 4 to 6 mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point B – North:** 1 or more anchor point(s) mooring systems attached at the seaward anchor points along the length to hold the configuration. **Point B – South:** 2 or more anchor point(s) forming the apex of the chevron configuration. More than one mooring system (25 to 40 pound) may be required at the apex.
Boom Source:	Provided by Tier 1 OSRO contractor
Execution Time:	**PRIMARY CONFIGURATION – Point A – North side:** 2 hours **PRIMARY CONFIGURATION – Point A – South side:** 2 hours **PRIMARY CONFIGURATION – Point B – North side:** 1 hour **PRIMARY CONFIGURATION – Point B – South side:** 2.5 hours
Oil Recovery:	Using vacuum truck with skimmer head and/or sorbents as required.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

DIAGRAM FRP 1.9.20

Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 13 – South Padre Island Drive (JFK Causeway Point A & B)**	
10. Communications (radio and/or phone contact numbers needed for this assignment): Name/Function Radio: Freq./System/Channel Phone		
Emergency Communications: Medical _____ Evacuation _____ Other _____		
11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**	
ASSIGNMENT LIST	**JUNE 2017**	**ICS 204-OS**

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DIAGRAM FRP 1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

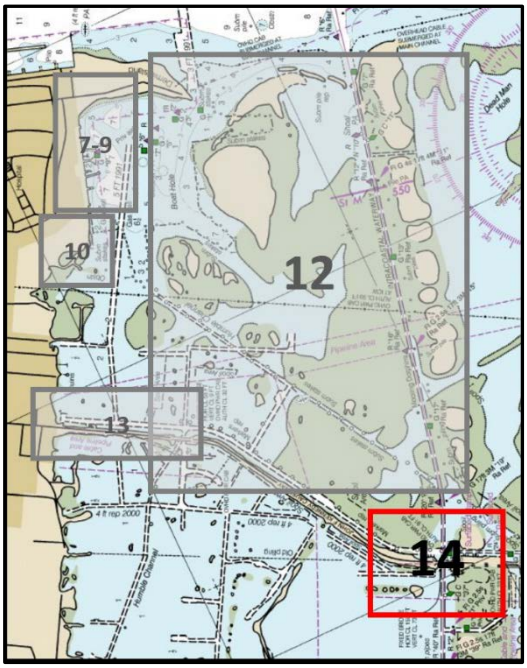
5. Operations Personnel:	Name	Affiliation	Contact #
Operations Section Chief:			
Branch Director:			
Division/Group Supervisor:			

6. Assignments: **Image**

PRIMARY CONFIGURATIONS: **Exclusionary** boom with **Recovery** System established along the J.F. Kennedy Causeway bridge at the Intracoastal Waterway to prevent any spilled oil from entering the southern portions of Laguna Madre.

Likely source of pollution is from the Paradise Cove Marina or other source within Laguna Madre area with winds from the north/northeast. **NOTE**: Because the most discharge will be gasoline, all response activities should be directed by or conducted with the concurrence of the responding fire department.

CAUTION - Deployment of this boom configuration in high current will be difficult and requires highly skilled and experienced crew. **NOTE:** USCG Approval required BEFORE strategy initiation.



View of (*left*) the JFK Causeway at Point C, looking west from access road;
(*right*) view of Point C looking east towards South Padre Island.

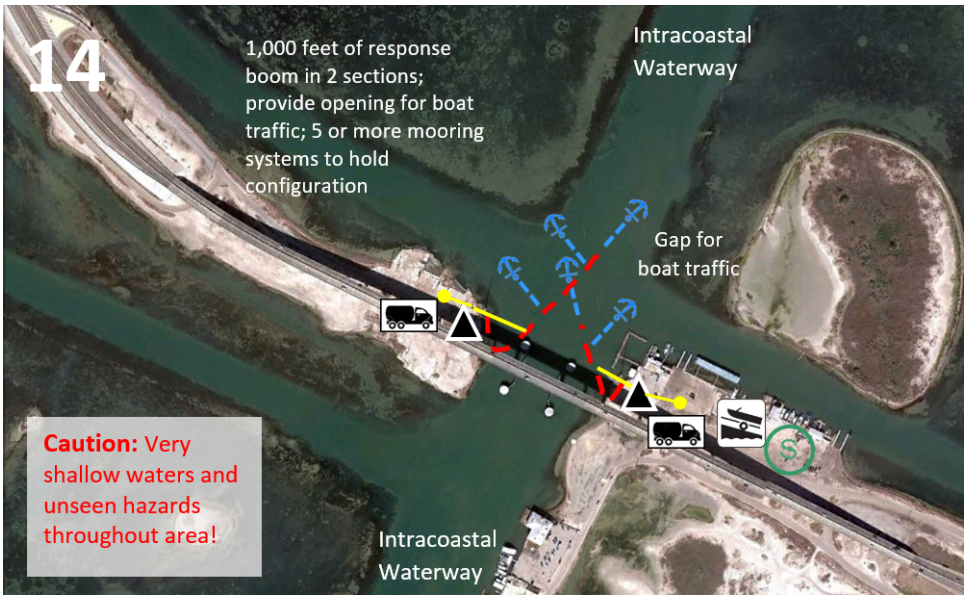
DIAGRAM FRP 1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

PRIMARY CONFIGURATION:

Exclusion with Recovery



- Have first boat deploy all 1,000 feet of boom from boom trailer from the eastern side of the bridge. Secure boom leg to shore and deploy boom by backing down.
- Proceed to opposite shoreline at bridge and have shore crew secure boom with shore stakes. The
- Break at 400-foot end connector and anchor in place; wait until the eastern side of boom is secured to shoreline by shore crew. ***This configuration needs to allow for boat traffic at the intracoastal waterway; the 400-foot leg should be on the eastern side of the configuration and 600-foot leg should be on the western end and should extend beyond the opposite side.***
- Second boat then stretch out boom the remaining 600 feet and deploy 3 to 5 additional mid-point mooring system(s) to complete the configuration.
- Tie off the boom and seal as best possible with sorbents and sandbags along shoreline.

NOTE: constant boom maintenance will be required to ensure an effective configuration. Due to site conditions – damage to boom is to be expected and must be monitored and replaced as required. **NOTE:** USCG permission is required BEFORE initiating strategy.

7. Resources Assigned This Period: "X" indicates 204a attachment with special instructions

Strike Team/Task Force/ Resource Identifier	Leader	Contact Info #	#	Notes/Remarks	
Utility Boats – for boom and mooring system deployment			Two (2), shallow draft boats	Three (3) crew per boat	☐
Response Boom – 18 to 24-inch height with tow bridles and line on bitter ends for shoreline mooring points			1,000 feet in two sections, 400 and 600 foot legs		☐
Sorbent Boom – used to passively recover floating oil and prevent/minimize leaks at shoreline			As needed		☐
Shore Stakes – to attach boom to shoreline using chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks at shoreline			Two (2) or more as needed		☐
Mooring Systems – attach seaward to hold configuration. Check water depth with fathometer and adjust recovery/anchor lines; scope minimum 3 to 1 on anchor lines			Five (5) or more as needed	25 to 40 pound anchors	☐
Shore Crew – to assist with setting configuration establishment; all personnel must wear appropriate PFDs			Two (2), two-man teams	Arrive by truck	☐

8. Special Instructions for Division/Group:

Site Conditions:	Heavy riprap armoring along the causeway on either side of bridge interferes with placement of boom. Tie off the boom and seal as best we can with sorbents and sandbags.

DIAGRAM FRP 1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	2. Operational Period (Date/Time): From: To:	ASSIGNMENT LIST ICS 204-OS Page ____
3. Branch: OPERATIONS – Shoreline Protection Branch	4. Division/Group: Strategy 14 – South Padre Island Drive (JFK Causeway Point C)	

	CAUTION - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
General Sensitivity:	This location is composed of an elevated bridge with piling structure associated with concrete and riprap armoring along the J.F. Kennedy Causeway at the Intracoastal Waterway. The bridge separates the northern Laguna Madre from the Southern Laguna Madre Bay. The entire bay is an extensive shallow water sensitive area habitat. It is ranked as having a High sensitivity rating for environmental resources (shorebirds, wading birds, fish) and as aquatic habitat (extensive nursery area, seagrass beds, and wetlands). Boat traffic is significant. Any discharge from the Paradise Cove Marina or other vessel casualty could adversely affect this area with winds from the north/northeast. 
Potential Impacts:	Wildlife, habitat, and recreational fishing. **NOTE:** Coordination with the USCG will be required if the Point C configuration is deployed as this will restrict/exclude regular boat travel along this path.
Operational Considerations:	Boat traffic is significant. Intracoastal waterway; USCG permission required BEFORE initiating strategy. Significant current along the intracoastal waterway. ***This configuration needs to allow for boat traffic at the intracoastal waterway; the 400-foot leg should be on the eastern side of the configuration and 600-foot leg should be on the western end and should extend beyond the opposite side.*** **CAUTION** - difficult footing on riprap; PFD and other PPE (foul weather gear, cold weather clothing, Level D, etc.) and buddy system required. **CAUTION** – shallow water and submerged obstructions present when operating small boats for positioning boom and setting anchors.
Staging Area:	Paradise Cove Marina or northern boat landing area at the South Padre Island Drive (JFK Causeway Point C) configuration.
Shore Attachments:	Two (2) or more shoreside stakes as anchor points at each end of the boom length. Additional shoreside attachment points may be required. They would consist of chain shackled around riprap to tie off one end of the boom through a towing bridle on shore; ½ inch chain around riprap with shackle; attach boom; seal with sorbents/sandbags to minimize leaks where the boom leaves the water.
Water Attachment:	Develop inverted V with a 400- and a 600-foot leg. Two (2) 25 pound anchors or one (1) 40 pound anchor at water end and two (2) 25 pound systems on outboard side.
Boom Source:	Provided by Tier 1 OSRO contractor.
Execution Time:	**PRIMARY CONFIGURATION:** 2 hours.
Oil Recovery:	Using vacuum truck with skimmer head to recovery oil at collection points; use sorbents as required.
Sorbent Boom:	Use sorbents as required to seal boom at shorelines and to recover contained oil. Any oiled sorbent material will be manually removed and bagged for disposal. Sorbents are expensive to procure and dispose of and should serve as a backup to vacuum truck with skimmer head or other primary recovery system whenever possible.
Secondary Booming:	Not applicable.
Other:	None.

DIAGRAM FRP 1.9.21

Strategy 14 – South Padre Island Drive (JFK Causeway Point C)

1. Incident Name:	**2. Operational Period (Date/Time):** **From:** **To:**	**ASSIGNMENT LIST** **ICS 204-OS** **Page ____**
3. Branch: **OPERATIONS – Shoreline Protection Branch**	**4. Division/Group:** **Strategy 14 – South Padre Island Drive (JFK Causeway Point C)**	

9. Incident Safety and Operational Considerations

1. **Maintain buddy system:**
   a. Watch yourself, buddy, others
   b. Report hazards or potential hazards to supervisor
   c. Never work alone – on or off a boat
2. **Maintain situational awareness**
3. **PFDs:**
   a. When on boats, transferring between boats, transferring between dock & boat, on pier if handling lines, boom, etc. – or if there's chance to fall into water
   b. Occupational Safety and Health Administration (OSHA) – w/in 10' of water >3' deep
4. **Communications:**
   a. Radio on each vessel or shore party
   b. Radio check prior to underway
   c. Use cell phone as back-up (Communications Plan should list all cell phone numbers)
5. **Handling lines:**
   a. No rings, watches, jewelry, loose clothing
   b. Wearing gloves is highly discouraged; when environmental conditions dictate, wear leather palm work gloves or gloves made of synthetic materials that fit snuggly to reduce the possibility of becoming fouled and have no loose appendage
   c. Hand over hand - don't let line slide through hands
   d. Lines under load:
      - Round turn then figure 8 on cleats & tow posts - no soft eyes or locking turns that can't be released under load
      - All stop & surge line on cleat/post to release tension prior to casting off
      - If handling line under load – stand at right angles, 6' away (or as far as possible)
      - If not handling line - stand clear & not in line with potential snap-back
   e. Carry a sharp knife
   f. Know basic knots - bowline, square, half-hitch, clove hitch, etc. – at least a bowline
   g. Keep lines out of screw - crew / line handler responsibility
6. **Small Boat Ops**
   a. Qualified coxswains & crew – line handlers, etc.
   b. Boat checks and ensure safety and other equipage on board prior to underway
   c. Coxswains don't change speed or direction without notifying crew
   d. Crew – stay seated inside the boat or hold on with one hand whenever possible
   e. At least 2 in a boat – or more as required - never operate a boat alone
   f. Don't anchor by the stern – or tow a boat by the stern (swamping over the transom)

10. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Radio: Freq./System/Channel	Phone

Emergency Communications:

Medical _____ Evacuation _____ Other _____

11. Prepared By: (Resources Unit Leader) **Date/Time**	**12. Approved By** (Planning Section Chief)**:** **Date/Time**

1.10 Security

Emergency Cut-off Locations

The Aviation Fuel Farm, NEX Gas Station, MWR Marina, and CCAD Fuel Farm are all equipped with automatic shut-off mechanisms that are integrated into alarm system. The automatic shut-off mechanism relies on automatic tank gauging to determine when liquid levels inside the ASTs reach specific levels. When the liquid level reaches a pre-determined amount (i.e., 90 to 95 percent capacity), an alarm sounds and the system automatically shuts down fuel flow into/from the ASTs. A concurrent alarm sounds within the monitoring system (e.g., FMD is used to monitor all ASTs managed by NAVSUP/DLA-E. The automatic gauging and shut-off system is maintained by DLA-E under the Centrally Managed Program and receives required maintenance and inspection. Refer to the NASCC SPCC Plan for more details. In addition to automatic shut-offs, there are several emergency cut-off buttons throughout the locations listed above. If these emergency cut-offs are pressed, power to the systems is disconnected and all operations cease.

Military refueler trucks use an automatic system known as the Scully Intellitrol System that offers layered spill prevention. The system is equipped with a dead-man switch and internal sensors to automatically shut off the flow of fuel. The dead-man switch must be held and squeezed for fuel to flow. In an emergency, fuel flow stops once the operator releases the dead-man switch. The Scully System's internal sensors operate separately from the dead-man switch and will shut off fuel flow in the event of a system fault or if the high level on the refueler truck detects fuel moisture. If the operator was unable to release the handle, the high-level sensor would still prevent overfill of the refueler truck's tank. The system is maintained by the vehicle maintenance personnel and receives an operational inspection check every time the refueler truck is filled.

The emergency cut-off procedures in place for refueler truck fueling are the following:

- Release trigger on nozzle
- Close valve on refueler truck
- Disengage pump
- Close valve handle "T" on refueler truck

Enclosures

NASCC controls access using two main security gate. Entrances require personnel to show government-issued identification before entry. Visitors without official identification are required to obtain and display "guest" passes. The main security gate is guarded by Naval Security personnel 24 hours a day, 7 days per week.

Fencing surrounds the entire Air Station and additional fencing is provided for areas that require additional security (such as the Aviation Fuel Farm, Refueler Parking Area, GOV Gas Station, and CCAD Fuel Farm. The boundary is monitored regularly by the military and civilian police and the general public is restricted from entering the Air Station. Bulk storage and transfer areas remain locked while unattended. Gates that provide entry into the high-hazard areas are locked at all times.

Guards and their Duties, Day and Night

Multiple levels of site security are provided within the Air Station itself. NASCC is regularly patrolled by military and civilian security forces, including 24-hour patrols conducted by Naval Security. The Air Station may call upon local law enforcement, if needed. Entrances to the Air Station are either locked or manned by security personnel. A security watch monitors and controls access to the Air Station at its entrances at all times when the gate is open. Additionally, there is downscaled roving watch during night hours.

In the event that an OSRO is required, pre-coordination would need to occur between Public Works and Naval Security. This most likely would occur in the EOC. Naval Security would allow OSRO personnel aboard the Air Station and vet personnel while they are responding to the discharge. All outside first responders would be escorted by Navy personnel.

Lighting

Various types of security lighting are provided throughout NASCC. Sufficient lighting is provided at all primary (that is, high-risk and large capacity) fuel loading and unloading areas and oil storage structures to identify a release at night, should one occur. Exterior site lighting consists of elevated and high-level mount, high-intensity discharge security lighting that is automatically operated during all periods of darkness. The lighting provides enough light for visual observation of valves, piping, tanks, and general storage areas. Adequate security lighting is provided throughout the Air Station. Sufficient lighting is also provided at all tank truck loading areas and all primary oil storage facilities to identify a release, should one occur.

Valve and Pump Locks

All pipeline drain valves are locked in the “closed” position unless they are in use. Header control valves are locked when not in use. Storage tank valves are locked in the “closed” position when not in use. Fuel Farm piping manifolds are located within the gated compound, and unauthorized personnel are not allowed access unless escorted by a staff member. Valves at the tanker truck loading rack are also locked in the “closed” position when not in use. Air Station fuel supply officers and personnel responsible for storing and handling fuel provide security by performing required inspections and locking valves and transfer equipment.

Pipeline Connection Caps

All oil pipeline loading and unloading connections are securely capped or blank-flanged when not in service or on standby service. Designated personnel who observe fuel loading and unloading activities verify that these connections are properly capped following each loading and unloading event. Transfer hoses are capped and properly stored when not being used.

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SECTION 2

2.0 Response Plan Cover Sheet

General Information	
Owner/Operator of Facility	U.S. Navy
Facility Name	Naval Air Station Corpus Christi
Facility Address	11001 D Street, Suite 143
	Corpus Christi, Texas 78419
Facility Phone No.	(361) 961-2332 (DSN: 861)
Latitude	27° 42' 30" N
Longitude	97° 17' 30" W
Dun & Bradstreet Number	N/A
North American Industrial Classification System Code	928110 (National Security)
Largest Aboveground Oil Storage Tank Capacity (gallons)	272,000
Number of Aboveground Oil Storage Tanks	59
Maximum Oil Storage Capacity (gallons)	630,458
Worst Case Oil Discharge Amount (gallons)	272,000
Facility Distance to Navigable Water	☒ 0 – ¼ mile ☐ ¼ - ½ mile ☐ ½ - 1 mile ☐ >1 mile

Applicability of Substantial Harm Criteria	
Does the facility transfer oil over-water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?	
☒ Yes	☐ No
Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and, within any storage area, does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?	
☐ Yes	☒ No
Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	
☐ Yes	☒ No
Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?	
☐ Yes	☒ No
Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?	
☐ Yes	☒ No

Certification	
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.	
Signature	
Name CAPT Philip M. Brock	
Title Commanding Officer, Naval Air Station Corpus Christi	
Date 17 JAN 18	

SECTION 3

3.0 Acronyms and Definitions

Acronyms

ACOE	Army Corps of Engineers
ACP	Area Contingency Plan
AST	aboveground storage tank
AVGAS	aviation gasoline
bbl	barrel
bbls/day	barrels per day
BOA	Basic Ordering Agreement
CCAD	Corpus Christi Army Depot
CDO	Command Duty Officer
CFR	Code of Federal Regulations
CHRIS	Chemical Hazards Response Information System
CNRSE	Commander, Navy Region Southeast
CO	Commanding Officer
DLA	Defense Logistics Agency
DLA-E	Defense Logistics Agency – Energy
DLADS	DLA Disposition Services
DOT	Department of Transportation
DPRP	Discharge Prevention and Response Plan
DSN	Defense Switched Network
ELMR	Enterprise Land Mobile Radio
EOC	Emergency Operations Center
EPA	United States Environmental Protection Agency
ERAP	Emergency Response Action Plan
ERMA	Environmental Response Management Application
ESI	Environmental Sensitivity Index
F&ES	Fire and Emergency Services
FD	Fire Department
FIC	Facility Incident Commander
FMD	Fuels Manager Defense
FOSC-R	Navy Federal On-Scene Coordinator Program Manager
FRP	Facility Response Plan
FRT	Facility Response Team
ft^2	square foot
gal	gallon
GOCO	Government-Owned/Contractor-Operated
GOV	government-owned vehicle
gpd	gallon per day
gpm	gallon per minute
HazMat	hazardous material
HAZWOPER	hazardous waste operations and emergency response
IAP	Initial Assessment Plan
IC	Incident Commander

ICP	Incident Command Post
ICS	Incident Command System
IEPD	Installation Environmental Program Director
IMRO	Installation Mission Readiness Officer
IMT	Incident Management Team
INRMP	Integrated Natural Resources Management Plan
IO	Information Officer
LEPC	Local Emergency Planning Committee
LO	Liaison Officer
LSC	Logistics Section Chief
MOGAS	motor gasoline
MTR	marine-transportation-related
MWR	Morale, Welfare, and Recreation
N/A	not applicable
NASCC	Naval Air Station Corpus Christi
NAVFAC-SE	Naval Facilities Engineering Command Southeast
NAVSUP	Navy Supply Command
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEX	Navy Exchange
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
NRDA	Natural Resource Damage Assessment
NRDAR	Natural Resource Damage Assessment and Restoration
NTR	non-transportation-related
OPNAV	Navy Operations Manual
OPS	Operations Section Chief
OSHA	Occupational Safety and Health Administration
OSR	Oil Spill Response
OSRO	Oil Spill Response Organization
OWS	oil-water separator
PAO	Public Affairs Office
PFD	personal flotation device
PHMSA	Pipeline and Hazardous Materials Safety Administration
PPE	personal protective equipment
POL	petroleum, oil, and lubricant
PREP	National Preparedness for Response Exercise Program
PREP4C	PREP Compliance, Coordination, and Consistency Committee
PWD	Public Works Department
PWO	Public Works Officer
QI	Qualified Individual
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
ROC	Regional Operations Center
SCP	Subarea Contingency Plan
SDS	Safety Data Sheet
SERC	State Emergency Response Commission

SI	surface impoundment
SO	Safety Officer
SOP	standard operating procedure
SOSC	Site On-Scene Coordinator
SPCC	Spill Prevention, Control, and Countermeasure
SUPSALV	United States Navy Supervisor of Salvage and Diving
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TGLO	Texas General Land Office
TPWD	Texas Parks and Wildlife Department
TSDF	Temporary Storage and Disposal Facility
UC	Unified Command
UCS	Unified Command Structure
ULSD	ultra-low-sulfur diesel
UNK	unknown
U.S.	United States
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
WCD	worst case discharge
WWTP	wastewater treatment plant
XO	Executive Officer

Definitions

This is a list of definitions associated with oil and hazardous substance response. Many are not used in this plan, but may be of use to responders.

Adverse Weather: The weather conditions that make it difficult for response equipment and personnel to cleanup or remove spilled oil.

These weather conditions will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height, ice conditions, temperatures, weather-related visibility, and currents within the USCG COTP Zone in which the systems or equipment are intended to function.

The weather conditions considered by the operator in identifying the response systems and equipment to be deployed in accordance with a response plan, including wave height, ice, temperature, visibility, and currents within the inland or Coastal Response Zone (as defined in the NCP [40 CFR 300]) in which those systems or equipment are intended to function.

Animal fat: A non-petroleum oil, fat, or grease derived from animals, and not specifically identified elsewhere in this FRP.

Alteration: Any work on a tank or related equipment involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of a tank.

Average most-probable discharge: means a discharge of the lesser of 50 bbls or 1 percent of the volume of the WCD.

Branch: The organizational level having functional/geographic responsibility for major segments of the incident operations. The branch level is organizationally between the section and division/group.

Breakout Tank: A tank used to:

- relieve surges in an oil pipeline system, or
- receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Captain of the Port (COTP) Zone: A zone specified in 33 CFR Part 3 and, where applicable, the seaward extension of that zone to the outer boundary of the Exclusive Economic Zone.

Coastal Zone: All U.S. waters subject to the tide, U.S. waters of the Great Lakes and Lake Champlain, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrate groundwaters, and ambient air proximal to those waters. (The term "coastal zone" delineates an area of federal responsibility for response action. Precise boundaries are determined by agreement between EPA and USCG and are identified in federal Regional Contingency Plans and ACPs.)

Compensable values: The values that humans have for services provided by resources including, but not limited to, commercial, ecological, special significance, and passive uses.

Complex Facility: A facility possessing a combination of transportation-related and NTR components that are subject to their jurisdiction of more than one federal agency under Section 311(j) of the Clean Water Act.

Contracts or other approved means:

- A written contractual agreement with a response contractor that identifies and ensures the availability of the necessary personnel or equipment within appropriate response times;
- A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times;

- Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic areas; or
- Other specific arrangements approved by the EPA Regional Administrator upon request of the owner or operator.

Damages: The amount of money calculated to compensate for injury to, destruction of, loss or use of natural resources, including the reasonable costs of assessing or determining the damage, which shall be recoverable by the U.S., state, Indian tribe, or a foreign trustee.

Discharge:

- ***Average Most-Probable:*** **[USCG]** A discharge of the lesser of 50 bbls, or 1 percent, of the volume of the WCD.
- ***Maximum Most-Probable:*** **[USCG]** A discharge of the lesser of 1,200 bbls, or 10 percent, of the volume of a WCD.
- ***Medium Spill:*** **[EPA]** Any spill volume greater than a small spill but equal to or less than 36,000 gallons, or 10 percent, of the capacity of the largest AST, whichever is less.
- ***Small Spill:*** **[EPA]** Any spill volume less than or equal to 2,100 gallons but not to exceed the calculated WCD.
- ***Worst Case:*** **[EPA]** For an onshore NTR facility, the largest foreseeable discharge in adverse weather conditions, based on the factors described in Appendix E to 40 CFR Part 112.

[PHMSA] The largest foreseeable discharge of oil, including a discharge from fire or explosion in adverse weather conditions. This volume will be determined by each pipeline operator for each response zone and is determined as follows:

The pipeline's maximum release in time expressed in hours, plus the maximum shutdown response time in hours (based on historical discharge data, or in the absence of such data, the operator's best estimate) multiplied by the maximum flow rate expressed in bbls per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s) in the response zone expressed in bbls; or

The largest foreseeable discharge for the line section(s) within a response zone, expressed in bbls, based on the maximum historical discharge, if one exists, adjusted for any subsequent corrective or preventive action taken; or

If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system adjusted for the capacity or size of the secondary containment system, expressed in bbls.

[USCG] For an onshore facility and deepwater port, the largest foreseeable discharge in adverse weather conditions meeting the following requirements:

The loss of the entire capacity of all in-line and breakout tank(s) needed for the continuous operation of the pipelines used for the purposes of handling or transporting oil, in bulk to or from a vessel, regardless of the presence of secondary containment; plus

The discharge from all piping carrying oil between the marine transfer manifold and the NTR portion of the facility. The discharge from each pipe is calculated as follows: The maximum time to discover the release from the pipe in hours, plus the maximum time to shut down flow from the pipe in hours (based on historical discharge data or the best estimate in the absence of historical discharge data for the facility) multiplied by the maximum flow rate expressed in bbls per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided) plus the total line drainage volume expressed in bbls for the pipe between the marine manifold and the NTR portion of the facility; and

For a mobile facility, the loss of the entire contents of the container in which the oil is stored or transported.

Dispersant-application platform: The vessel or aircraft outfitted with the dispersant-application equipment acting as the delivery system for the dispersant onto the oil spill.

Dispersant Mission Planner 2 **(DMP2):** An Internet-downloadable application that estimates the Effective Daily Application Capacity for various dispersant response systems. The National Strike Force Coordination Center will use DPMP2 for evaluating OSRO dispersant classification levels.

Effective Daily Application Capacity **(*EDAC*):** means the estimated amount of dispersant that can be applied to a discharge by an application system, given the availability of supporting dispersant stockpiles, when operated in accordance with approved standards and within acceptable environmental conditions.

Emergency Response Coordinator (ERC): The EPA-proposed OPA regulations use this term to indicate the person responsible for facility oil spill response (OSR) coordination. In this plan, the ERC and the IC will be used interchangeably. (See Facility Incident Commander and Regional Incident Commander for definition.)

Environmentally Sensitive Area: An area of environmental importance that is in or adjacent to navigable waters.

Exclusive Economic Zone: The zone contiguous to the territorial sea of the U.S. extending to a distance up to 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Facility Incident Commander (FIC): The individual who is responsible for the management of incident operations up to the limits of the facility to respond. Under Navy policy, the FIC and Facility QI will be designated the same person.

Facility Qualified Individual (QI): The English-speaking representative of the facility (base), located in the U.S., available on a 24-hour basis, with full authority to: activate and contract with required oil spill removal organization(s); activate personnel and equipment maintained by the operator; act as liaison with the OSC; and obligate any funds required to carry out all required or directed oil spill activities. Under Navy policy, the FQI and FIC will be the same person.

Facility that could reasonably be expected to cause significant and substantial harm:

[EPA] Any facility that has the potential to cause substantial harm, as determined by the EPA Regional Administrator, considering the following additional factors:

- Proximity to environmental areas of concern defined in 40 CFR 112, Appendix D
- Frequency of past spills
- Proximity to navigable waters
- Age of oil storage tanks
- Other facility-specific and region-specific impacts on public health.

[USCG] Any MTR facility (including piping and any structures that are used for the transfer of oil between a vessel and the facility) classified as a "significant and substantial harm" facility under 33 CFR 154.1015 (c) including a facility specifically designated by the COTP under 33 CFR 154.1016(a).

Facility that could reasonably be expected to cause substantial harm:

[EPA]

1. A facility that transfers oil over water to or from vessels and has a total storage capacity greater than or equal to 42,000 gallons; or
2. A facility with a total oil storage capacity greater than or equal to 1 million gallons and one of the following is true:
   - The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest AST within each storage area;

- The facility is at a distance (as calculated using the appropriate formula in 40 CFR 112 Attachment C-III or an alternative formula) considered acceptable by the Regional Administrator such that a discharge from the facility could cause injury to an environmentally sensitive area as defined in 40 CFR 112 Appendix D;
- The facility is at a distance (as calculated using the appropriate formula in 40 CFR 112 Attachment C-III or an alternative formula) considered acceptable by the Regional Administrator such that a discharge from the facility would shut down a public drinking water intake; or
- The facility has had a reportable spill in an amount greater than or equal to 10,000 gallons within the last 5 years.

[USCG]

Any MTR facility classified as a "substantial harm" facility under 33 CFR 154.1015(b), including a facility specifically designated by the COTP under 33 CFR 154.1016(a).

Federal On-Scene Coordinator (FOSC): The federal official designated by the Administrator of the EPA or by the Commandant of the USCG to coordinate and direct federal response under subpart D of the NCP (40 CFR Part 300). The Department of Defense is designated as the FOSC for all Department of Defense hazardous substance spill responses.

Fish and Wildlife and Sensitive Environment: Areas that may be identified by either their legal designation or by Area Committees in the applicable ACP (for planning) or by members of the FOSC's spill response structure (during responses). These areas may include: wetlands, national and state parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, areas of economic importance, recreational areas, national forests, federal and state lands that are research areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as: aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Great Lakes: Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

Group: A functional division (e.g., security, search and rescue)

Gulf Coast: Tor the purposes of dispersant-application requirements, the region encompassing the following COTP Zones:

- Corpus Christi, Texas
- Houston/Galveston, Texas
- Port Arthur, Texas
- Morgan City, Louisiana
- New Orleans, Louisiana
- Mobile, Alabama
- St. Petersburg, Florida

High Volume Area: An area where an oil pipeline having a nominal outside diameter of 20 inches or more crosses a major river or other navigable water, which, because of the velocity of the river flow and vessel traffic on the river, would require a more rapid response in case of a WCD or substantial threat of such a discharge. Appendix B to 49 CFR Part 194 lists of some of the high-volume areas in the U.S.

Incident Action Plan: The plan, which is initially prepared at the first staff meeting after an oil spill occurs, that contains the general control objectives reflecting the overall strategy, and specific action plans for the next operational period. When complete, the Incident Action plan will have a number of attachments.

Incident Command System (ICS): A system for controlling personnel, facilities, equipment, and communications during emergency response. The system is designed to begin developing from the time an incident occurs until

the requirement for management and operations no longer exists. This system can be used for any type or size emergency, ranging from a minor spill to a major emergency response. It also allows for the timely combining of resources from different agencies/contractors.

Incident Management Team (IMT): The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Injury: A measurable adverse change, either long or short term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil.

Inland Area: The area shoreward of the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, the area shoreward of the lines of demarcation (COLREG lines) defined in 33 CFR 80.740 through 80.850. The inland area does not include the Great Lakes.

Inland Zone: The environment inland of the coastal zone excluding the Great Lakes, Lake Champlain, and specified ports and harbors on inland rivers. (The term *inland zone* delineates an area of federal responsibilities for response actions. Precise boundaries are determined by agreements between EPA and USCG and are identified in the federal Regional Contingency Plans.)

Line Section: A continuous run of pipe that is contained between adjacent pressure pump station, between a pressure pump station and a terminal or breakout tank, between a pressure pump station and a block valve, or between adjacent block valves.

Major River: A river that, because of its velocity and vessel traffic, would require a more-rapid response in case of a WCD. For a list of rivers see "*Rolling Rivers, An Encyclopedia of America's Rivers*, Richard A Bartlett, Editor, McGraw-Hill Book Company, 1984.

Marine-Transportation-Related (MTR) Facility: Any offshore facility or segment of a complex regulated under Section 311(j) of the federal Water Pollution Control Act by two (2) or more federal agencies, including piping and any structure used or intended to be used to transfer oil to or from a vessel, subject to regulation under 33 CFR. For a facility or segment of a complex regulated by two (2) or more federal agencies under Section 311(j) of the Water Pollution Control Act, the MTR portion of the complex extends from the facility oil transfer system's connection with the vessel to the first valve inside the secondary containment surrounding tanks in the NTR portion of the facility or, in the absence of secondary containment, to the valve or manifold adjacent to the tanks comprising the NTR portion of the facility, unless another location has otherwise been agreed to by the COTP and the appropriate federal official.

Maximum extent practicable: **[**NTR facility**]** The limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for WCDs from onshore NTR facilities in adverse weather. The appropriate limitations for such planning are available technology and the practical and technical limits on an individual facility owner or operator.

[Transportation-related facility**]** The planned capability to respond to a WCD in adverse weather, as contained in a response plan that meets the criteria in 33 CFR or in a specific plan approved by the cognizant COTP.

[Pipeline**]** The limits of available technology and the practical and technical limits on a pipeline operator in planning the response resources required to provide the on-water recovery capability and the shoreline protection and cleanup capability to conduct response activities for a WCD from a pipeline in adverse weather.

Mobile facility: any facility that can readily change location, such as a tank truck or tank car, other than a vessel or public vessel.

Natural Resource Damage Assessment (NRDA): The process by which trustees determine whether a resource has been injured, the loss associated with that injury, in order to effect restoration.

Natural resources: Land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the U.S.

(including the resources of the Exclusive Economic Zone), and state or local government or Indian tribe or foreign government.

Navigable Waters: The waters of the U.S., including the territorial sea and such waters which are used for recreation; waters from which fish or shellfish are taken and sold in interstate or foreign commerce.

Nearshore Area: The area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, the area extending seaward 12 miles from the line of demarcation (COLREG lines) as defined in 33 CFR § 80.740 through 80.850.

Non-Petroleum Oil: Oil of any kind that is not petroleum-based. This category includes, but is not limited to, animal and vegetable oils.

Ocean: The offshore area and nearshore area as defined in 33 CFR.

Offshore Area: The area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR Part 7 seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico, the area beyond 12 nautical miles of the line of demarcation (COLREG lines) defined in 33 CFR §80.740 through 80.850 of this chapter extending seaward to 50 nautical miles.

Oil: Oil of any kind or in any form, including, but not limited to, petroleum oil, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil.

Oil Groups:

- ***Nonpersistent or Group I Oil*** A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

  (1) At least 50 percent of which by volume, distill at a temperature of 340°C (640°F); and
  (2) At least 95 percent of which by volume, distill at a temperature of 370°C (700°F).

- ***Persistent oil*** A petroleum-based oil that does not meet the distillation criteria for a nonpersistent oil. For the purposes of 33 CFR Subpart F, persistent oils are further classified based on specific gravity as follows:

  (1) Group II: specific gravity less than 0.85
  (2) Group III: specific gravity between 0.85 and less than 0.95
  (3) Group IV: specific gravity from 0.95 and to and including 1.00
  (4) Group V: specific gravity greater than 1.00

Oil Spill Removal Organization (OSRO): An entity that provides response resources.

On-Scene Coordinator (OSC): The definition in the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300).

Operating Area*:* Rivers and canals, inland, nearshore, Great Lakes, or offshore geographic location(s) in which a facility is handling, storing, or transporting oil.

Operating environment: means rivers and canals, inland, Great Lakes, or ocean. These terms are used to define the conditions in which response equipment is designed to function.

Operating in compliance with the plan: means operating in compliance with the provisions of this FRP, including ensuring the availability of the response resources by contract or other approved means, and conducting the necessary training and drills.

Operational effectiveness monitoring*:* means monitoring concerned primarily with determining whether the dispersant was properly applied and how the dispersant is affecting the oil.

Other non-petroleum oil: means a non-petroleum oil of any kind that is not generally an animal fat or vegetable oil.

Pre-authorization for dispersant use*:* An agreement, adopted by a regional response team in coordination with area committees, which authorizes the use of dispersants at the discretion of the FOSC without the further

approval of other federal or state authorities. These pre-authorization areas are generally limited to particular geographic areas within each region.

***Primary dispersant staging site**:* A site designated within a COTP Zone that has been identified as a forward staging area for dispersant application platforms and the loading of dispersant stockpiles. Primary staging sites are typically the planned locations where platforms load or reload dispersants before departing for application at the site of the discharge and may not be the locations where dispersant stockpiles are stored or application platforms are home-based.

***Qualified Individual and Alternate Qualified Individual**:* A person located in the U.S. who meets the requirements of §154.1026.

Response activities: The containment and removal of oil from the land, water, and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the public health or welfare or the environment.

Response resources: The personnel, equipment, supplies, and other capability necessary to perform the response activities identified in a response plan.

Rivers and canals: A body of water confined within the inland area, including the intracoastal waterways and other waterways artificially created for navigation, which has a project depth of 12 feet or less.

Specific gravity: The ratio of the mass of a given volume of liquid at 15 degrees Celsius (°C) (60°F) to the mass of an equal volume of pure water at the same temperature.

***Substantial threat of a discharge**:* Any incident or condition involving a facility that may create a risk of discharge of oil. Such incidents include, but are not limited to storage tank or piping failures, aboveground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences.

Tank vessel: a vessel that is constructed or adapted to carry, or that carries, oil or HazMat in bulk as cargo or cargo residue, and that:

- Is a vessel of the U.S.
- Operates on the navigable waters of the U.S.
- Transfers oil or HazMat in a port or place subject to the jurisdiction of the U.S.

Tier: The combination of required response resources and the times within which the resources must arrive on scene.

Note: Tiers are applied in three categories:

- Higher volume port areas,
- Great Lakes, and
- All other operating environments, including rivers and canals, inland, nearshore, and offshore areas.

Vegetable oil: A non-petroleum oil or fat derived from plant seeds, nuts, kernels, or fruits, and not specifically identified elsewhere in this FRP.

Worst case discharge (WCD): In the case of an onshore facility and deepwater port, the largest foreseeable discharge in adverse weather conditions meeting the requirements of 33 CFR 154.1029.

SECTION 4

4.0 References

15 CFR 990 NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA). Final Rule. *Federal Register* of 05 January 1996, as amended.

29 CFR 1910.120 HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE U.S. DEPARTMENT OF LABOR. *Federal Register* of 06 March 1898, as amended. The OSHA requirement defining training required for workers at the site of a spill.

33 CFR 154 RESPONSE PLANS. U.S. DEPARTMENT OF TRANSPORTATION (COAST GUARD). *Federal Register* of 29 February 1996, as amended. The Coast Guard regulation on facility response plans for marine-transportation-related facilities.

40 CFR 112 OIL POLLUTION PREVENTION. U.S. ENVIRONMENTAL PROTECTION AGENCY. *Federal Register* of 11 December 1973, as amended. The EPA regulation on facility response plans for non-transportation-related facilities.

49 CFR 130 OIL SPILL PREVENTION AND RESPONSE PLANS. U.S. DEPARTMENT OF TRANSPORTATION (PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION). *Federal Register* of 17 June 1996, as amended. The PHMSA regulation on facility response plans for bulk packaging (tank cars and tank trucks).

40 CFR 300 NATIONAL OIL AND HAZARDOUS SUBSTANCE POLLUTION CONTINGENCY PLAN. U.S. Environmental Protection Agency. *Federal Register* of 15 September 1994, as amended.

CHEMICAL HAZARD RESPONSE INFORMATION SYSTEM (CHRIS), VOLUME I and II: HAZARDOUS CHEMICAL DATA. COMMANDANT INSTRUCTION M16465.12C. U.S. COAST GUARD. 1 January 1999. A detailed reference of Material Safety Data Sheet -type information on numerous chemicals, including some fuels and oils. This manual also provides CHRIS codes - a 3-letter code for each chemical. This publication is available online at http://www.uscg.mil/directives/cim/16000-16999/CIM_16465_12C.pdf.

GUIDE FOR DEVELOPMENT OF STATE AND LOCAL EMERGENCY OPERATIONS PLANS. FEDERAL EMERGENCY MANAGEMENT AGENCY. September 1996. Available online at http://www.fema.gov/pdf/plan/0-prelim.pdf.

GUIDE FOR THE REVIEW OF STATE AND LOCAL EMERGENCY OPERATIONS PLANS. FEDERAL EMERGENCY MANAGEMENT AGENCY. September 1996. http://www.fema.gov/pdf/plan/slg101.pdf.

INTERAGENCY AGREEMENT (IAA) BETWEEN THE UNITED STATES NAVY AND THE UNITED STATES COAST GUARD FOR COOPERATION IN OIL SPILL CLEAN-UP OPERATIONS AND SALVAGE OPERATIONS. SIGNED IN 1980. A mutual aid agreement concerning oil spill clean-up and salvage operations.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

Naval Air Station Corpus Christi Integrated Natural Resources Plan.

Naval Air Station Corpus Christi Spill Prevention, Control, and Countermeasure Plan

NOAA's Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments

OIL POLLUTION ACT OF 1990. Public Law 101.380 dated 18 August 1990.

The Handbook of Chemical Hazard Analysis Procedures by the Federal Emergency Management Agency (FEMA), U.S. Department of Transportation (DOT), and U.S. Environmental Protection Agency (EPA)

The Hazardous Materials Emergency Planning Guide (NRT-1) by the National Response Team (NRT)

UNITED STATES GEOLOGIC SURVEY, INTERNET SITE WITH AVAILABLE STREAMFLOW DATA. http://www.usgs.gov.

USCG INCIDENT MANAGEMENT HANDBOOK. U.S. Coast Guard Publication COMDTPUB P3120.17A. August 2006. This publication is available on line at: http://www.uscg.mil/hq/nsfweb/docs/FinalIMH18AUG2006.pdf.

USCG's National Preparedness for Response Exercise Program (PREP) Guidelines

USCG's Training Reference for Oil Spill Response

Methodologies for Hazard Analysis and Risk Assessment in the Petroleum Refining and Storage Industry by CONCAWE

Siting of HUD-Assisted Projects Near Hazardous Facilities: Acceptable Separation Distances from Explosive and Flammable Hazards by the U.S. Department of Housing and Urban Development

Technical Guidance for Hazards Analysis: Emergency Planning for Extremely Hazardous Substances by the Federal Emergency Management Agency (FEMA), U.S. Department of Transportation (DOT), and U.S. Environmental Protection Agency (EPA)

Texas Coastal Oil Spill Planning and Response Toolkit.

Oil Spill Contingency Planning, National Status: A Report to the President by the National Response Team (NRT)

Appendix A
Regulatory Cross Reference

TABLE A.1
U.S. Environmental Protection Agency Regulatory Cross Reference

40 CFR 112 Appendix F Section No.	40 CFR 112 Appendix F Section Title	FRP Section No.	FRP Section Title	ERAP	FRP	Appendix
1.0	Model Facility-Specific Response Plan	1.0	Introduction	X	X	A
1.1	Emergency Response Action Plan	1.1	Emergency Response Action Plan	X		
1.1.1	Qualified Individual Information	1.1.1	Qualified Individual Information	X		G
1.1.2	Emergency Notification Phone List	1.1.2	Emergency Notification Phone List	X		B, F, J
1.1.3	Spill Response Notification Form	1.1.3	Spill Response Notification Form	X		J
1.1.4	Response Equipment List and Location	1.1.4	Response Equipment List and Location	X		B
1.1.5	Response Equipment Testing and Deployment	1.1.5	Response Equipment Testing and Deployment	X		B, J, K
1.1.6	Facility Response Team	1.1.6	Facility Response Team	X		B, F
1.1.7	Evacuation Plan	1.1.7	Evacuation Plan	X		
1.1.8	Immediate Actions	1.1.8	Immediate Actions	X		
1.1.9	Facility Diagrams	1.1.9	Facility Diagrams	X		
1.2	Facility Information	1.2	Facility Information		X	G
1.3	Emergency Response Information	1.3	Emergency Response Information		X	
1.3.1	Notification	1.3.1	Notification		X	B, F, J
1.3.2	Response Equipment List	1.3.2	Response Equipment List		X	B
1.3.3	Response Equipment Testing/Deployment	1.3.3	Response Equipment Testing and Deployment		X	B, J, K
1.3.4	Personnel	1.3.4	Personnel		X	B, F
1.3.5	Evacuation Plans	1.3.5	Evacuation Plans		X	
1.3.6	Qualified Individual's Duties	1.3.6	Qualified Individual's Duties		X	I
1.4	Hazard Evaluation	1.4	Hazard Evaluation		X	C
1.4.1	Hazard Identification	1.4.1	Hazard Identification		X	
1.4.2	Vulnerability Analysis	1.4.2	Vulnerability Analysis		X	C
1.4.3	Analysis of the Potential for an Oil Spill	1.4.3	Analysis of the Potential for an Oil Spill		X	
1.4.4	Facility Reportable Oil Spill History	1.4.4	Facility Reportable Oil Spill History		X	
1.5	Discharge Scenarios	1.5	Discharge Scenarios		X	D
1.5.1	Small and Medium Discharges	1.5.1	Average Most Probable and Small Discharge		X	
		1.5.2	Maximum Most Probable and Medium Discharge		X	
1.5.2	Worst Case Discharge	1.5.3	Worst Case Discharge		X	D

TABLE A.1
U.S. Environmental Protection Agency Regulatory Cross Reference

40 CFR 112 Appendix F Section No.	40 CFR 112 Appendix F Section Title	FRP Section No.	FRP Section Title	ERAP	FRP	Appendix
1.6	Discharge Detection Systems	1.6	Discharge Detection Systems		X	
1.6.1	Discharge Detection by Personnel	1.6.1	Discharge Detection by Personnel		X	J
1.6.2	Automated Discharge Detection	1.6.2	Automated Discharge Detection		X	
1.7	Plan Implementation	1.7	Plan Implementation		X	H
1.7.1	Response Resources for Small, Medium, and Worst Case Spills	1.7.1	Response Resources for Spills		X	B, E
1.7.2	Disposal Plans	1.7.2	Disposal Plans		X	
1.7.3	Containment and Discharge Planning	1.7.3	Containment and Discharge Planning		X	B
1.8	Self-Inspection, Drills/Exercises, and Response Training	1.8	Self-Inspection, Drills/Exercises, and Response Training		X	
1.8.1	Facility Self-Inspection	1.8.1	Facility Self-Inspection		X	
1.8.1.1	Tank Inspection	1.8.1.1	Tank Inspection		X	J
1.8.1.2	Response Equipment Inspection	1.8.1.2	Response Equipment Inspection		X	J
1.8.1.3	Secondary Containment Inspection	1.8.1.3	Secondary Containment Inspection		X	J
1.8.2	Facility Drills/Exercises	1.8.2	Facility Drills/Exercises		X	
1.8.2.1	Qualified Individual Notification Drill Logs	1.8.2.1	Notification Exercises		X	J
1.8.2.2	Incident Management Team Tabletop Exercise Logs	1.8.2.2	Incident Management Team Tabletop Exercises		X	J
1.8.3	Response Training	1.8.3	Response Training		X	
1.8.3.1	Personnel Response Training Logs	1.8.3.1	Personnel Response Training Logs		X	J
1.8.3.2	Discharge Prevention Meeting Logs	1.8.3.2	Discharge Prevention Meeting Logs		X	J
1.9	Diagrams	1.9	Diagrams		X	
1.10	Security	1.10	Security		X	
2.0	Response Plan Cover Sheet	2.0	Response Plan Cover Sheet		X	C
3.0	Acronyms	3.0	Acronyms and Definitions		X	
4.0	References	4.0	References		X	

TABLE A.2
Texas Oil Spill Prevention and Response Regulatory Cross Reference

31 TAC 1.19 Section No.	31 TAC 1.19 Section Title	FRP Section No.	FRP Section Title	ERAP	FRP	Appendix
13(c)(1)	Owner and operator of facility	1.2	Facility Information		X	
13(c)(2)	Person in charge	1.1.1	Qualified Individual Information	X		
13(c)(3)	Name and address of facility	1.2	Facility Information		X	
13(c)(4)(A)	Location of facility in long. And lat.	1.2	Facility Information		X	
13(c)(4)(B)	Facility's primary activity	1.2	Facility Information		X	
13(c)(4)(C)	Types of oil handled and the locations of MSDS	1.4	Hazard Identification		X	
13(c)(4)(D)	Storage capacity of each used for oil storage	1.4	Hazard Identification		X	
13(c)(4)(E)	The diameter of all lines carrying oil	1.4	Hazard Identification		X	
13(c)(4)(F)	Average daily throughput	1.4	Hazard Identification		X	
13(c)(4)(G)	Dimensions and capacity of the largest capable of docking	1.4	Hazard Identification		X	
13(c)(6)	Description of measure taken to prevent unauthorized discharges of oil	1.6 1.8.1.1 1.8.1.3	Discharge Detection Systems Tank Inspection Secondary Containment Inspection		X X X	
13(c)(7)	Plan to conduct annual oil spill drill	1.8.2	Facility Drills/Exercises		X	
13(c)(8)	Emergency transfer procedures	1.7	Plan Implementation		X	
13(c)(9)	Plans to clean up unauthorized discharges	1.7	Plan Implementation		X	
13(c)(10)	Statement that personnel have been informed that chemicals may not be used on a spill in water	1.3.4	Personnel		X	
13(c)(11)	Description of secondary containments	1.9.3 1.1.9.3	Site Drainage Plan Site Drainage Plan	 X	X	
13(e)(1)	Maps showing vehicular access, pipelines, nearby residential areas	1.9.2 1.1.9.2	Site Plan Site Plan	 X	X	
13(e)(2)(A)	Map showing all locations where oil is stored	1.9.2 1.1.9.2	Site Plan Site Plan	 X	X	
13(e)(2)(B)	Map showing all locations where oil is transferred	1.9.2 1.1.9.2	Site Plan Site Plan	 X	X	
13(e)(2)(C)	Maps showing all drainage and containments	1.9.3 1.1.9.3	Site Drainage Plan Site Drainage Plan	 X	X	
13(e)(3)(A)	Annual oil spill drill plan that includes notification to GLO and National Response Center	1.8.2.1	Notification Exercises		X	
13(e)(3)(B)	Annual oil spill drill plan that includes notification to third parties	1.8.2.1	Notification Exercises		X	
13(e)(3)(C)	Annual oil spill drill plan that includes the portion of response equipment that would be used to respond to the most likely kind of spill	1.8.2.3 1.8.2.4	Equipment Deployment Exercises Emergency Procedures Exercises		X X	

TABLE A.2
Texas Oil Spill Prevention and Response Regulatory Cross Reference

31 TAC 1.19 Section No.	31 TAC 1.19 Section Title	FRP Section No.	FRP Section Title	ERAP	FRP	Appendix
13(e)(3)(D)	Annual oil spill drill plan that includes documentation about when the drill took place	1.8 Appx K	Self-Inspection, Drills/Exercises, and Response Training Notification, Inspection, Drill, Exercise, Training and Meeting Records		X	 X
13(e)(4)(A)	Description of leak detection and safety systems for the prevention of spills	1.6	Discharge Detection Systems		X	
13(e)(4)(B)	Description of schedules, methods, and procedures for testing and maintaining tanks	1.8.1.1	Tank Inspection		X	
13(e)(4)(C)	Description of schedules, methods, and procedures for conducting discharge drills	1.8.2.5	Triennial Exercise Cycle		X	
13(e)(4)(D)	Description of the facility's response capability based on contracts	1.1.4 1.7.1	Response Equipment List and Location Response Resources for Spills	X	 X	
13(e)(4)(E)	Description of planned response activities, chain of command, notification procedures in the event of a discharge	1.1 1.3 1.7	Emergency Response Action Plan Emergency Response Information Plan Implementation	X	 X X	
13(e)(4)(F)	Description of response equipment, who owns it, location, and time required to deploy	1.3.2 1.3.3	Response Equipment List Response Equipment Testing/Deployment		X X	
13(e)(4)(G)	Description of maintenance for response equipment	1.3.3 1.8.1.2	Response Equipment Testing/Deployment Response Equipment Inspection		X X	
13(e)(4)(H)	Copies of cleanup contracts	App B	USCG BOA and SUPSALV Response Contracts			X
13(e)(4)(I)	Description of the worst case spill	1.5.3 App D	Worst Case Discharge Worksheets for Determining Worst Case Discharge Planning Volume		X	 X
13(e)(4)(J)	Description and map of environmentally sensitive areas	1.4 1.7.4 1.1.9 1.9	Hazard Evaluation Sensitive Environments and Response Strategies Facility Diagrams (including ESI maps) Facility Diagrams (including ESI maps)	 X	X X X	
13(e)(4)(K)	Description of response strategies for the worst case spill	1.1 1.3 1.7	Emergency Response Action Plan Emergency Response Information Plan Implementation	X	 X X	
13(e)(4)(L)	Description of training program for spill prevention and response	1.8.2 1.8.3	Facility Drills Exercises Response Training		X X	
13(e)(4)(M)	List of personnel specifically designated for spill response and specially training they have received	1.3.4 1.3.6	Personnel Qualified Individual's Duties		X X	
13(e)(4)(N)	Description of plans for transferring oil during an emergency	1.7	Plan Implementation		X	
13(e)(4)(O)	Description of plans for providing emergency medical treatment, safety and security	1.1.7	Evacuation Plan	X		

Appendix B
USCG BOA and SUPSALV Response Contracts

Last Updated – **February** *2015*

OIL AND HAZARDOUS SUBSTANCE (OHS) EMERGENCY SPILL RESPONSE

PROCUREMENT PROCEDURES

U. S. COAST GUARD
BASIC ORDERING AGREEMENT

(BOA)

COMMANDER, NAVY REGION SOUTHEAST
&
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST

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I. INTRODUCTION

Navy shore facilities are subject to federal laws and regulations, as well as to their corresponding State and local regulations, for oil and hazardous substance (OHS) spill notification and response. **Installations are required to have an immediate response team capable of stopping and securing the source of the spill.** Navy regulations require the Navy On-Scene Coordinator (NOSC) to ensure Navy facilities within its assigned AOR can control, contain, and cleanup OHS spills or rely on the NOSC for additional resources for spills beyond the capability of the Navy facility or outside the boundary of the Navy facility. Commander, Navy Region Southeast (CNRSE) is the designated NOSC for the southeast region of the United States. The CNRSE AOR encompasses the states of Alabama, Arkansas, Georgia, Florida, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, Texas; additionally Cuba, Puerto Rico, Bahamas and the Caribbean are included.

When an incident occurs, the Navy facility or vessel may require contracting support in order to direct assets (personnel and equipment) to respond to, assess, and remediate the spill site to a level acceptable to the State. **CNRSE has tasked Naval Facilities Engineering Command, Southeast (NAVFAC SE) to identify the additional resources required to support Navy facilities and vessels for spills beyond their capability.**

II. PURPOSE

The purpose of this guidance document is to provide a common business practices on how to respond to an OHS spill that is beyond the naval installation in-house cleanup capabilities. In an effort to provide timely contracting support in response to an emergency OHS pollution incident on land or water, the Navy NOSC has been granted access to the USCG Basic Ordering Agreements (BOAs), with several Oil Spill Removal Organizations (OSROs) that establishes contract support functions and prices associated with the tasks of remediating and removing OHS contaminants. This document identifies actions to be taken in accordance with the Federal Acquisition Regulations (FAR) in the event contracting support is needed for emergency response to an OHS pollution incident. **No contract actions shall be initiated with a USCG OSRO without the knowledge and consent of the CNRSE NOSC and NAVFAC SE Contracting Officer.**

III. SCOPE

In accordance with OPNAV 5090.M, Environmental Readiness Program Manual, Facility Response Plans should list Navy response assets available as well as local commercial oil pollution response assets available to augment the facility's equipment and personnel resources. This document lists authorized commercial oil spill removal organizations for inclusion into each of the southeast region installation Facility Response Plans/ Spill Contingency Plans and their OHS related planning and training efforts. For each reportable release, the NOSC Program Manager shall ensure the facility response is in accordance with the applicable facility or regional response plan and appropriate federal, state, and local regulations. **A reportable release is any unauthorized spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing including an actual or substantial threat into the environment of any oil or CERCLA-listed hazardous substance.**

For land spills, a reportable release is based upon the local county or State ordinance or regulation or any quantity greater than 100 gallons.

IV. SPILL RESPONSE DECISION TREE.

Attachment A exhibits the Oil Spill Removal Organization (OSRO) Activation Flowchart. Attachment B lists the OSROs within the CNRSE AOR under the USCG Basic Ordering Agreements. Attachment C is a generic list of resources which the OSRO may be able to provide for remediation and restoration of the impacted site.

V. PROCEDURE

The Facility Incident Commander (FIC) or Qualified Individual (QI) assesses the spill and notifies the Regional Operations Center (ROC), cnrseroc1@navy.mil, (904) 542-3118 for all federal and State reportable incidents. If the determination is made by the FIC or QI that the response exceeds the installation in-house capability, a request for support (RSF) should be submitted to the ROC. Additionally, **separate phone notification to the CNRSE/NAVFAC SE NOSC Program Manager or CNRSE N45 is also recommended to ensure contractual support for the incident has been initiated**. The following assessment should be conducted by the FIC or QI to evaluate if contractual support is required:

~ Substance spilled
~ Source of spill
~ Estimated quantity
~ Location (water or land-based)
~ Threat of spread (storm sewers, drainage ditches, groundwater, etc.)
~ Capability to respond and remediate with in-house resources

If it is determined additional resources are required, the following issues should also be assessed:

~ Estimated equipment requirements
~ Estimated manpower requirements
~ Estimated dollar amount

This information shall be immediately collected by the base staff, or Public Works personnel, or by contracting support personnel. If outside assistance is required, the NOSC may use the information provided to coordinate funding with the Responsible Party. Additionally, the NOSC will simultaneously confer with the designated NAVFAC SE Contracting Officer, a representative from the impacted Navy facility, and a representative from the Oil Spill Removal Organization to determine which response resources are best suited to assist with the remediation based on response time and the environment impacted. Once funding has been identified, the NAVFAC SE Contracting Officer can provide the Oil Spill Removal Organization (OSRO) authorization to proceed. The NOSC PM will coordinate with the impacted installation(s) and the CNRSE ROC on these contract actions.

VI. POINTS OF CONTACT

The BOA task orders are administered by the NAVFAC Southeast Environmental Contracts Core, Code ACQENV. The main points of contact for the BOA's are Kyle Acton, (904) 542-6914, kyle.acton@navy.mil and Brent Kupfer, (904) 542-6924, brent.kupfer@navy.mil. All other issues associated with this document may be addressed to the Navy On-Scene Coordinator (NOSC) Program Manager, Dominic Broadus, (904) 542-6306, dominic.broadus@navy.mil.

VII. ACTIVATION PROCEDURES/AUTHORIZATION TO PROCEED (ATP)

Authorization for a USCG BOA can only be activated by a NAVFAC SE Core Contracting Officer. Prior to placing a task order with a BOA contractor a Statement of Work and Government Estimate for the services required shall be developed. Attachments D and E are provided as templates. NAVFAC SE Core can assist with the development of the Statement of Work and Government Estimate.

The contractor should be provided a written authorization to proceed once the scope and price have been negotiated. If a written ATP is not viable, a verbal ATP by the Contracting Officer stating the minimal information contained in the letter is authorized in accordance with Attachment F. ATP letters can be issued when the incident occurs during and after work hours, weekends, and holidays.

An ATP letter may be issued by the Contracting Officer which is based on the amount of authorized funding. The contractor will mobilize to the site and begin tasking as directed by the BPA Call or Task. If an un-priced BPA Call Order is required, the Contracting Officer shall issue an undefinitized BPA Call Order via a DD Form 1155 to cover the ATP, followed by a definitive modification via a SF 30 to negotiate and definitize the action within 60 days. The Contracting Officer shall following the BMS process at S-17.4.10 when issuing a non pre-priced task order.

In the event an un-priced BPA Call or Task Order is issued, the undefinitized BPA Call/Task Order and the definitive modification solidify respectively the initial agreement

and the final negotiation. Use Clause 252.217-7027 when issuing an undefinitized contract action (UCA).

VIII. QUALITY ASSURANCE

The Contracting Officer makes sure that the quality assurance (QA) on the BPA Call or Task Order is performed adequately depending on the situation and complexity of the work by appointing a Contracting Officer's Representative (COR)/Naval Technical Representative (NTR) for technical oversight. The COR/NTR may be installation representative capable of overseeing the work in accordance with the contract (i.e.; ROICC field office, or personnel from PWD/ Environmental Division). Attachment G is issued to the COR/NTR providing the roles and responsibilities. As a minimum, the COR/NTR is responsible for spot checking daily reports against actual production, verifying invoice payments with work performance, reviewing and approving scopes of work, and providing government estimates.

A. INCIDENT SUMMARY FORMS

If the FIC/QI determines the incident requires activation of the BOA, an incident brief utilizing ICS Forms 201 and 202 or equivalent format, Attachment(s) I, shall be submitted to the NOSC Program Manager within one business day of activating the BOA contractor. A daily unit log noting time and brief description of all actions taken shall be submitted to the COR/NTR by the contractor at the close of each work day using ICS Form 214 or equivalent format, Attachment I, and kept on file at the installation.

IX. FUNDING

NO WORK DIRECTION WILL BE GIVEN TO A CONTRACTOR WITHOUT APPROVED FUNDS.

Request for funds in the amount of the BOA Task Order should be quickly processed so as not to delay the ATP or UCA. A copy of the funding document shall be provided to the ordering office. The lines of accounting shall be on any document directing the contractor to perform work.

Additional funding and contract resources may be required depending on: spill severity, potential for migration, and estimated length of time for cleanup and remediation. Direct communication between the ordering office, the Responsible Party (RP), and the NOSC is necessary to maintain sufficient funding, as the work is being assessed and performed.

Appendix J authorized all DoD facilities to list the resources owned and managed by the Navy's Supervisor of Salvage in its Facility Response Plan. **For Navy spills only the NOSC has the authority to request assistance from the Navy's Supervisor of Salvage.**

NAVFAC SE Core support cost for these efforts will be on a direct cost reimbursement basis.

X. INVOICING PROCEDURES

A. BELOW MICRO-PURCHASE LIMIT (<$2,500)

Original invoices will be submitted directly to the following offices:

Commander, NAVFAC Southeast
Attn: Environmental Contracts Core, Code AQENV
P.O. Box 30A
Jacksonville, FL 32212
Tel: 904-542-6914
Fax: 904-542-6942

B. ABOVE MICRO-PURCHASE LIMIT (>$2,500)

Original invoices will be submitted via WAWF

YELLOW- IN REVIEW
GREEN- BEHIND SCHEDULE [AFTER RENEWAL DATE]
WHITE - Current (up to date)

BOA IN EFFECT LIST

1/8/2015
Invoice mod... not on SILC Portal Web site

COMPANY DUNS	BUS Size S/LG	ADDRESS	CITY	ST	ZIP CODE	PHONE (o) office (c) cell / (f) fax	POC	POC E-MAIL ADDRESS	BOA NO./MOD	BOA/Update Effective Date	AP Start AP End	TYPE OF SERV	DIST. SERV. AREAS	SPEC KO	FPDS-NG UPDATE	CCR VALID UNTIL	Comments
ACCURATE MARINE ENVIRONMENTAL, INC. 933770448	S	3965 Burtons Point Road	PORTSMOUTH	VA	23704	(757) 393-5840 9757) 393-5845(f)	John Domanski	jdomanski@accuratemarine.us	HSCG84-14-A-P00019	4/22/14	1/31/15 5/23/15	O/H/V	5	PB DB		4/2/2013	
Adventure Environmental 120292219	S	12895 SW 87th Ave	Miami	FL	33176	305-254-8887	Greg Tolpin	Greg@4aei.com	HSCG84-13-A-M00006 Mod P00001	4/18/2013 06/12/14	5/9/14 8/29/15	B/O/H/ SU/V	7	JL DB		3/12/2014	
AES Environmental Operations, LLC 965651870		3900 C Street, Suite 601	Anchorage	AK	99503	(907) 339-5498	Dan Gallagher	daniel.gallagher@asrcenergy.com	HSCG84-13-A-J00003	5/21/13			17	DR			
ALASKA CHADUX CORP (COOP) 927650937	LG	2347 Azurite Court	ANCHORAGE	AK	99507	(907) 348-2238 (907) 348-2230 (f)	Jerry Allen	Jallen@chadux.com	HSCG84-13-A-J00005	8/5/13			17	DR		4/23/2013	
ALASKA COMMERCIAL DIVERS 962429767	S	P.O. Box 9351	KETCHIKAN	AK	99901	(907) 247-0771 (907)617-6199 (cell)	Greg Updike	alaskacommercialdivers@gmail.com	HSCG84-13-A-J00007	7/23/13			17	DR		11/9/2012	
Alaska Marine Response 831833517	S	P.O. Box 1834	CORDOVA	AK	99574	(907) 424-7424	Seawan Gehlbach	akmarineresponse@gmail.com	HSCG84-12-A-J00002	4/23/12			17	DR			
ALL STATE POWER VAC *(dba ALLSTATE GEO-TEK)* 131701732	LG	928 E. Hazelwood Avenue	RAHWAY	NJ	07065	(800) 876-9699 (732) 815-0220	Mary Ellen Hansen	mhansen@aspvac.com	HSCG84-09-A-100116 Mod P00001 Mod P00002 #	8/26/2009 3/23/11 8/1/12	7/5/13 10/25/13	B/O/V/SU	1	CM DB	09/14/11	4/20/2013	
ALYESKA PIPELINE SERVICE 052581758	S	P.O. Box 196606 (Mailing address) P.O. Box 109 (POC address)	ANCHORAGE (Mailing) Valdez (POC)	AK	99508 99519	(907) 834-6902 (907) 831-1008 (cell)	Andres Morales		DTCG89-02-A-68F900	12/10/2001			17	DR			**update in process sol sent 2/28/13 JL**
AMERICAN COMPL. TECH. INC *(dba A-C-T ENVIRONMENTAL & INFRASTRUCTURE)* 183030097	S	1875 West Main Street (State Road 60)	BARTOW	FL	33830	(863) 533-2000	Robert Kincart	rokincart@a-c-t.com	HSCG84-14-A-M00013	2/4/14	10/25/14 2/14/15	B/O/H/ SU/S/SW SG/V	7	JL DB			
AMERICAN POLLUTION CONTROL *(dba AMPOL)* 877537407	LG	5619 Port Road	NEW IBERIA	LA	70560	(337) 365-7847 (337)519-8072(c)	Mike Watts Kirk Headley	mike@ampol.net	HSCG84-14-A-N00009	4/15/14	4/15/15 8/5/15	B/O/SM/V/H/SU	8	JH JD			
AMERICAN WASTE (*dba NORTHERN A-1 SERVICES, INC.)* 129122953 129122953	LG	P.O. Box 1030 3947 U. S. 131 N.	KALKASKA	MI	49646	(231) 258-9961	Mr. Eddie Ascione	eddieA@northerna1.com	HSCG84-14-A-G00015	10/13/13	7/18/14 11/7/14	B/O/H/SU/V	9	TA JD	09/14/11	5/21/2014	
ANDERSON POLLUTION CONTROL, INC. 143520125	S	1011 West Lewis	Conroe	TX	77301	(936) 441-2225	Tommy Anderson Tracy Sedlack	tommy.anderson@apc-env.com tracy.sedlack@apc-env.com	HSCG84-12-A-800002 P00001	1/17/2012 2/15/2012	4/25/14 8/15/14	O/H/V	8	JH JD		3/29/2014	
ATLANTIC COAST MARINE GROUP INC 963041962	S	P.O. Box 2298	BEAUFORT	NC	28516	(252) 728-5088 (252) 728-1707 (f)	Lee Sykes	captleesykes@yahoo.com	HSCG84-14-A-P00017	4/17/2014	1/17/15 5/9/15	O/H/V	5	PB DB		9/25/2012	
BISSO MARINE COMPANY, INC 045312683	LG	11 Neeshaw	NEW ORLEANS	LA	70178-4113	(504) 866-6341 (504)-908-6524 cell (504)-865-8132 fax	Jim Calhoun	jc@ttbisso.com	HSCG84-10-A-800004 Mod P00001	1/14/2010 03/14/11	2/14/14 6/6/14	SM/SS/V/ SW/DD/DS O/H/V/T	8	JH JD	09/14/11	6/27/2013	
C & W TANK CLEANING CO INC. 099971954	S	50 N. Lallendorf	Oregon	OH	43616	(419) 691-1995	Jill Gosselin	jillg@cwtank.com	HSCG84-13-A-G00003 P00001	9/3/2013 6/6/14	3/15/15 7/5/15	B/H/SU/V	9	TA JD		4/16/2014	
CARIBBEAN ENVIROMARINE SERVICES, INC. 831315135	S	248 Sierra Morena, Suite 5 2nd Floor LaCumbre	SAN JUAN	PR	00936-2524	(787) 717-5397	Stephanie Lebron	stephanie@cemspr.com	HSCG84-13-A-M00003	9/3/13	6/6/14 9/24/14	O/H/D/V	7	JL DB		9/20/2012	
CASTAGNOLA TUG SERVICE, INC. 055785083	S	P.O. Box 40627	SANTA BARBARA	CA	93140	(805)963-4961 (805) 966-6741(f)	Angelo Castagnola	castug@cs.com	HSCG89-04-A-68F958 Mod P00001 #	5/21/04 7/31/12			11	DR		11/28/2012	**solicitation sent 11/7/13 Jess negotiations complete 3/26/14 waiting on additional info from ktry**
CHEMTRACK ALASKA, INC 809200236	S	11711 S. Gambell Street	ANCHORAGE	AK	99515	(907) 349-2511	Carrie Lindow	carrie@chemtrak.net	HSCG84-12-A-J00001	4/23/2012			17	DR		1/4/2013	
CHEMTRON (R.J.G. Enterprises Inc.) 066060609	LG	35850 Schneider Court	AVON	OH	44011	(440)937-6348 (440)937-6379 (440)937-5585(f)	MiCHael Guenther, VP Marty KiDDle	mguenther@CHemtron-corp.com	HSCG84-14-A-G00017	6/16/14	6/15/15 10/5/15	B/O/H/SU/V/O	9	TA JD		1/4/2014	

** DIST SERV AREAS: KTR responds within 2-4 hours

YELLOW- IN REVIEW
GREEN- BEHIND SCHEDULE [AFTER RENEWAL DATE]
WHITE - Current (up to date)

BOA IN EFFECT LIST

1/8/2015
Invoice mod... not on SILC Portal Web site

COMPANY DUNS	BUS Size S/LG	ADDRESS	CITY	ST	ZIP CODE	PHONE (o) office (c) cell / (f) fax	POC	POC E-MAIL ADDRESS	BOA NO./MOD	BOA/Update Effective Date	AP Start AP End	TYPE OF SERV	DIST. SERV. AREAS	SPEC KO	FPDS-NG UPDATE	CCR VALID UNTIL	Comments
CLEAN HARBORS ENV. SRV. 039322250	LG	42 Longwater Drive 30 Joseph St. Kingston, MA 02364	NORWELL	MA	02061-1612	(781) 585-5112 (781) 727-1819 (781)792-5000 Fax: (781) 792-5938	Scott Metzger	metzgers@cleanharbors.com Sheppard.Stephen@cleanharbors.com	HSCG84-14-A- B00012	6/9/14	02/28/15 6/20/15	B/O/D/A/SU/V DD/DS	1, 5, 7, 8, 9, 11, 13,	CM DB	09/14/11	7/27/2012	
CLEAN RIVERS CO-OP 084415850	S	200 S.W. Market #190	PORTLAND	OR	97201	(503) 220-2040 (503) 295-3660(f)	Ernie Quesada/Chann Noun	quesada@pdxmex.com noun@pdxmex.com	HSCG84-14-A- S00005	5/22/2014			13	DR		1/4/2013	
CLEAN SEAS, LLC CO-OP *(dba CLEAN SEAS)* 059805580	LG	990 Cindy Lane, Unit B	CARPINTERIA	CA	93013	(805) 684-3838 (805) 684-2650(f)	Kyle Hanson -operations, Pat Elliott - contracts mgr.	Khanson@cleanseas.com Pelliott@cleanseas.com	DTCG89-96-A- 68F990	7/5/1996			11	DR		10/16/2012	**pending update** **sol sent out 8/13/13** **Cynthia working**
CLEAN VENTURE, INC. 085634335	LG	201 First Street	ELIZABETH	NJ	07206	(908) 355-5800 (908) 355-3495(f)	Mike Persico	miCHael.persico@cycleCHem.com	HSCG84-14-A- P00014	1/9/14	9/19/14 1/9/15	B/O/H/SU	1, 5	PB DB	09/14/11	5/14/2013	
COAST DIVING SERVICE 827029778	S	P.O. Box 1548	SAN PEDRO	CA	90733	(310) 547-0955 (310) 547-0970(f)	Tyler Fenton	shipdiving@aol.com	DTCG89-95-A- 68F950 Mod P00003	2/13/1995 03/26/1998			11	DR		1/3/2013	**solicitation sent 11/7/13 Jess** **waiting on contractor for info**
COASTAL ENVIRONMENTAL GROUP 124630810	S	320 Carleton Avenue Suite 6000	CENTRAL ISLIP	NY	11722	(631) 206-2600	Mary Collett Ron Silva	reception@coastalgrp.net	HSCG84-13-A- B00002	3/4/13	5/9/14 8/29/14	B/O/H/SU/V/D	1	CM DB	09/14/11	1/16/2010	
COASTAL SERVICES 062947648	S	805 Ford Drive	NORFOLK	VA	23523	757-472-5787	bruce sheppard	bshepheard@coastalsvcs.com	HSCG84-14-A- P00015	4/25/14	1/3/15 4/25/15	BOH/SU/D/V	5	PB DB	10/05/11	1/31/2013	
Coffin Marine Services 603124228	S	29455 Geraldine St	BIG PINE KEY	FL	33043	(305)872-8863	John Coffin	coffinjohn@aol.com	HSCG84-13-A- M00007 Mod P00001	5/7/2013 05/19/14	2/28/15 6/20/15	B/O/H/SM/T	7	JL DB	09/14/11	1/29/2013	
CONTAMINANT CONTROL INC *(dba CCI)* 615121035	LG	438-C Robeson Street	FAYETTEVILLE	NC	28301	(910)322-5000	Mark Vestal	mark.vestal@cci-env.com	HSCG84-14-A- P00012	1/23/14	10/25/14 2/14/15	B/O/H/V	5	PB DB	09/14/11	8/28/2012	
COOK INLET (RCAC) 941300303	LG	8195 Kenai Spur Hwy	KENAI	AK	99611	(907)283-7222 (907) 283-6102(f)	Michael Munger	Munger@circac.org	HSCG84-13-A- J00008	4/11/13			17	DR		1/19/2013	
CORPUS CHRISTI AREA OIL SPILL CONTROL ASSOCIATION 074611997	LG	P.O. 717 11231 Navigation Blvd	CORPUS CHRISTI	TX	78403	(361) 882-2656(o) (361) 882-7745(f)	Tom Salazar	tom.salazar@att.net	HSCG84-12-A- N00008	4/10/12	4/25/14 8/15/14	B/V/H	8	JH JD	09/14/11	6/20/2013	
Couvillion Group, LLC 616676289	S	371 Walker Road	Belle Chasse	LA	70037	504-656-8234	Tim Couvillion	tcouvillion@couvillliongrp.com	HSCG84-14-A- N00010	2/12/14	12/6/14 3/28/15	B/O/H SM/SS D/SW/V	8	JL JD			
COWLITZ CLEAN SWEEP / PACIFIC NORTHERN ENVIRONMENTAL CORP 782250104	S	1081 Columbia Blvd	LONGVIEW	WA	98632	(360) 423-6316 (360) 423-3409(f)	John Hansen	JohnH@pnecorp.com	HSCG84-13-A- S00001	2/8/2013			13	DR		7/31/2012	
CROFTON DIVING CORPORATION 066018631	LG	16 Harper Avenue	PORTSMOUTH	VA	23707	(757) 397-1131	Camille Crofton Bob Crofton	ccrofton@croftondiving.com	HSCG84-13-A- P00006	7/31/13	5/23/14 9/12/14	B/O/DD/DS/V	5	PB DB	01/19/12	12/1/2012	
DM Diving 613247175		625-C California Avenue	Sand City	CA	93955	831-642-9966 831-901-7131(C)	Jared Berg		HSCG84-14-A- A00010	6/16/14			D11	DR			
Diversified Divers 618476753	S	4051 Old Dairy Rd	KETCHIKAN	AK	99901	(907) 247-3483	Gregory Harrison	diversifieddiving@yahoo.com	HSCG84-13-A- J00011	8/29/13			17	DR			
DONJON MARINE CO., INC. 071176457	LG	100 Central Avenue	HILLSIDE	NJ	07205	(908) 964-8812 (908) 353-2600	John Witte Eric King		HSCG84-12-A- 100001 P00001 #	1/20/2012 8/1/12	12/20/13 4/11/14	B/O/H/SM/SS/ F/V/T/DD/DS	1, 5, 7, 8, 9	CM DB		2/26/2014	
Double Barrel 622948276	S	121 Main Street	Riverside	CA	92501	(951) 683-6994	Dean Matsuoka	deanm@dbhzmat.com	HSCG84-12-A- A00002	10/26/12			11	DR			
EARTH TECHNOLOGY II, LLC 062555755	S	425 South CHerry Street	WALLINGFORD	CT	6492	(203) 629-2202	Anthony RiCHardi	ariCHardi@earthteCHnologyllc.com	HSCG84-12-A- 100003 Mod P00001 #	12/6/2011 7/31/12	12/6/13 3/28/14	B/O/H/D/A/SU /V/DS	1	CM DB	01/19/12	7/7/2012	
EASTERN ENVIRONMENTAL MANAGEMENT, LLC 136519795	S	518 South Pearl Street	ROCKY MOUNT	NC	27803	(252) 443-2224	Carl Smith	Csmith@eastern-environmental.com	HSCG84-13-A- P00003 P00001	5/21/2013 06/11/14	4/11/15 8/1/15	B/O/H/SU/V	5	JL DB			
EASON DIVING & MARINE CONTRACTORS, INC. 086366630	S	P. O. Box 70040 2668 Spruill Ave	CHARLESTON	SC	29415	(843) 747-0548	Thomas Eason	tom@easondiving.com	HSCG84-14-A- M00012	11/13/13	9/30/14 1/20/15	B/O/H/SU/V/D	7	JL DB			

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EMERGNECY MANAGEMENT SERVICES INTL, INC 135865009	LG	26454 Raccoon Ford Road	CULPEPPER	VA	22701-8500	(540) 423-9004	Chuck Mills		HSCG84-12-A-P00009	3/28/12			ALL	JD	09/14/11	1/29/2013	
ENPRO SERVICES, INC. 121007264	S	12 Mulliken Way	NEWBURYPORT	MA	01950	(978) 465-1595	David Cowie, CEO Boni Morse	dac@enpro.com	HSCG84-14-A-B00004	11/19/13	7/1/14 10/21/14	B/O/H/SM/SS/D/A/V	1	CM DB	09/14/11	4/12/2013	
Environmental Management Specialists, Inc. 025044178	S	6909 Engle Road Suite C31	CLEVELAND	OH	44130	614-610-4747 Dispatch# 440-8161107	Tim Acri	tacri@emsonsite.com	HSCG84-13-A-G00005 P00001	6/7/2013 3/17/14	12/15/14 4/6/15	B/O/H/SU DD/V	D8/D9	TA JD		12/6/2013	
ENVIRONMENTAL PRODUCTS & SERVICES OF VERMONT, INC. 025497426	S	P.O. Box 315 532 State Fair, Syracuse, NY 13204	SYRACUSE	NY	13209	518-465-4000	John Doerre'	JDoerre@epsofvermont.com	HSCG84-12-A-B00006 P00001 P00002 P00003	7/23/2012 7/13/2012 5/8/13 8/9/13	6/6/14 9/26/14	B/O/H/D/A/SU/V	1, 5, 9	CM DB		4/17/2014	
ENVIRONMENTAL REMEDIES, LLC 620815675	S	400 Sawmill Dr.	VALDEZ	AK	99686	(907) 225-3131	Scott Smith	environmental_remedies@hotmail.com	HSCG84-13-A-J00001	2/5/13		O	17	DR			
ENVIRONMENTAL RESTORATION, LLC 008198421	LG	1666 Fabick Drive	FENTON	MO	63026	636-227-7477 636-680-2455 fax	Mark Ruck	m.ruck@erllc.com	HSCG84-14-A-N00012	4/21/14	1/15/15 5/7/15	B/O/H/SU/V	1,5,8,9	TA JD			
ENVIRONMENTAL SAFETY AND HEALTH CONSULTING SVS, INC *(dba ES&H CONSULTING SERVICES)* 969798628	LG	1730 Conteau Road	Houma	LA	70364	(985) 851-5350	Peter Plaisance Trey Boucvalt	pplaisance@ESandH.com trey@esandh.com	HSCG84-14-A-N00006	4/4/14	3/15/15 7/5/15	B/O/H/ SU/V	8	JH JD	09/14/11	3/29/2014	
ENVIRONMENTAL SERVICES, INC. (CT) 791488430	S	90 Brookfield Street	SOUTH WINDSOR	CT	06074	(860) 528-9500	Mike Kovocs	jubarber@e-s-i.com	HSCG84-11-A-100002 Mod P00001 #	9/18/2011 8/2/12	12/15/14 4/6/15	B/O/H/SU/V	1	CM DB	09/28/11	1/16/2013	
EQ FLORIDA, INC 093729114	LG	7202 East 8th Ave	TAMPA	FL	33619	(813) 623-5302 X240 727-415-0234	Ross Harvey	ross.harvey@eqonline.com	HSCG84-14-A-M00011	11/13/13	9/15/14 9/5/15	B/O/H	7	JL DB			
FCC Environmental, LLC 960277692	LG	1105 North Point Blvd Suite 310	Baltimore	MD	21224	(410)284-1717	Jim Gaunch	james.gaunch@fccenvironmental.com	HSCG84-14-A-P00010	12/2/13	8/15/14 12/5/14	O/H	1,5	CM DB			
First Response Incorporated 872673975	S	1411 S. Dickerson Pike	Goodlettsville	TN	37072	(615)868-9110	Paula Caldwell	paula.caldwell@frenvgroup.com	HSCG84-13-A-N00002	12/14/12	4/25/14 8/15/14		8	PB JD	12/26/12	11/10/2013	
FRANK CORPORATION ENVIRONMENTAL SERVICES 039912709	S	615 Tarklin Hill Rd	NEW BEDFORD	MA	02745	(508) 995-9997 (508)-962-7808	CHris Blake	frankcorpvp@yahoo.com	HSCG84-14-A-B00005	11/20/13		B/O/H/D/A/SU/V/DS	1	CM DB	09/13/11	10/10/2012	
Fred Devine Diving and Salvage Co *(The Marine Salvage Consortium, Inc)*	S	6211 N.E. Ensign	PORTLAND	OR	97217	(503) 283-5285 (503) 286-2871(f)	J.H. Lietz	devinesalv@msn.com	DTCG89-93-A-68F909 Mod P00005 #	4/1/1993 7/31/12			13	DR			**update pending** **sol sent out 11/13/13** **Jerry working**
GARNER ENVIRONMENTAL SERVICES, INC 053554531	LG	1717 West 13th Street	DEER PARK	TX	77536	(409) 935-0308	Eric Arensten	earentsen@garner-es.com	HSCG84-12-A-N00006	4/10/12	3/14/14 7/4/14	B/O/H	8	JH JD	10/05/11	10/22/2013	
GLOBAL INSHORE, INC. *(Now GLOBAL DIVING & SALVAGE)* 039738281	S	3840 W. Marginal Way	SEATTLE	WA	98106	(206) 623-0621 (206) 932-9036(f)	Kerry Walsh	kkaae@gdiving.com	DTCG89-93-A-68F908 Mod P00012	4/1/1993 7/31/12			13	DR		7/19/2012	**pricing in house / Jess working**
GLOBAL DIVING & SALVAGE, INC. 039738281	LG	3840 W. Marginal Way 1080 Nimitz Ave, Ste. 440, Vallejo, CA 94592	Seattle	WA	98106	(925) 439-7227 / (206)623-0621 (925) 427-1705(f) (206)932-9036 (f)	Klye Watson	kkaae@gdiving.com	HSCG84-14-A-A00011	11/22/13			11	DR		7/19/2012	**pricing inhouse Jleist**
GLOBAL REMEDIATION SERVICES, INC 128687097	S	700 Richmond Street	EAST TAUTON	MA	2718	(508) 824-8870 (508) 824-2486(f) (617) 592-6991 508-828-1005	Heather Atwood	hatwood@globalremediation.com	HSCG84-13-A-P00004	4/8/13	3/14/14 7/4/14	O/H	1, 5	PB DB	10/05/11	3/5/2012	
HAWAIIAN TUG & BARGE 066275983	S	P.O Box 3288	HONOLULU	HI	96801	(808) 543-9311	MarkCohen		DTCG89-01-A-68F901 west send	03/10/01			14	DR			
HEPACO, INC 115993297	LG	2711 BurCH Street	CHAROLETTE	NC	28269	704-598-9782	Ron Horton, JR	Rhortonjr@hepaco.com	HSCG84-13-A-P00002	2/13/13	2/28/14 6/20/14	O/H/V	1 ,5, 7, 8, 9	PB DB	10/05/11	5/15/2013	
HERITAGE ENVIRONMENTAL SERVICES, LLC 130814528	LG	15330 Canal Bank Road	LEMONT	IL	60439	(630)417-9208	Kevin Reinhard	kevin.reinhard@heritage-enviro.com	HSCG84-13-A-G00006 P00001	6/7/2013 2/10/14	11/15/14 3/7/15	B/O/H/SU V/T/O	8, 9	TA JD	10/5/2011 LIMITED	6/14/2014	

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INDUTECH ENVIRONMENTAL SERVICES) 836423673	S	P. O. Box 70168-8168 State Road 20 Kilometer 5.0 Frailes Ind. Park Cubita Sector Guaynabo, PR 00969	SAN JUAN	PR	00936-8168	(787) 743-6868	Rolando Watley	rwatley@indutechpr.com	HSCG84-14-A-M0015	4/1/14	1/17/15 5/24/15	B/O/H/SU/VD	7	JL DB	09/08/11	11/29/2012	
INLAND WATERS OF OHIO, INC 027507219	LG	2195 Drydock Avenue	CLEVELAND	OH	44113	216-861-3949 216-861-3156 (fax)	Laurie Graves	laurie.graves@teaminland.com	HSCG84-13-A-G00012	9/11/13	6/20/2014 10/10/14	B/O/H/SU/V	9	TA JD	11/03/11	3/7/2014	
INLET OFFSHORE DIVERS (*Now GLOBAL DIVING & SALVAGE)* 039738281	S	3840 W. Marginal Way	Seattle	WA	98106	(206) 623-0621 (206) 932-9036(f)	Kerry Walsh	kkaae@gdiving.com	DTCG89-01-A-68F911 Mod P00002	9/28/2001			17	DR		12/24/2009	**update pending** **waiting on contractor Jess working**
ISLANDS OIL SPILL ASSOCIATION (IIOSA) 781615554	LG	P.O. Box 2316	FRIDAY HARBOR	WA		(360) 378-5322 (360) 378-3559(f)	Julie Knight		DTCG89-93-A-68F902 Mod P00008	4/1/1993 7/31/12			13	DR		1/9/2013	
KEN'S MARINE SERVICES INC 038480349	S	PO Box 4001, 117-119 East 22nd Street	BAYONNE	NJ	07002	(201) 339-0673 (201) 339-8029 fax	David Poesl Ray Huckemeyer	ampd@kensmarine.net	HSCG84-13-A-B00001	2/8/13	5/20/14 8/15/14	B/O/D/A/F/SU/V/DS	1	CM DB	11/03/11	1/3/2013	
LAREDO CONSTRUCTION INC. 196367528	S	13385 MURPHY ROAD	STAFFORD	TX	77477 4305	(281) 499-2565	Tarn Springob	tspringob@laredogroup.org	HSCG84-10-A-800005 Mod P00001	1/29/10	11/22/13 3/14/14	B/O/H	8	JH JD	11/03/11	6/3/2013	
Lawson Environmental Services 614856784	S	2108 Denley Road	Houma	LA	70363	985-876-0420	Cecil Lawson		HSCG84-12-A-N00014 Mod P00001 #	5/17/2012 7/31/12	6/6/14 9/26/14	B/O/H	8	JH JD			
Lewis Environmental 169394454	S	101 Carroll Drive	New Castle	DE	19702	302-669-6010 ext 300 302-669-6011 fax	Lynn Poling	lpoling@lewisenvironmental.com	HSCG84-14-A-P00008	12/13/2013	8/4/14 11/24/14	B/O/H	5	PB DB			
LOGAN DIVING & SALVAGE 116349692	S	2815 St. Johns Bluff Road	JACKSONVILLE	FL	32246	(904) 731-0000	Scott Anderson	sanderson@loganfiving.com	HSCG84-14-A-M00016	4/1/14	2/1/15 5/24/15	B/O/H/V/T/DD/SM/SUSW/V	7	JL DB	11/03/11	1/18/2013	
MM Diving		2038 Home Drive	Eureka	CA	95503	(707)441-9239			HSCG84-14-A-A00012	5/21/14			11	DR			
Mackinac Environmental Technology, Inc. 625350194	S	300 Ferry Lane P.O. Box 485	St Ignace	MI	49781	231-622-3229	Edward Radecki	met@sault.com	HSCG84-13-A-G00014	8/14/13	3/14/14 7/4/14	B/O/H/V	9	TA JD		3/5/2014	
Marine Holdings Company (dba Ballard) 790979939		1135 NW 46ST	Seattle	WA	98107	866-782-6750	Melony Culp	Melanie.Culp@BallardMC.com	HSCG84-14-A-S00002	02/24/14			D11 D13	DR			
MARINE POLLUTION CONTROL CORP. 049277718	S	8631 W. Jefferson Ave	DETROIT	MI	48209	(313) 849-2333 (313) 218-2863(F)	Walter Putman	Wputman@marinepollutioncontrol.com	HSCG84-14-A-G00016	12/4/13	8/15/14 12/5/14	B/O/H/SU/V	9	TA JD	11/03/11	4/18/2014	
MILLER ENVIRONMENTAL GRP 075788851	LG	538 Edwards Ave.	CALVERTON	NY	11933	(631) 369-4900 (631) 369-4909(f)	Mark Miller George Wallace ext 241	lpepe@millerenv.com Jdavey@millerenv.com	HSCG84-13-A-B00003	12/12/12	3/28/14 7/18/14	B/O/H/D/A/SU/V/D	1, 5	CM DB	11/03/11	1/30/2013	
MILLER ENVIRONMENTAL SERVICES, INC. 783208130	LG	600 Flato Road	CORPUS CHRISIT	TX	78405	(361) 289-9800 (888) 207-9403 (361) 289-6363 fax	John Perabo Jeff Gully	jperabo@millerenviro.com	HSCG84-14-A-N00008	4/21/14	5/15/15 9/4/15	B/O/H/SU/V	8	JH JD	11/03/11	4/10/2014	
Miller's Launch 077306645	S	Pier 7- 1/2	Staten Island	NY	10301	(718) 727-7303 Fax (718) 448-6326	Sven Van Batavia	sevn@MILLERSLAUNCH.COM	HSCG84-14-A-B00009	05/28/14	2/14/14 6/6/14		1,5	CM DB			
MORAN ENVIRONMENTAL RECOVERY 110487076	LG	75 D York Avenue	RANDOLPH	MA	02368	(781)815-1116 1110 (774)406-0467 (c)	Dan Murphy	dmurphy@moranenvironmental.com	HSCG84-13-A-M00009	9/26/13	7/18/2014 11/7/14	B/O/H/SU/V	1, 5, 7, 8 13	JL DB	11/03/11	1/2/2013	
NATIONAL RESPONSE CORPORATION 797384252	LG	3500 Sunrise Highway, Suite T103	GREAT RIVER	NY	11739	(631) 224-9141	Chris Eilers	ceilers@nrcc.com	HSCG84-14-A-B00006	1/16/14		B/O/H/V	ALL DISTRICTS CO-OP	CM DB	10/27/11	2/8/2013	
NRC Environmental Services 796948651		1605 Ferry Point	Alameda	CA	94501		Todd Rolf		HSCG84-14-A-S00012	6/3/14							
NORTHSTAR MARINE, INC. *(DBA NORTHSTAR MARINE ENVIRONMENTAL SERVICES)* 622184406	S	36 Clermont Drive	CAPE MAY	NJ	08210	(609) 263-6666 (609) 624-1055 fax (609)602-1222 Phil cell	Phillip W. Risko, President	risko1@comcast.net	HSCG84-13-A-P00005	6/25/13	6/6/14 9/26/14	B/O/H/SU/V/D	1, 5	PB DB	11/03/11	8/31/2012	

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NW FIREFIGHTERS ENVIRO. 802709220	S	P.O. Box 188	PHILOMATH	OR	97370	(541) 929-4884 (541) 929-2115(f)	John Berger/ Roman Geigle	roman_geiglenwffenviro.com	DTCG89-00-A-68F986 Mod P00001	3/20/2000 7/31/12			13	DR			**negotiations scheduled** **Jess working**
OCEAN BLUE ENVIRONMENTAL 867795866	S	925 W. Esther Street	LONG BEACH	CA	90813	(562) 624-4120 (562) 624-4127(f)	Karen Carrillo/ Ron Dare	Kcarrillo@ocean-blue.com Rdare@ocean-blue.com	HSCG84-14-A-A00006	6/18/2014			11	DR			
OIL MOP, LLC (OMI) 110881562	LG	131 Keating Drive	BELLE CHASE	LA	70037	(504) 394-6110 (800) 645-6671 (Kyle)	Kyle Prest	kprest@oilmop.com robertgeorge@omies.com	HSCG84-14-A-N00005	2/21/14	2/15/15 6/7/15	B/O/H/V/SU	8	JH JD	11/03/11	8/2/2013	
OIL RECOVERY COMPANY CO INC OF ALABAMA 555443027	S	P.O. Box 1803 1101 S. Conception Street	MOBILE	AL	36633	(251) 690-9010 (251) 433-7681 FAX	Kathy Bagley	kdarden@oilrecoveryco.com	HSCG84-12-A-N00007	4/3/12	4/11/14 8/1/14	B/O/H/ SU/V	7&8	JH JD	11/03/11	7/25/2013	
OSI ENVIRONMENTAL, INC. 617125927	LG	300 Fayal Road	Eveleth	MN	55734	(218) 744-3064 (218) 744-4832	Patrick Tracey, BranCH Manager	ptracey.OSIE@mCHsi.com	HSCG84-13-A-G00004 P00001	7/25/2013 5/16/14	2/15/15 6/7/15	B/O/H/SU V	8 & 9	TA JD		7/12/2014	
PACIFIC ENVIRONMENTAL CORPORATION *(dba PENCO)* 151143609	S	65 N. Nimitz Highway	HONOLULU	HI	96817	(808) 545-5195 (808) 524-2307(f)	Teal Cross	teal@amsghq.com	DTCG89-93-A-68F914 Mod P00006	04/01/93 7/31/12			14	DR		4/17/2013	**David working** **waiting on Master BOA update** **negotiations complete**
PACIFIC ENVIRONMENTAL CORPORATION *(dba PENCO)* 022332428	S	6000 A Street	ANCHORAGE	AK	99518	(907) 562-5420 (907) 562-5426(f)	Thomas Ulrich		DTCG89-95-A-68F972 Mod P00004	06/01/95			17	DR		12/24/2009	**David working** **waiting on Master BOA update** **negotiations complete**
PARKER DIVING SERVICE 783763618	S	2350 Marinship Way	SAUSALITO	CA	94965	(415) 331-0328 (415) 331-0354(f)	William Parker/ Maria Nunn	redwoodshore@hotmail.com	HSCG84-12-A-A00001	6/13/2012			11	DR		3/7/2013	
PATRIOT ENVIRONMENTAL 038070330	LG	P.O Box 1091	LONG BEACH	CA	90801	(562)436-2614 (562) 436-2688(f)	Walt Dorn	wdorn@patriotenvironmental.com	DTCG89-03-A-68F955 Mod P00002	2/24/03 7/31/12			11	DR		9/24/2012	**solicitation sent 11/7/13** **Tom working**
PETROCHEM RECOVERY SERVICES 057934176	S	P. O. Box 1458 63 Smaltby Avenue	Norfolk	VA	23501	(757) 627-8791 (757) 640-1261 fax	Nina Fenska@petrochemrecovery.com		HSCG84-14-P00021	5/20/14	3/28/15 7/18/15	B/O/H	5	PB DB		5/8/2013	
Power Systems and Supplies 783129450	S	6841 N. Tongass Highway	KETCHIKAN	AK	99901	907-247-7772 907-617-3392	AndrewSpokley	andrew@pssak.com	HSCG84-14-A-J00001	12/19/13		B/O/H	17	DR			
PROGRESSIVE ENVIRONMENTAL SERVICES *(dba SWS ENVIRONMENTAL SERVICES)* 829695530	LG	1619 Moylan Road	600 Grand Panama Blvd	FL	32407	(850) 234-8428	Jeff Sweren	jeff.sweren@swsenvironmental.com	HSCG84-14-A-M00010	11/7/13	8/1/14 11/21/14	B/O/H/D SU/V	7, 8	JL DB			
R M WALSDORF 603619396	S	P.O. BOX 66	BROWNSVILLE	TX	78521	(956) 831-3984 (956) 831-4923 Fax	Robbie Walsdorf	kim@rmwalsdorf.com	HSCG84-10-A-800006 Mod P00001	8/22/2008 03/28/2011	1/31/2014 4/25/14	B/O/H/SU/V	8	JH JD	11/03/11	7/15/2013	
REACT ENVIRONMENTAL SERVICES, INC. 062353792	S	716 Jersey Avenue	GLOUSTER CITY	NJ	8030	(215) 729-2777 (215) 729-1557 Fax	Terri Bocuzzi	eking@reactenv.com	HSCG84-10-A-500005 Mod P00001 Mod P00002 #	2/3/2010 03/28/2011 8/2/12	11/22/13 3/14/14	B/O/H/D	1, 5	PB DB	11/03/11	1/4/2011	
RESOLVE MARINE GROUP, INC *(dba RESOLVE TOWING & SALVAGE)* 152722773	LG	1850 South East 17th Street	FORT LAUDERDALE	FL	33316	(954) 764-8700	Peter Robinson Todd Duke	probinson@resolve.com tduke@resolve.com	HSCG84-13-A-M00002 Mod P00001	12/5/2012 05/01/14	5/15/14 9/4/14	B/O/H/V/T/ DD/SM/SU SW/V	7	JL DB			
RESOLVE MARINE GROUP, INC *(dba RESOLVE TOWING AND SALVAGE)* 152722773	LG	9510 NE 30TH AVE	VANCOUVER	WA	98665	(954) 764-8700 (954) 764-8724(f)		djohnston@resolveacademy.com	HSCG89-06-A-68F900	2/15/06			11, 13, 14, 17	JL DB		5/17/2013	**Jess working** **need to merge with D7 BOA**
(dba SEAL) SOUTHEAST ALASKA LIGHTERAGE 189656150	S	22745 Glacier Highway	JUNEAU	AK	99801	(907) 789-4210 (907) 789-7325(f)	John Gitkov	seal@alaska.net	HSCG84-14-A-J00012	06/09/14			17	DR		1/12/2013	
(dba SEAPRO) SOUTHEAST ALASKA PETROLEUM RESOURCES ORGANIZATION INC *(COOP)* 801161209	LG	540 Water Street, Ste 201	KETCHIKAN	AK	99901	(907) 225-7002 (907) 247-1117(f)	David Owings		DTCG89-99-A-68F953 Mod P00001	06/07/99 7/31/12	10/11/13 1/31/14		17	DR		9/11/2012	**Cynthia working** **finializing negotiations**
SET Environmental, Inc. 098979297	LG	450 Sumac Road	Wheeling	IL	60090	847-850-1075 877-437-7455 224-688-7623	Mike Lanenga	mlanenga@setenv.com	HSCG84-13-A-G00008	09/13/13	4/25/14 8/1/14	B/O/H/SU/V	8 & 9	TA JD			

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SR&R ENVIRONMENTTAL, INC *(dba SOUTH EAST RESPONSE & REMEDIATION, INC.)* 783910508	S	P. O. Box 221	WILMINGTON	NC	28402	(910) 763-6274 (910) 763-6132 fax	William Murrell / Rick Miles	rmiles@serr.com	HSCG84-14-A-P00011	1/23/14	10/11/14 1/31/15	B/O/H	5	PB DB	11/03/11	05/08/13	
Superior Envionmental Corporation 364352898	S	1128 Franklin Street 1680 Marquette Avenue	Marne Bay City	MI MI	49435 48706	989/684-4405 616-667-4000	Jeff Skendrovic Karl Primdahl	j.skendrovic@superiorenvironmental.com k.primdahl@superiorenvironmental.com	HSCG84-13-A-G00001 Mod P00001	4/18/2013 1/24/14	10/15/14 2/4/15	B/O/SG/V	9	TA JD		2/4/2014	
T & T MARINE SALVAGE, INC. 034590005	LG	9723 TelCHman Road	GALVESTON	TX	77554	(409) 744-1222 (409) 770-7634 (cell) (409) 643-6385 (pager) (409) 744-5218 (fax)	Kevin TeiCHman Donna Teichman- Pres	kevint@tandtmarine.com	HSCG84-10-A-800008 Mod P00001 Mod P00002 #	6/24/2010 3/28/11 8/1/12	1/3/14 4/25/14	B/O/ SM/SS	8	JH JD	11/03/11	3/12/2014	
THE O'BRIENS GROUP, INC *(dba ERST/O''BRIEN'S)* 176525715	LG	2929 E. IMPERIAL HIGHWAY, SUITE 290	BREA	CA	92821-6729	(714) 577-2113	Dan Sobieski	dan.sobieski@theobriensgroup.com	HSCG84-11-A-800001	3/1/11			1, 5, 7, 8, 9	DB	11/3/2011 NEED FOLDER	2/22/2009	
The Response Group 132404356	LG	13939 Telge Road	Cypress	TX	77429	281-880-5000	Dawn Rayner	drayner@responsegroupinc.com	HSCG84-14-A-N00011	3/28/14	12/1/14 3/23/15	Advisory	1, 5, 7, 8, 9	DB			
TITAN MARITIME LLC INC. 091725213	LG	700 NW 33rd Street, Suite 290	POMPANO BEACH	FL	33064	(954)545-4143 (954)545-4552 (f)	Samina Mahmood	Samina.Mahmood@titansalvage.com	HSCG84-13-A-M00005 Mod P00001	3/4/2013 05/13/14	3/14/15 7/4/15	B/O/H/DD/ SU/V/T	7, 13	JL DB		2/1/2013	
TMC SERVICES, INC 941890022	S	One William Way	BELLINGHAM	MA	2019	(508) 966-3737	Ron Schales	Rschales@hazmatt.com	HSCG84-14-A-B00008	04/22/14	1/19/15 5/11/15	O/H	1	CM DB		8/23/2012	
Trimvriate Environmental 196349492	LG	200 Innterbelt Road #4	Sommerville	MA	2143	617-715-8901 617-628-8099 (fax)	Matthew Iovanni	Miovanni@triumvirate.com	HSCG84-14-A-P00007	10/17/2013	6/20/14 10/10/14	B/O/H	1/5	PB JD			
UNITED STATES ENVIRONMENTAL SERVICES, L.L.C. 036760262	LG	365 Canal Street, Suite 2500	NEW ORLEANS	LA	70130	(504) 279-9930 985-590-7089 Brian cell (888) 279-9930 Mobile Office. Tracey 251-662-3500/2100	Brian Carpenter	bcarpenter@usesgroup.com	HSCG84-10-A-800003 Mod P00001	1/27/2010 03/28/2011	10/25/13 2/14/14	B/O/H/SU/V	8	JH JD			
UNITEK ENVIRONMENTAL 855020509	S	P.O Box 24607	BARRIGADA	GUAM	96921	(671) 565-3151 (671) 565-3391(f)	Leroy Moore	unitek@ite.net	DTCG89-97-A-68F909 Mod P00001	02/18/02			14	DR			**Jess working** **sent solicitation 6/3/14**
UP ENVIRONMENTAL SERVICES, INC 878300102	S	P.O. Box 127 1315 Highway US 2 & 41	BARK RIVER	MI	49807	(906) 466-9900 906-466-2641	Wayne Stenbergs Rick Riedy	wayne@stenbergs.us rick@upenvironmental.com	HSCG84-13-A-G00009 Mod P00001	8/6/2013 6/10/14	04/15/15 8/5/15	B/SU/V	9	TA JD		6/7/2014	
WEAVERTOWN TRANSPORT LEASING, INC. Dba WEAVERTOWN ENVIRONMENTAL GROUP 084528033	LG	2 Dorrington Road	Carnegie	PA	15106	(724) 746-4850 412-779-4097	Mr. Daryl Heiser	dheiser@weavertown.com	HSCG84-13-A-N00003 Mod P00001	4/29/2013 1/3/14	9/12/14 1/2/15	B/O/H/ SU/V /T	5, 8, 9	TA JD		6/3/2014	
WEEKS MARINE INC. 044665230	S	4 Commerce Drive	CRANFORD	NJ	07016-3598	(908) 272-4010	Rick Devine Rudy Wohl	oswohl@weeks.marine.com	HSCG84-14-A-P00016	12/18/13	9/14/15 1/4/16	B/O/H/SM/SS/ F/SU/V/T/DD/ DS	1, 5	CM DB			
WEST COAST MARINE CLEAN 624674081	S	P.O. Box 61944	Vancouver	WA	98666	(503) 289-5621 (503) 835-7534(f)	Robert Baker	rbaker@westcoastmarinecleaning.com	DTCG89-00-A-68F987	3/20/2000	9/27/2013 1/17/14		13	DR			**Cynthia working**
WILD WELL CONTROL INC 060714755	LG	2202 Oil Center Ct	Houston	TX	77073	(281) 353-5481 (281) 353-5480 FAX	Mike Drieu	mdrieu@wildwell.com	HSCG84-10-A-800007 Mod P00001	4/14/2010 03/29/2011	12/6/13 3/28/14	F/O	1, 5, 7, 8, 9	JH JD	11/3/2011 NEED FOLDER	7/12/2013	

** DIST SERV AREAS: KTR responds within 2-4 hours

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVENUE SE
WASHINGTON NAVY YARD DC 20376

IN REPLY TO:

5090
Ser 00C25/2002
10 JAN 2014

From: Commander, Naval Sea Systems Command (00C)

Subj: AUTHORITY TO UTILIZE U.S. NAVY SUPERVISOR OF SALVAGE (SUPSALV) OIL SPILL RESPONSE EQUIPMENT

Ref: (a) SUPSALV Ltr Ser 00C25/2016 of 23 May 2008
(b) Oil Pollution Act of 1990 (OPA 90),
(c) OPNAVINST 5090.1(series), Environmental Readiness Program Manual
(d) 40CFR300, National Oil and Hazardous Substances Pollution Contingency Plan

Encl: (1) USCG Tiered Response Requirements, excerpts from 33CFR154, 33CFR155, and 40CFR112
(2) SUPSALV Equipment Capabilities

1. This letter replaces and updates reference (a), including the addition of contract aerial surveillance and dispersant capabilities newly required by reference (b). Pursuant to reference (b), facilities handling threshold quantities of oil are required to maintain Facility Response Plans (FRPs), addressing a full range of spill response scenarios. For each scenario, response equipment and trained personnel are required to respond with a defined capability and within certain time requirements. This letter authorizes any DoD facility to list in its FRP the spill response resources owned and managed by the U.S. Navy Supervisor of Salvage (SUPSALV) to the extent they meet the time and capability requirements of the mandated scenarios.

2. In accordance with reference (c), the Office of the Supervisor of Salvage (SUPSALV) of the Naval Sea Systems Command (NAVSEA Code 00C) is responsible for providing technical support and resources to the Navy Fleet and shore establishment under the oil and hazardous substance (OHS) spill response program. Reference (d) discusses SUPSALV capability to provide spill response assistance, upon request of the On Scene Coordinator (OSC), to other federal agencies. Under its Emergency Ship Salvage Material (ESSM) System, SUPSALV maintains an extensive inventory of centrally-located, open-ocean and catastrophic (on land or afloat) spill response equipment that is strategically

pre-positioned to provide rapid response to Navy spills. This equipment, with operating personnel, is available for response to any DoD component (and any other federal agency, if requested by the OSC) in the event of large oil spills beyond the capabilities of the facility's locally available spill response assets Access to this equipment is on an actual cost-reimbursable basis for deployment - there is no retainer charge. SUPSALV spill response assets in the United States are located in Williamsburg, VA, Port Hueneme, CA, Pearl Harbor, HI, and Anchorage, AK. SUPSALV military and civilian technical specialists are available around-the-clock to provide further information on available resources and to assist with on-scene emergency response by providing technical assistance and/or coordinating the deployment and management of SUPSALV contractor and ESSM resources as required by the Navy/Federal customer.

3. SUPSALV's equipment inventory is capable of rapid deployment by either air or truck. The gear has been specifically designed to be self-supporting and capable of operating in remote locations if need be. This capability allows SUPSALV to operate in both inland and at-sea environments. SUPSALV personnel, equipment, and technical specialists have extensive operational experience and meet US Coast Guard Oil Spill Removal Organization (OSRO) maintenance, exercise and training requirements.

4. Regulatory agencies have established a combination of required response resources and the times within which the resources must arrive on scene for various spill scenarios, including Worst Case Discharges (WCD). Enclosure (1) provides a summary of WCD Tiered requirements as described in 40CFR112, 33CFR154, and 33CFR155. The geographic dispersion of SUPSALV's Emergency Ship Salvage Material (ESSM) bases allows SUPSALV flexibility in pulling equipment from the closest ESSM site or support contractor site, or by cascading equipment from other bases. This can greatly expedite response times and increase the amount of available assets. Response from the ESSM base in Williamsburg generally meets WCD Tiers 2 and 3 time requirements for the Gulf Coast, East Coast, and Great Lakes, and Tier 3 requirements on the West Coast (except for the Puget Sound area). Response from the ESSM base in Port Hueneme generally meets the WCD Tiers 2 and 3 time requirements for the West Coast and Tier 3 requirements on the Gulf Coast, East Coast, and Great Lakes. This response capability allows most DOD facilities and afloat entities to list SUPSALV as an appropriate responder in their spill contingency plans (such as Facility Response Plans,

Spill Contingency Plans, and Vessel Response Plans) in order to meet government mandated response requirements (facilities) or voluntary compliance (public vessels). To determine a predicted response time for any specific facility, please call the point of contact at SUPSALV listed below.

5. The SUPSALV web link, www.supsalv.org, may be useful during updates of Oil and Hazardous Substances (OHS) spill contingency plans for Navy and other Department of Defense facilities that cite SUPSALV as a spill response organization. Planning information can be found under the "00C25 Environmental" tab of this website and specifically under "Equipment." General information and equipment descriptions are available as well as the following resources:

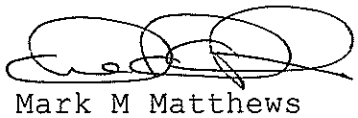
- "ESSM Pollution Response Equipment Inventory (By location)" offers users an updated table listing the equipment available at each ESSM location.
- "SUPSALV Contingency Planning" offers users pre-calculated Effective Daily Recovery Capacity (EDRC), Temporary Storage Capacity (TSC) and Feet of Boom for all SUPSALV equipment.
- "ESSM Equipment Request Procedures" provide guidelines for requesting SUPSALV assistance (such as request procedures, funding requirements, and a sample request message).

Enclosure (2) lists equipment capabilities using OPA 90 calculations. These figures may be used in determining equipment requirements necessary to meet worst case discharge (WCD) scenarios. Further descriptions of the equipment capabilities can be provided upon request. Each command remains responsible to ensure that they can meet the tiered response requirement criteria outlined in the regulations as applied to their facility.

6. Addressees desiring to include SUPSALV response assets in their contingency planning, or desiring further information, should coordinate with the points of contact listed in this paragraph. Addressees are further requested to distribute information regarding SUPSALV's response resources to their subordinate commands. Questions concerning access to SUPSALV resources can be addressed to the SUPSALV Operations and Ocean Engineering Division at (202) 781-1731, extension 2. Points of contact are Mr. Mike Herb for salvage matters and Mr. Kemp Skudin for pollution response matters.

Subj: AUTHORITY TO UTILIZE U.S. NAVY SUPERVISOR OF SALVAGE (SUPSALV) OIL SPILL RESPONSE EQUIPMENT

For after-hours emergencies, contact the NAVSEA Duty Officer at (202) 781-3889.



Mark M Matthews
Supervisor of Salvage and Diving,
Director of Ocean Engineering, USN

DISTRIBUTION:
National Response Team
Regional Response Teams
National Air and Space Administration
National Oceanic and Atmospheric Administration
National Science Foundation
USCG District Offices (dr)
USCG Sector Commands
U.S. Maritime Administration (MAR-610.1)
USNORTHCOM (J3, J5)
Deputy Commandant of the Marine Corps (Installations and Logistics)
HQ USAF (AF/A7C, AF/A7CV)
HQ Air Force Civil Engineer Support Agency (AFCESA)
Air Force Petroleum Agency (AFPA)
HQ Air National Guard (ANG)
Army Corps of Engineers
ATZF-CSS Marine Safety Office (Dept of the Army Watercraft Fleet)
ASAR 63rd RSC/99th RRC (Dept of the Army Reserve Watercraft Fleet)
COMSC (N732)
COMSUBFOR (N451A))
NAVFAC LANT (EV12)
NAVFAC PAC (EV1)
NAVFAC EXWCNAVFAC MIDLANT (N45, EV1)
NAVFAC SOUTHEAST (N45, EV1)
NAVFAC MIDWEST (N45, EV1)
NAVFAC SOUTHWEST (N45, EV1)
NAVFAC NORTHWEST (N45, EV1)
NAVFAC WASH (N45, EV1)
NAVFAC HAWAII (N45, EV1))
NAVFAC MARIANAS (N40, EV1)

Copy to:
USCG Headquarters (CG-533)
USCG Marine Safety Center
Federal Emergency Management Agency

Subj: AUTHORITY TO UTILIZE U.S. NAVY SUPERVISOR OF SALVAGE (SUPSALV) OIL SPILL RESPONSE EQUIPMENT

Environmental Protection Agency
Office of the Secretary of Defense (Joint Director of Military Support (JDOMS))
Missile Defense Agency (SBX-1 Program)
Defense Logistics Agency- Energy
OPNAV (N452)
COMPACFLT (N01CE15, N3, N4, N4655)
CUSFFC (N3, N43, N7)
COMUSNAVCENT (N3, N44, N5)
COMUSNAVEUR, COMUSNAVAF (N3, N5)CNIC (N45)
NAVFACHQ (CWA Program Administrator)
NAVFAC FAREAST (EV1)
COMNAVREG MIDLANT (N451)
COMNAVREG SOUTHEAST (N45)
COMNAVREG MIDWEST (N45)
COMNAVREG SOUTHWEST (N45)
COMNAVREG NORTHWEST (N45G)
COMNAVREG HAWAII (N45)
COMJTFREG MARIANAS (N40)
COMNAVFOR JAPAN (N45)
COMNAVFOR KOREA (N91)
COMNAVREG EURAFSWA (N45)
CCOMNAVREG EURAFSWA, Det Bahrain (EVSWA, N45)
NAVFAC EURAFSWA (EV1)
COMTHIRDFLT
COMFOURTHFLT
COMFIFTHFLT
COMSIXTHFLT
COMSEVENTHFLT
NSWCCD-SSES

TIERED RESPONSE REQUIREMENTS

RESPONSE TIMES:

33 CFR 154 Required Response Times for Marine-Transportation-Related Facilities	Tier 1 Time Hrs.	Tier 2 Time Hrs.	Tier 3 Time Hrs.
High Volume Port Areas (except for a TAPAA facility located in Prince William Sound, see 33 CFR 154.1135)	**6**	**30**	**54**
Great Lakes	**12**	**36**	**60**
All other river and canal, inland, and nearshore areas	**12**	**36**	**60**

33 CFR 155 Required Response Times for Vessels	Tier 1 Time Hrs.	Tier 2 Time Hrs.	Tier 3 Time Hrs.
High Volume Port Areas	**12**	**N/A**	**N/A**
Great Lakes	**18**	**N/A**	**N/A**
All other river and canal, inland, and nearshore areas	**24**	**N/A**	**N/A**
Open ocean (plus travel time from shore)	**24**	**N/A**	**N/A**

40 CFR 112 Required Response Times for Non-Transportation-related Onshore and Offshore Facilities	Tier 1 Time Hrs.	Tier 2 Time Hrs.	Tier 3 Time Hrs.
High Volume Port Areas	**6**	**30**	**54**
Great Lakes	**12**	**36**	**60**
All other river and canal, inland, and nearshore areas	**12**	**36**	**60**

RESPONSE CAPABILITY REQUIREMENTS CAPS BY OPERATING AREA:

February 18, 1998 *(40 CFR 112, 33 CFR 154 & 33 CFR 155)*	Tier 1	Tier 2	Tier 3
All except Rivers and Canals, Great Lakes	**12.5K bbls/day**	**25K bbls/day**	**50K bbls/day**
Great Lakes	**6.25K bbls/day**	**12.3K bbls/day**	**25K bbls/day**
Rivers and Canals	**1.875K bbls/day**	**3.75K bbls/day**	**7.5K bbls/day**

Note: 1) The caps show cumulative overall effective daily recovery capacity requirements, not incremental increases. Also, requirements for a given facility may be less.

SUPSALV EQUIPMENT INVENTORY
FOR CONTINGENCY PLANNING
PURPOSES

(Go to http://www.supsalv.org/essm for actual, current equipment location)

SKIMMING SYSTEMS

	RECOVERY EQUIPMENT	
System I.D.	**System**	**Estimated Daily Recovery Capacity (EDRC) ****
P16400	Marco Class V Vessel Skimmer	2158 EDRC (bpd)
P16100	Modular Marco Class V Vessel Skimmer	2158 EDRC (bpd)
P16310	Vessel of Opportunity (VOSS) Marco Class XI Sorbent Belt Skimmer	2158 EDRC (bpd)
P16300	Vessel Of Opportunity (VOSS) High Speed Current Buster Skimmer	1509 EDRC (bpd)
P16500	Heavy Debris Oil Recovery System	2825 EDRC (bpd)
P18100	Vacuum Pump Skimmer System	2573 EDRC (bpd)
P16200	Salvage Support Skimmer System	1818 EDRC (bpd)
P16700	Inland Support Skimmer System	2009 EDRC (bpd)

- **Estimated Daily Recovery Rates are planning factors only. Actual Recovery Rates will vary depending on type of oil, weather, sea state and other operational considerations.

BOOM

	BOOM EQUIPMENT	
System I.D.	System	Ft. of Boom
P19100	42" Oil Containment Boom System	2,000
P19090	26" Oil Containment Boom System	3,000
P19080	18" Inflatable Boom System	4,000
P19070	18" Non-Inflatable Boom System	2,000

TEMPORARY STORAGE

	STORAGE EQUIPMENT	
System I.D.	System	TSC
P14100	136k Gallon Bladder	3,238 bbls
P14200	290k Gallon Bladder	6,905 bbls
P14300	21k Gallon Bladder	500bbls
P14300	26k Gallon Bladder	619 bbls
P14300	50k Gallon Bladder	1,190 bbls

Note: Temporary Storage Capacity (TSC) listed above reflects equipment currently among SUPSALV physical assets, including bladders assigned to Skimming Systems. Additional TSC is available through SUPSALV's contracted resources

Note: Aerial surveillance and dispersant capabilities now required are available in CONUS through SUPSALV commercial resources on contract retainer.

Appendix C
Worksheet for Calculation of the Planning Distance

General Discussion on the Naval Air Station Corpus Christi (NASCC) Planning Distance

Appendix C follows U.S. Environmental Protection Agency guidance to calculate the relevant distance that a Worst Case Discharge (WCD) could cause injury to fish, wildlife, and sensitive environments. The calculations in this attachment have been prepared in accordance with 40 Code of Federal Regulations (CFR) 112, Appendix C, Attachment C-III – *Calculation of the Planning Distance*.

Non-Transportation Related WCD Description

A WCD would be expected to occur at the Aviation Fuel Farm where there are two field-constructed ASTs (each containing F-24). Each AST is single-walled and is located within individual containment dikes that are large enough to sufficiently contain each tank plus adequate freeboard. Drainage from the containment dikes is directed to an oil/water separator (OWS) system which can be directed either to the Air Station's stormwater system or to the Air Station's Wastewater Treatment Plant (WWTP). Drainage is controlled by post indicator valves. Once treated at the Air Station's WWTP, effluent is discharged into Corpus Christi Bay. Drainage from the stormwater system is directed into nearby drainage ditches and swales and flows southeast to eventual discharge into the Laguna Madre near the Held-Hogan Wildlife Reserve.

Oil Transport on Tidal-Influenced Areas

The text below is excerpted from 40 CFR 112, Appendix C – Section 4.0, Oil Transport on Tidal-Influenced Areas. It describes the methodology for determining the planning distance in a tidal-influenced area. Petroleum from a WCD would be expected to drain to the southeast from the Aviation Fuel Farm and into the Laguna Madre, which is tidally influenced.

> 4.1 The planning distance method for tidal influence navigable water is based on worst case discharges of persistent and non-persistent oils. Persistent oils are of primary concern because they can potentially cause harm over a greater distance. For persistent oils discharged into tidal waters, the planning distance is 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.
>
> 4.2 For non-persistent oils discharged into tidal waters, the planning distance is 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.

Based on the guidelines stated above, and the fact that F-24 is a non-persistent oil, the planning distance for a WCD of F-24 at NASCC is 5 miles.

Appendix D
Worksheets for Determining Worst Case Discharge Planning Volumes

WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE STORAGE FACILITIES[1]

This attachment is excerpted from 40 CFR 112, Appendix D.

Part A of worksheet is to be completed by the owner or operator of a Spill Prevention, Control, and Countermeasure -regulated facility (excluding oil production facilities) if the facility meets the criteria presented in Appendix C to 40 CFR 112, or if it is determined by the Regional Administrator that the facility could cause substantial harm to the environment.

Note that as a multiple tank facility, Part A.1 is not applicable to Naval Air Station Corpus Christi (NASCC) and is not provided in this Appendix.

A.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?[2]

__**N**__ (Y/N)

A.2.1 If the answer is yes, the final worst-case discharge planning volume equals the *total aboveground oil storage capacity at the facility.*

(1) FINAL WORST CASE VOLUME: **N/A** GALLONS

(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER "0" (zero).

0 GALLONS (0 BARRELS)*

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area, or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.2.

FINAL WORST CASE VOLUME: **272,000 GALLONS (6,476 BARRELS)**

* At the time of the 2016 Discharge Prevention and Response Plan update, there were no aboveground storage tanks lacking sufficient secondary containment. Refer to Section 1.4.1 and the NASCC Spill Prevention, Control, and Countermeasure Plan for more information.

[1] "Storage facilities" represent all facilities subject to this part, excluding oil production facilities.

[2] Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

Appendix E
Worksheets for Determining Response Resources Requirements

This appendix is excerpted from 40 CFR 112, Subpart D – Appendix E and provides the response resources necessary for a Worst Case Discharge (WCD) at a Non-Transportation Related facility. This appendix contains worksheets for calculating the response resources requirements for a WCD at Naval Air Station Corpus Christi (NASCC). NASCC stores and transfers multiple types of petroleum products, including jet fuel (F-24), gasoline, diesel fuel, and engine oils, among others. The majority of oils (92 percent) that pose a risk from discharge are Group 1 non-persistent oils (that is, F-24 and gasoline). Group 2 persistent oils (diesel fuel) make up 6.1 percent of NASCC's total oil storage. The resources required to respond to Group 1 oils is provided in Table E.1, below.

TABLE E.1
Worksheet to Plan Volume of Response Resources for Worst-Case Discharge, F-24

Part I Background Information				
Step (A) Calculate Worst Case Discharge in barrels (Appendix D)				6,476 **A**
Step (B) Oil Group[1] (Table 3 and Section 1.2 of 40 CFR 112, Appendix E)				1
Step (C) Operating Area (choose one)….	Near Shore / Inland / Great Lakes	X	Or Rivers and Canals	
Step (D) Percentage of Oil (Table 2 of 40 CFR 112, Appendix E)				
Percent Lost to Natural Dissipation	Percent Recovered Floating Oil		Percent Oil Onshore	
80	20		10	
(D1)	**(D2)**		**(D3)**	
Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2)} \times \text{Step (A)}}{100}$				1,295 **E1**
Step (E2) Shoreline Recovery $\frac{\text{Step (D3)} \times \text{Step (A)}}{100}$				648 **E2**
Step (F) Emulsification Factor (Table 3 of 40 CFR 112, Appendix E)				1.0
Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of 40 CFR 112, Appendix E)				
Tier 1	Tier 2		Tier 3	
0.15	0.25		0.40	
(G1)	**(G2)**		**(G3)**	
Part II On-Water Oil Recovery Capacity (barrels/day)				
Tier 1	Tier 2		Tier 3	
194	324		518	
Step (E1) × Step (F) × Step (G1)	Step (E1) × Step (F) × Step (G2)		Step (E1) × Step (F) × Step (G3)	
Part III Shoreline Cleanup Volume (barrels)				648 Step (E2) × Step (F)

[1] A facility that handles, stores, or transports multiple groups of oils must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less, by volume, of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

TABLE E.1

Worksheet to Plan Volume of Response Resources for Worst-Case Discharge, F-24

Part IV On-Water Response Capacity by Operating Area (Table 5 of 40 CFR 112, Appendix E) (Amount needed to be contracted for in barrels/day)		
Tier 1	Tier 2	Tier 3
12,500	25,000	50,000
(J1)	**(J2)**	**(J3)**
Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)		
Tier 1*	Tier 2*	Tier 3*
-12,306	-24,676	-49,482
Part II Tier 1 – Step (J1)	Part II Tier 2 – Step (J2)	Part II Tier 3 – Step (J3)
*Negative values indicate that no additional response resources above the planning caps need to be identified.		

Based on the information above, NASCC must have access to equipment that is rated to recover 194, 324, and 518 barrels of Group 1 oil per day from an on-water environment and within the Tier 1, 2, and 3 time thresholds stated in 40 CFR 112, Subpart D. As presented in Section 1.7, Plan Implementation, NASCC has access to adequate Oil Spill Response Organization (OSRO) equipment that is rated at or above the requirements in the table above. As stated in Section 1.3, NASCC has enough consumable materials to respond to shoreline clean-up. Storage resources for cleanup materials could be provided initially by NASCC Environmental with supplemental resources provided by an OSRO within the time frame requirements. Part IV to Table E.1, above, presents contracting caps for the following situations (1) NASCC's planning volume and (2) NASCC's daily recovery capacity. If either volume were to exceed the caps, NASCC would need to identify additional response resources. As presented in Parts I and II of the above table, neither volume exceeds the contracting caps.

Appendix F
List of Contacts

TABLE F.1
List of Contacts

Incident Command System Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Facility Incident Commander (FIC): Commanding Officer CAPT Stephen E. Banta	60	(361) 961-2332	(361) 961-2082
Alternate FIC: Executive Officer (XO) CDR David Cisneros	60	(361) 961-2331	(361) 961-2082
Qualified Individual (QI): Public Works Officer (PWO) CDR Kevin Norton	60	(361) 961-3665	(361) 961-2082
Alternate QI: Deputy PWO Mr. Mark Stroop	60	(361) 961-3664	(361) 961-2082
Alternate QI: NASCC Fire Chief Acting Chief Jason Krause	60	(361) 537-1151	(361) 961-2082
Alternate QI: Installation Environmental Program Director (IEPD) Ms. Bernice Snyder	60	(361) 961-5353	(361) 961-2082
Safety: Safety Manager Ms. Carolyn Scheible	60	(361) 961-2489	(361) 961-2082
Legal: Legal Officer LT Michael Johnson	60	(361) 961-1605	(361) 961-2082
Public Information: Public Affairs Officer Ms. Francoise “Fifi” Kieschnick	60	(361) 961-2674	(361) 961-2082
Liaison: Emergency Manager Mr. Ron Retzlaff	60	(361) 961-1725	(361) 961-2082
Operations Section Chief: Security Officer LT Donald Copping	60	(361) 961-3392	(361) 961-2082
First Responder: NASCC Fire Department Officer in Charge Acting Chief Jason Krause	10	911	
Fuels: Fuels Contracting Officer Representative (COR) Mr. Fred Wruck	60	(361) 961-3265	(361) 961-2082
Security: Watch Commander (e.g., Quarter Deck) Security Officer: LT Donald Copping	60	(361) 961-2082	(361) 961-2082
Planning Section Chief: Operations Officer CDR Derek Brown	60	(361) 961-2246	(361) 961-2082
Environmental: IEPD Ms. Bernice Snyder	60	(361) 961-5353	(361) 961-2082
Logistics Section Chief: FISCJ Detachment LCDR Michael Uhl FISCJ Detachment Deputy Laura McLaughlin	60	(361) 961-3662 (361) 961-2400	(361) 961-2082
Supply: Supply Officer LCDR Michael Uhl	60	(361) 961-3662	(361) 961-2082

TABLE F.1
List of Contacts

Incident Command System Role, Name and Job Title	Response Time (minutes)	Phone or Pager Number	
		Day	Evening
Transportation: Transportation Officer Mr. James Graves	60	(361) 961-1650	(361) 961-2082
Medical: Branch Health Clinic Commanding Officer CAPT Guido Valdez	60	(361) 961-2685	(361) 961-2082
Finance Section Chief: Facilities Engineering Acquisition Division Director LT John Heatherly	60	(361) 961-2156	(361) 961-2082
Naval Facilities Engineering Command Southeast Contracting: Contracting Officer Mr Kyle Acton	60	(904) 542-6914	(904) 542-3118
Regional QI: Navy Federal On-Scene Coordinator Program Manager Mr. John Baxter	960 (16 hours)	Direct: (904) 542-6981 Mobile: (904) 482-8397	(904) 542-3118

Commander, Navy Region Southeast Regional Operations Center (CNRSE ROC)

Appendix G
Letters of QI Designation

TO BE INSERTED BY NASCC ENVIRONMENTAL

Appendix H
Site-specific Health and Safety Plan

Site-specific Health and Safety Plan

Under U.S. Coast Guard regulations, each facility response plan must have a site-specific health and safety plan (HASP) that complies with the requirements of 29 Code of Federal Regulations (CFR) 1910.120. Because it is not possible to create a HASP for each contingency, this site-specific plan for Naval Air Station Corpus Christi (NASCC) should be modified to become incident-specific.

The safety and security of response and support personnel and others involved in an emergency response are the primary concerns. This section provides a general framework for protecting oil spill response personnel. The information in the health and safety section is intended for use as a guide by the Safety Officer to prepare and implement worker health and safety protection measures to maximize safety and allow critical oil spill response activities to proceed. Specific site control and emergency response procedures will need to be developed using forms provided in this plan or other forms developed by NASCC. Other procedures for activities, such as confined space entry or hot work, will require additional controls in order to fulfill the regulatory requirements. These and other health, safety, and regulatory matters must be identified by the Safety Officer. Once these are identified, the Safety Officer will need to take appropriate action to address those safety issues or regulatory requirements.

Health Hazards

The specific hazards of the major products stored at NASCC are listed in Table H.1.

TABLE H.1
Physical and Toxicological Hazards of Stored Products

Material Name	Oil Group	Vapor Density[1]	Flammable Range[2]		Flash Point[3]	Specific Gravity[4]	Toxicity Level[5]
			LEL	UEL			
Unleaded Gasoline[6]	1	3.0-4.0↓	1.4%	7.4%	< -30°F	0.75 (Floats)	300 ppm TLV 500 ppm STEL
Diesel Fuel	1	8.0↓	NDA	NDA	130°F	0.87 (Floats)	NE
F-24	1	>5.0↓	0.5%	6%	100°F	0.84 (Floats)	NE

[1]Vapors/gases less than 1 will rise (↑) in air and be trapped at the top of enclosures. Vapors greater than 1 will sink in air (↓), travel along ground, and settle in low areas.

[2]LEL (lower explosive limit) is the same as LFL (lower flammable limit). UEL (upper explosive limit) is the same as UFL (upper flammable limit).

[3]Flash point is the temperature at which enough vapors are present to ignite and flash across the liquid's surface when an ignition source is provided. The lower the temperature, the more vapors being produced and the greater potential for harm.

[4]Specific gravity indicates whether a material will float or sink in water. Any number less than 1 means the product will float on the surface. Any number greater than 1 will sink beneath the water. A number equal to 1 will disperse throughout water.

[5]These are published exposure limits found on Safety Data Sheets (SDSs).

[6]Unleaded and premium unleaded gasoline contains toluene, xylene, ethylene benzene, and benzene.

NDA = no data are available; NE = not established; ppm = parts per million; TLV = threshold limit value-time weighted average; STEL = time weighted (8-hour) average-short term (15-min.) exposure limit

Medical Monitoring

All persons who will be exposed or will have the potential to be exposed to hazardous substances may be provided the opportunity to take part in a medical monitoring program that meets the requirements of 29 CFR 1910.120(f). In general, medical monitoring will be conducted for workers as follows:

- Workers who have the potential to be exposed to hazardous substances at or above the permissible exposure limit for more than 30 days in a year.
- Workers whose duties require them to wear a respirator for more than 30 days/year.
- Workers who are believed to have been exposed to hazardous substances and who exhibit symptoms of exposure.
- Members of HAZMAT Teams.

Records and Reports

Both state and federal regulations require employers to prepare and maintain records of occupational injuries and illnesses.

Health Hazards

Health hazards must be identified in the site-specific HASP. The following lists typical hazards that should be addressed during an oil spill response. A similar list should be developed for hazardous substances stored at NASCC.

Primary Chemical Hazards

Table H.2 lists typical petroleum products that are transported to and used at NASCC.

TABLE H.2
Permissible Exposure Limits of Oil Pollution Act of 1990 Products Stored or Used by NASCC

Product	TWA (Time-weighted Average) (in ppm)	STEL (in ppm)
F-24	500	--
Diesel Fuel	500	--
Unleaded Gasoline / MOGAS	300	500

The SDSs for F-24, diesel fuel, and unleaded gasoline may be found in the Environmental Office. The Safety Officer can also provide SDSs for these and other hazardous substances used on base.

F-24

F-24 is a mixture of light hydrocarbons and naphthalene. Naphthalene is a potential irritant to eyes, skin, and lungs and may cause changes to the blood, eyes, and kidneys after prolonged or repeated exposure.

Aspirating this product into the lungs can cause chemical pneumonia and can be fatal.

Gasoline (Unleaded)

Gasoline is a mixture of hydrocarbons, including aliphatic hydrocarbons, aromatic hydrocarbons, a variety of branched and unsaturated hydrocarbons, and additives. Extremely high concentrations of exposure could produce conditions such as dizziness, coma, collapse, and death. Exposure to nonlethal doses is usually followed by complete recovery, although cases of permanent brain damage following massive exposure have been reported.

Diesel Fuel

Aspirating liquid into the lungs may cause extensive pulmonary edema (dry land drowning). Prolonged or repeated skin contact will remove skin oils, leading to irritation and/or dermatitis. High vapor concentrations are irritating to the eyes and lungs, and may cause headaches, dizziness, and unconsciousness.

Subjecting response personnel to the hazards identified above can be avoided though the use of the proper personal protective equipment (PPE) and through proper monitoring and supervision by health and safety personnel. The following paragraphs briefly discuss proper procedures associated with some of the secondary hazards**.**

Secondary Chemical Hazard Identification

Oil and hazardous substance spill responses require the use of a wide variety of chemicals and materials that may singularly or in conjunction with the site work conditions create various hazards to site workers. Several of these hazards are identified in Table H.3.

TABLE H.3
Secondary Chemical Hazards

Hazard Description	Recommended Protective Equipment	Conditions Under Which Exposure May Occur
Diesel and Gasoline Engine Exhaust: Exposure to diesel or engine exhaust may promote inhalation of hydrocarbons, carbon monoxide, and particulates. Exposure may irritate eyes and mucous membranes.	Monitor carbon monoxide (CO) and carbon dioxide (CO_2) levels, ventilate area, and use half-mask respirator with organic and particulate filters.	Diesel and gasoline exhaust exposure may occur in poorly ventilated areas near diesel equipment. It may also occur in sheltered outdoor areas on calm days or during temperature inversions.
Low Oxygen Concentrations: Confined or restricted space atmospheres may be dangerous to life and health if oxygen (O_2) concentrations are below 19.5% (oxygen deficient) or greater than 25% (oxygen enriched).	Monitor O_2 levels and ventilate area. Do not enter O_2-deficient atmosphere without a confined space entry permit and supervision from the Safety Officer. Supplied-air PPE is required. Safe O_2 levels range from 19.5% to 23%.	Exposure may occur in poorly ventilated areas near oxygen-consuming materials or equipment. This includes waste undergoing biological degradation or fuel-powered equipment and confined or restricted spaces (e.g., tanks).
High CO Concentrations: CO is a colorless and odorless gas, slightly less dense than air, and is toxic by inhalation. CO is also highly flammable (Lower Explosive Limit [LEL] = 12%; Upper Explosive Limit [UEL] = 75% by volume in air).	Monitor CO, and ventilate area. Use of supplied air PPE is required. Do not enter high CO atmosphere without a confined space entry permit and supervision from Safety Officer. Safe CO concentrations are less than 50-ppm TWA.	Exposure may occur in poorly ventilated areas near internal-combustion engines. Acetylene welding, industrial heating equipment, and processes involving incomplete combustion may also create this hazard.
Other Spill Response Specialty Agents: Due to the varied nature of oil spill cleanup operations, numerous specialty chemicals in solid, liquid, and gaseous phases may be used or stored in work areas.	Obtain and review SDSs for all products. Verify safety precautions and PPE needs. Obtain any required respirator, skin, eye, and splash protection.	Exposure to these materials in poorly ventilated areas or in open areas may occur if workers are unaware of the chemicals' toxic or physical properties.
Particulates: Particulates may irritate lungs, eyes, and mucous membranes. Particulates may also have toxic effects (e.g., lead, asbestos, cadmium, and silica).	Use half-mask respirator with particulate filter and appropriate cartridges. Use other PPE for eye and skin protection as needed.	Use of powdered or granular oil absorbent (vermiculite, diatomaceous earth, etc.) or other specialty products may cause particles to become airborne and enter the breathing zone of personnel. Wind-carried silt and other dusts may also be a factor.
Dispersant: Inhalation of vapors or mists or skin contact may irritate lungs, eyes, and mucous membranes. Dermal absorption is also possible.	Obtain and review SDS for the specific product. Verify safety precautions and PPE needs. Obtain required respirator, skin, eye, and splash protection.	Use of nutrients (fertilizers) in a spill cleanup effort may create potential exposures during spray application or other distribution and mixing processes.
Dispersant: Inhalation of vapors or mists or skin contact may irritate lungs, eyes, and mucous membranes. Dermal absorption is also possible.	Obtain and review SDS for specific product. Personnel involved in handling or applying dispersant will be provided specific training.	Application of dispersant during the initial spill may expose workers to respiratory and dermal hazards.
Confined Spaces: Inadequate ventilation, coupled with limited egress, creates potentially hazardous situation for workers. Oxygen-deficient, toxic, or flammable atmospheres may exist in these areas. All Occupational Safety and Health Administration (OSHA) procedures regarding confined space entry will be followed.	Monitor CO, O_2, toxic, and flammable gas concentrations and ventilate area. Do not enter a confined space without a confined space entry permit and supervision from the Safety Officer. Safe O_2 levels = 19.5% to 25%; flammable gas limits = less than 10% LEL; toxic limits = less than permissible exposure limit or TLV, whichever is the lower value.	Confined spaces may be encountered on vessels, inside tanks, inside buildings, on drill rigs, in sumps, in ditches, etc. Product vapors or other emissions resulting from response operations may intensify this hazard.
Flammable Atmosphere: A flammable gas, vapor, mist, or dust, when mixed with air, may create a flammable or explosive condition. Volatile vapors or gases will generally be of a sufficient quantity during the initial few hours of a spill to cause a flammable atmosphere.	Conduct flammable gas and O_2 monitoring before starting any work. Atmosphere should be purged or rendered inert when possible. Obtain hot work permits before to starting any cutting or welding. Safe flammable limits are less than 10% of the LEL.	Flammable conditions may exist during the initial phase of a spill or at any time in areas where flammable dusts or vapors may concentrate. Holds of vessels and fueling areas are prime locations to find flammable atmospheres.

Hazardous Conditions

The hazards associated with the contaminants listed in Table H.3 are best controlled through early detection, implementation of engineering controls, by avoiding the hazard, or use of PPE. Early detection can be accomplished by using common sense and understanding the HASP.

Confined Space Entry

Entry into confined spaces (spaces with restricted egress and potentially hazardous atmospheres) will be directly supervised by the Safety Officer through the use of a confined space entry permit. Confined spaces may be O_2-

deficient or have flammable or toxic atmospheres. Confined space entry will be permitted only if the parameters listed in Table H.3 are within acceptable limits.

Physical Hazards

Physical hazards associated with oil spill cleanup operations are varied and subject to the site-specific conditions, cleanup operations, and the type of equipment being used. Severe environmental and weather conditions, complex transportation and logistical requirements, long work hours, and intensive labor needs contribute to the high susceptibility of oil spill workers to physical hazards. Table H.4 summarizes some of the physical hazards associated with spill cleanup operations.

TABLE H.4
General Physical Hazards

Hazard Description	Hazard Treatment Guidance	Hazard Abatement Technique
Slip, Trip, Fall: Oil spill responders work in places where poor footing and lighting creates slip, trip, and fall hazards.	Survey responders for possible unknown injuries. If injured, treat with first aid and seek medical attention.	Provide proper illumination in work areas. Keep work areas free of excess clutter. Move cautiously in work areas and use non-slip soles on footwear. Attempt to recognize and avoid or control hazards in the work area. Conduct hazard awareness briefings.
Back Injuries: The requirement to mobilize and use great quantities of equipment during the oil spill response creates high probability of back injuries. Slips, trips, and falls contribute to back injuries.	Remove worker from the work area to prevent further stress on his/her back. If necessary, stabilize the victim in a prone position with a backboard to prevent additional injury. Seek medical attention.	Lift objects correctly. Obtain assistance from co-workers. Use mechanical devices to reduce lifting effort. Do back and stretching exercises before lifting objects. Bend the legs when lifting instead of bending from the waist.
Eye Injuries: An oil spill response may expose workers to numerous eye hazards, including those resulting from chemical exposure, equipment hazards, open flames, and impacts from particulates or other foreign bodies.	If chemicals have contacted a worker's eye, flush with water immediately. If particulate is in the eye, flush eye with water. If an object is embedded in the eye, do not attempt to remove it. Cover the affected eye to prevent further irritation and seek medical assistance.	Use appropriate eye protection such as safety glasses, goggles, and face shields. Avoid exposure to vapors, mists, fumes, and dusts.
Handling of Hand Tools and Spill Response Equipment: Tools used in cleanup operations such as shovels, picks, and axes can injure adjacent workers if adequate distance is not maintained. Improper use of tools may also cause back injuries. Sorbents, containment booms, and waste materials can be heavy and awkward and handling and moving them may cause back injuries.	If injured, treat with first aid and seek medical assistance.	Team leaders must provide orientation for workers to familiarize them with the equipment being used. Use hand tools in a manner that will limit physical stress. Take frequent breaks to limit fatigue. Allow water to drain or remove ice from equipment before moving it. Use mechanical devices to handle heavy materials.
In Situ Burning: In situ burning will present physical fire hazards as well as particulate hazards, visibility problems, and heated gas hazards resulting from the combustion of oil and oily debris.	Monitor weather conditions and select escape route from plume of burn area. Contact other vessels for assistance and exit burn area as rapidly as possible.	Adhere to burn safety plans, obtain frequent weather forecasts, and stay upwind. Refer to tide and current predictions to assist in burn area avoidance.
Hypothermia: Hypothermia is the lowering of the body temperature resulting from exposure to the elements. Hypothermia will induce death if not treated properly. Symptoms include shivering, loss of lucidity, loss of coordination, confusion, and cold skin temperature. Hypothermia will occur rapidly when immersed in cold water.	Prevent additional heat loss and warm victim by any means available. Remove any wet clothing; add heat by placing warm items next to the victim's body. Do not give alcoholic beverages to victim. Seek medical assistance.	Hypothermia can be avoided by dressing appropriately for weather conditions and regulating body temperature during work activities. Establishing a system to visually monitor workers for hypothermia warning signs will assist early detection. Avoid situation where clothes become wet such as from rain or ocean spray. Avoid excess heat loss through wind exposure.
Frostbite: Frostbite may occur when workers are exposed to subfreezing weather conditions and improperly protected from the cold. Frostbite may affect exposed flesh or non-exposed body parts that transfer heat at rates sufficient to cause freezing.	Seek medical attention at once. Frostbitten skin will appear white or light-colored and may feel cold and solid. Thaw out body parts with warm water or by applying firm steady pressure with a warm body part. Do not thaw body parts unless they can be maintained at a warm temperature afterward.	Carefully monitor weather to allow time for work crews to prepare for forecasted cold weather. Workers should eat high-energy foods, keep clothing dry, bring extra dry clothing, and test for extremity circulation regularly.

TABLE H.4
General Physical Hazards

Hazard Description	Hazard Treatment Guidance	Hazard Abatement Technique
Noise Injuries: Sound sources that generate noise louder than 85 decibels include aircraft, outboard engines, generators, compressors, heaters, and heavy equipment. Noises that are louder than 85 decibels may permanently damage hearing.	Monitor noise levels. Remove affected worker from duties with high noise exposure potential. Provide worker with additional hearing protection equipment. Seek medical assistance as necessary.	Workers should use ear protection equipment or avoid high noise areas.
Site Illumination: Response operations during poor visibility or darkness may create dangerous or unhealthy conditions for response workers.	Provide substantial amounts of lighting and generator equipment. Personal headlamps and vehicle lighting may be used as a supplement.	Provide adequate lighting. Use headlamps, portable lighting, and equipment lights to illuminate work sites.
Specialty or Heavy Equipment: Mechanical equipment may have exposed moving parts, generate heat capable of causing burns, or generate high-pressure liquids or gases that may injure workers. Movement of heavy equipment may injure personnel.	Perform first aid; seek medical attention immediately.	Read all operating manuals. Be aware of any moving parts that may cause injury. Avoid direct exposure to heat or pressure generated by equipment. Wear appropriate PPE to limit possible injury. Install backup alarms on heavy equipment. Ensure all guards are in place.
Vehicle, Aircraft, or Vessel Accidents: Response efforts may require response personnel to travel by various modes of transportation. The emergency nature of the response may expose workers to marginally safe traveling conditions.	Be aware of your position at all times and know the locations of safe refuges along your intended travel route. Notify the Incident Command Post if an accident occurs and what assistance is required.	During all vehicle, aircraft, or vessel travel, workers will adhere to all established travel safety procedures. This includes fastening seat belts, maintaining communications, and wearing or having easy access to safety equipment such as life vests and survival gear.
Heat Stress: Heat stress may occur when a worker is exposed to elevated temperatures. Examples of when this may occur include a worker suited in protective clothing that limits cooling and a worker subjected to high ambient temperatures.	Move victim to cool, shaded location. Cool victim quickly by wrapping in wet towels. Treat victim for shock. Seek medical assistance immediately.	Heat stress may be avoided by taking frequent breaks to cool down and consuming large amounts of liquids. PPE can be fitted with cooling equipment. Ventilation may be used to assist with cooling. New site workers must acclimate themselves to the site conditions.
Worker Exhaustion: Spill response activities often involve strenuous tasks and long work hours. Symptoms of exhaustion include loss of concentration, increased frequency of trips, falls, and slips, and worker complaints of cramping and pain. Work exhaustion often manifests itself in other hazards, such as accidents and back injuries.	Supervisors must closely observe workers for signs of exhaustion. Once an exhausted worker is identified, he shall be assigned to a less-stressful task or removed from labor duties entirely until recovered. Seek medical assistance as necessary.	Close observation by supervisors and use of the buddy system will be used to detect and prevent worker exhaustion. Frequent breaks along with consumption of high-energy foods and liquids will also decrease the likelihood of exhaustion.
Wildlife [a]: Spill workers may encounter a wide variety of wildlife during response activities. Some of the wildlife may be capable of inflicting injuries to or killing response personnel.	Treat injuries with standard first- aid methods. Treat victim for shock. Seek medical assistance as necessary.	Wildlife protection procedures will be established for each specific spill event.
Weather: Sudden changes in weather may jeopardize the safety of responders. Hurricanes, high winds, dramatic temperature changes, thunderstorms, or fog can all pose a serious threat.	If caught in severe weather, consider options carefully. Evacuation of work site may be necessary.	Obtain daily weather forecasts and updates as available. Plan work site evacuation routes for worst-case scenarios. Workers should bring extra clothing and emergency survival gear. Communications with the Incident Command Center must be maintained to coordinate evacuation or to receive support.
Electric Shock: Electric equipment operated at greater than 12 volts, used inlet or conductive areas, or damaged equipment can produce a severe electrical shock.	Remove victim from contact with energized parts. Administer cardiopulmonary resuscitation and first aid as necessary. Obtain medical assistance.	Use intrinsically safe equipment or ground fault interrupter circuits to prevent shock.

[a] WARNING: Response personnel are prohibited from attempting to decontaminate, rehabilitate, or otherwise interact with wildlife. Wildlife will be rescued or rehabilitated by, or under the direct supervision of, the U.S. Fish and Wildlife Service or Florida Fish and Wildlife Conservation Commission rescue personnel.

Initial Response Actions

Initial Site Assessment

An Initial Site Assessment Form, such as Form H.5, should be used by the Initial Incident Commander (IC) to evaluate the hazards at the spill site. This assessment must be made before any response effort can be undertaken. When the response effort is to be initiated, an Initial Site Safety Plan, similar to Form H.6, should be used to identify the spilled substance, the level of PPE needed, type of monitoring to be used, and other pertinent response information.

Site Security

The Initial Incident Commander must evaluate the seriousness of the situation and assess the level of health or safety risk to response personnel or the public in general and notify the IC as soon as possible. If the situation requires security, local military police should be contacted. Local law enforcement officials should also be contacted for evacuations, establishing roadblocks, and limiting access to response areas.

Surface Terrain and Meteorology

The direction and velocity of prevailing winds and the proximity of the spill to possible sources of ignition, such as running equipment, must be immediately addressed. All potential ignition sources must be kept upwind of the spill or secured immediately. Some flammable vapors may be heavier than air and travel for long distances along the surface or settle in low-lying areas.

Atmospheric Testing

A hazard evaluation procedure must be established and implemented by a trained individual to establish safe work practices, level of PPE, and other control procedures before any personnel are committed to spill response activities. At a minimum, the flammability of the vapors and the O_2 concentrations must be evaluated throughout the spill site. These concentrations should continue to be evaluated periodically throughout the work shift to detect changes in airborne hazards that may result from response activities or changing weather conditions.

FORM H.5

Initial Site Assessment Form

[to be completed by the Initial Incident Commander before initiating immediate response]

Date (DDMMYY)		
Initial Incident Commander		
1. Wind Direction	Toward your position Away from your position	
2. Are people injured/ endangered?	Yes ☐ No ☐	
3. Are non-NASCC persons observing the incident?	Yes ☐ No ☐	
4. Are persons involved in rescue attempts?	Yes ☐ No ☐	
5. Are there any signs of potential hazards from:	Electrical lines down or overhead?	Yes ☐ No ☐
	Unidentified liquids or solids?	Yes ☐ No ☐
	Visible vapors?	Yes ☐ No ☐
	Unusual smells or odors?	Yes ☐ No ☐
	Fire or sparks from nearby ignition sources?	Yes ☐ No ☐
	Holes, caverns, deep ditches, fast-moving water, or cliffs nearby?	Yes ☐ No ☐
	Local vehicular or pedestrian traffic?	Yes ☐ No ☐
	Warning placards, color-coded placards, or danger signs?	Yes ☐ No ☐
	Is the ground dry?	Yes ☐ No ☐
	Is the ground wet?	Yes ☐ No ☐
	Is the ground icy?	Yes ☐ No ☐
	Other	
6. Make and initial assessment of the flammability of vapors and the level of oxygen present.	% LEL: % $O_{2:}$	
7. Approach the spill site from the upwind side and observe any change in the status of any of the above items.	Item Number	Change Observed
8. Is the incident scene secure?	Yes ☐ No ☐	
9. Is there a need for the additional support/ equipment?	Security	
	Personal Protective Equipment	
	Hazardous Materials Technician/ Specialists (identification/monitoring/ source control)	
	Sites for Command Center & Decontamination Station	
	Equipment needed to control spill	
	Other	

FORM H.6

Initial Site Safety Plan

Date (DDMMYY):		
1. Review the Initial Site Assessment Form	Completed: Yes ☐ No ☐	
2. Map (sketch) of Site w/Present Wind Direction and at Least Two Major Landmarks	Completed: Yes ☐ No ☐	
3. Identification of all potentially harmful substances at scene(a)		
Substance	Container	Secured
		Yes ☐ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐
4. Personal Protective Equipment Required (a)		
Respiratory Protection Required	Yes ☐ No ☐ If yes, type of respiratory protection:	
Protective Clothing Required	Yes ☐ No ☐ If yes, describe the type and level of protection in detail:	
5. Establish a Monitoring System (a)	Describe monitor program (including instruments to be used).	
6. Is a vehicle involved?	Yes ☐ No ☐	

Driver's Name: _____ Driver's License Number: _____
Vehicle Number: _____ Tractor/Trailer Number: _____
Railcar Number: _____ Cargo Tank Number (Tank Truck): _____
Ship Name and Number: _____ Placard(s): _____
Other Hazard Identification Information:

7. General Information

Carrier Name: _____ Telephone Number: _____
Manufacturer of Substance: _____ Telephone Number: _____
Point of Origin (Shipper): _____ Destination (Consignee): _____

8. Determine degree of decontamination required and designate a decontamination area.[a]

9. Begin control, containment, cleanup, decontamination, and disposal process.

[a] Items to be completed by a qualified HazMat Technician or Specialist File initial report at this time using available help. Call for medical assistance as required.

NASCC Safety and Health Program

Each NASCC activity must develop and implement a written safety and health program for all Navy response personnel. This program is designed to identify, evaluate, and control safety and health hazards, and provides for emergency response during oil and hazardous substance spill response operations. The written safety and health program includes the following:

- The NASCC response organization
- A generic HASP
- The Navy training program
- A description of the Navy medical surveillance program

The Navy written safety and health program should be made available to any contractors or subcontractors (or their representatives) who will be involved in spill response operations, Navy employees, Navy employee-designated representatives, OSHA personnel, and personnel of other federal, state, or local agencies with regulatory authority over the spill response.

Site-specific HASP

The site-specific HASP must address the safety and health hazards of each phase of the response operation, including the requirements and procedures for employee protection. The site-specific HASP should include the following:

- A safety and health risk and/or hazard analysis for each response task and operation. The risk/hazard analysis will include the following:
  - Location and approximate size of the response area
  - Description and duration of the response activities to be performed
  - Site topography and accessibility by air and roads
  - Safety and health hazards expected to be encountered
  - Exposure routes of expected contaminants and other risks such as potential skin absorption and irritation, potential eye irritation, and concentrations that are immediately dangerous to life and health
  - Present status and capabilities of emergency response teams that assist response personnel in an emergency
  - Health hazards involved or expected from contaminants present and their chemical and physical properties
- PPE to be used by employees during each of the response operations. The requirement for PPE will be based on the results of the preliminary site evaluation and the guidance provided in the Navy's written safety and health program.
- Employee training requirements to ensure compliance with OSHA requirements. The training program section of the Navy's written safety and health program should be used as guidance in preparing this section.
- Medical surveillance requirements to ensure compliance with the OSHA requirements. The medical surveillance program section of the Navy's written safety and health program should be used as guidance in preparing this section.
- A schedule for and the types of air monitoring to be conducted for conditions immediately dangerous to life and health, combustible gases, and other conditions that may cause death or serious harm.
- Methods of maintenance and calibration of monitoring and sampling equipment to be used.
- A schedule for and the types of environmental sampling techniques and instruments to be used.

- A site control program for protecting employees involved in response operation. The site control program will include a site map, an indication of the work zones, a description of the "buddy" system, site communications, emergency alert signals, standard operating procedures or safe work practices, and identification of the nearest medical assistance**.**
- Standard operating procedures must minimize personnel and equipment contact with spill substances.
- Decontamination procedures must be developed that cover all phases of response operations. These procedures must be communicated to all response personnel and implemented before any response equipment or employees enter areas where they can potentially be exposed.
- An emergency response plan that is a separate section of the HASP must be developed that covers:
  - Pre-emergency planning, personnel roles, lines of authority, and communication
  - Emergency recognition and prevention; safe distances and places of refuge
  - Site security and control evacuation routes and procedures
  - Decontamination procedures (procedures that are not covered by the site-specific HASP)
  - Emergency medical treatment and first aid
  - Emergency alerting and response procedures
  - PPE and emergency equipment
  - Response area topography, layout, and prevailing weather conditions
  - Procedures for reporting incident to local, state, and federal governmental agencies
  - A section covering the critique of a response and follow-up
- Confined space entry procedures.
- A procedure for handling, labeling, and transporting drums and containers of recovered oil and oil-contaminated debris.

Safety Briefing

The site-specific HASP must provide for daily safety briefings that will be conducted before the start of work each day. The briefings will cover safety and health items that have changed or new information that has been obtained. These briefings will ensure that all response personnel have received information concerning HASP updates.

Audits

Safety and health audits must be conducted by the Operations Section division/branch supervisors. The audits will be used to assess the effectiveness of the site-specific HASP and whether additional procedures are needed to protect response personnel. The results of each audit will be forwarded to the Industrial Hygienist Unit Leader, the Documentation Unit Leader, the Operations Section Chief, and the IC.

Generic Health and Safety Plan

The following section contains a generic HASP that should be adapted by the Safety Officer in preparing the site-specific health and safety plan.

Site Health and Safety Planning for Oil Spills

References:

(A) 29 CFR 1910.120 OSHA regulations for Hazardous Waste Sites

(B) 40 CFR 311 Worker Protection

(C) National Institute Of Occupational Safety and Health (NIOSH)/OSHA/U.S. Coast Guard/Environmental Protection Agency Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH 85-115)

A. Site Description

Location:_____

Hazards:_____

Oil:_____

Treatment Chemicals:_____

General Safety Hazards:

Surrounding Population:_____ industrial, _____ residential, _____ rural, _____ unpopulated,

Other: _____

Topography: _____ rocky, _____ sandy beach, _____ docks, _____ cliffs, _____ marshes,

Other: _____

Weather Related Hazards: _____ heat stress, _____ hypothermia, _____ frostbite, _____ severe storm

Additional Information: _____

B. Entry Objectives

Daily objectives may include oil recovery, booming, bioremediation, dispersant application, and related activities. Detailed objectives shall be developed daily, and shall be described during the pre-entry safety briefing.

C. Site Organization

1. The site organization shall be developed each morning by the Sector Recorder for individual sectors, and is modified as new personnel arrive or depart. All personnel arriving or departing from the sector/site shall report to the designated Recorder.
2. Generic Organization. Incident organizations are developed on a case-by-case basis by the appropriate Federal On-Scene Coordinator (FOSC). The following organization serves as one example of a site organization, which is used to define the language in this document.
    a. FOSC/Staff (all incidents): The supervising, office-level command and control organization for the entire incident.
    b. Site (all incidents): Primary field organization onsite for the entire incident. For small spills, this may be the only level of discrete field organization required.
    c. Sector (subunits inserted between field teams and the site level for very large/complex incidents): This level is typically needed for large spills where an organizational level is needed between the entire site and individual teams. For example, a large spill might have a vessel off-loading sector, a floating-oil recovery sector with several boat teams, an east beach oil recovery sector with several teams, and a west beach oil recovery sector with no teams.

d. Field Team (medium to large incidents): Supervisors or monitors assigned to site subunits, or (for very large organizations) assigned to sector subunits. This would be the smallest discrete level of supervision.

D. Site Control

1. Anyone entering or departing a work area, or associated control zones, shall report to the designated Site Recorder for that location. Entry is conditional, based on approval of the Site Supervisor. The Site Security Officer shall enforce this policy at all times.
2. No person shall enter a site without subscribing to this or another approved site HASP.
3. No person shall enter a site without adequate training in hazardous waste operations safety and health, based on work assignment and applicable hazardous conditions.
4. Site Boundaries.
   a. Exclusion Zone(s): That part of the work area where oil recovery is taking place shall be treated as an Exclusion Zone (EZ). Only properly outfitted and trained personnel (wearing appropriate PPE) shall be allowed in EZs.
   b. Contamination Reduction Zone(s): Contamination reduction zones (CRZs) shall be established at those parts of work areas used to clean and store oily clothing and equipment. These zones shall allow personnel to wash their hands and faces, and change into street clothing before leaving the site or consuming food and beverages.
   c. Support Zone(s): Related uncontaminated field locations, such as command posts, equipment staging/storage, and eating areas. The Support Zone(s) (SZ[s]) shall be maintained as clean as practical by observing decontamination procedures.
   d. The above zones shall be marked as needed to control traffic and enforce decontamination procedures. Appropriate placards, barricades, traffic cones, and/or boundary tape shall be used for this purpose. The Site Safety Officer shall periodically inspect work areas to ensure the effectiveness of boundaries. The following color-coding applies:
      (1) Orange, red, or black and yellow for EZs
      (2) Yellow for CRZs
      (3) Green for SZs
5. A site map shall be developed and modified as necessary for each sector, and attached to the applicable site HASP Plan, by the Site Recorder and Site Safety Officer. The map shall include items such as (but not limited to) the following:
   a. EZ
   b. CRZ
      (1) The decontamination layout
      (2) Equipment storage
      (3) Temporary waste storage areas
      (4) Washing, toilets, and hygiene facilities
   c. SZ
      (1) First-aid stations
      (2) Emergency firefighting equipment
      (3) Command posts/office spaces
      (4) New equipment staging/storage
      (5) Eating/rest areas
      (6) Bird/mammal cleaning and rehabilitation

d. Location of Identified Hazards

(1) Underground utilities
(2) Overhead utilities
(3) Pits, trenches, open holes, hatches
(4) Wasted deck plate
(5) Hearing protection areas
(6) Hard hat areas
(7) Suspected locations of poisonous plants, insects, or animals
(8) High-pressure wash areas
(9) Bioremediation application areas
(10) Dispersant application areas

E. Hazard Evaluation

1. Potentially hazardous chemical substances/mixtures.

a. Oil: crude, gasoline, military JP-8, F-24, commercial Jet B, aviation gasoline, gas oils, Varsol

(1) Composed of an indefinite petroleum distillate mixture. The content typically includes benzene, toluene, xylenes, naphthalene, and polycyclic aromatic hydrocarbons. The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

(2) Hazard Description: May cause dermatitis by skin contact, nausea by inhalation, and eye irritation by contact. Benzene is a hematologic toxin (it affects the blood and blood-forming organs), and is a carcinogen. The most important potential benzene, toluene, or xylenes hazard is in poorly ventilated areas (such as pits or under docks), or around freshly spilled oil. Benzo(a)pyrene is a skin contact hazard and may cause skin cancer with chronic skin contact. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates much slower than other chemicals in the mixture.

(3) Basic Precautions: Stay away from, or upwind of, fresh oil spills; wear chemical-resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to the skin; and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a the CRZ. Flush eyes with water if oil gets in them. If ingested, do not induce vomiting; contact a physician. Urine phenol should be tested as soon as possible (and not later than 72 hours after exposure) if there is a suspected overexposure to benzene. Urine specific gravity should be corrected to 1.024 for this test. If urine phenol values exceed 75 milligrams per liter, further testing in accordance with 29 CFR 1910.1028(i)(4) may be needed, and individuals must be removed from areas of potential benzene exposure until values return to normal.

b. Oil: kerosene, diesels, military JP-5, commercial Jet A

(1) Composed of an indefinite petroleum distillate content typically including polycyclic aromatic hydrocarbons. The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

(2) Hazard Description: May cause dermatitis by skin contact, nausea by inhalation, and eye irritation by contact. Benzo(a)pyrene is a skin contact hazard and may cause skin cancer with chronic skin contact.

(3) Basic Precautions: Wear chemical-resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to the skin; and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a CRZ. Flush eyes with water if oil gets in them. If ingested, do not induce vomiting; contact a physician.

c. Bioremediation application. See attached SDS information when these products are in use.

d. Dispersant applications. See attached SDS information when these products are in use.

2. Additional hazards may be encountered onsite and shall (along with any other applicable hazards found during the site survey) be marked on the attached project maps. See also the attached listing of generic health hazard information.

a. Slippery rocks
b. Dangerous working surfaces (e.g., wasted deck plating or rotten wood floors)
c. Difficult access/egress between vessels and docks
d. Drowning
e. Heat stress_____Hypothermia ____Cold stress
f. Ultraviolet (UV) sunlight (eyes/skin)
g. Noise hazards
h. Ticks____snakes____bees____ yellow jackets
i. Poison____ivy/____oak/____sumac
j. Overhead/buried electrical utilities
k. Open____manholes/____pits/____trenches/____hatches
l. Falling objects
m. CO from vehicle exhaust
n. Fire and explosion hazards

F. Controls

The following controls shall be observed on site.

1. Fires. Each EZ and associated CRZ shall have at least one each of the following:

a. A fully charged Class A fire extinguisher for ordinary fires
b. A fully charged Class B fire extinguisher for liquid fires
c. A hand-held foghorn to alert personnel

These items shall be maintained in a readily accessible location, clearly labeled in red, and with the location noted on the project map.

2. Slippery Rocks and Surfaces. All personnel in the work area shall wear rubber safety boots with steel toe/shank and textured bottoms. Boat crews may substitute clean deck shoes with textured soles (free of oil on cloth/leather uppers, and no oil observable inside the shoes).

3. Lighting. Portable lighting shall be provided for dark areas or work after sunset.

4. Work near Water. All personnel working in boats, on docks, or generally within 10 feet of water deeper than 3 feet, shall wear Coast Guard-approved personal flotation devices.

5. Heat Stress. The Site Safety Officer shall make heat stress assessments throughout the day. If a heat stress hazard exists, an alert shall be passed to all teams to implement mandatory rest periods. The Site Safety Officer shall generally be guided by the American Conference of Governmental Industrial Hygienists (ACGIH) guidelines in establishing work/rest periods. Fluids shall be available at all times and encouraged during rest periods. (See attached information sheet on heat-related health effects.)

6. Cold Stress. Workers shall be provided with adequate warm clothing. The Site Safety Officer shall make cold stress assessments throughout the day when temperatures fall below 50°F.

a. If a cold stress hazard exists, an alert shall be passed to all teams to implement mandatory rest/warm-up periods. The Site Safety Officer shall generally be guided by the ACGIH guidelines in establishing rest/warm-up periods.

b. For prolonged cold-weather operations, warming shelters shall be provided for rest periods. Warm and/or sweet fluids (such as soups, cocoa, cider, or sweetened/low caffeine hot teas) shall also be available during rest periods. Drinking coffee should not be encouraged.

c. For prolonged water temperatures below 59°F, or a combined water and air temperature less than 100°F, exposure suits shall be worn by personnel working/traveling in small boats or aircraft over water.

7. High Noise Levels. Hearing protection shall be used in high-noise areas (exceeding 84 decibels, or as designated by the Site Safety Officer). Locations likely to exceed this level include the vicinity of vacuum trucks and heavy equipment, bird hazing stations, and generally where noise levels require personnel to raise their voices to be heard.

8. Poisonous Insects (e.g., mosquitoes and ticks). All personnel shall be provided with long-sleeved clothing and insect repellant in designated areas.

9. Poisonous Snakes. All personnel working in designated areas shall wear snake-proof leggings or hip-high rubber boots.

10. Poisonous Plants (e.g., poison ivy, oak, and sumac). Long-sleeved clothing shall be worn in areas designated to contain these plants. Areas known to contain these plants shall be marked/posted to the extent possible at the site. Emergency medical personnel shall prescribe first-aid treatments to be carried in these areas.

11. Electrical Hazards. Electrical power lines (buried or overhead) shall be marked on applicable project maps, and physically marked in the field as necessary.

12. Trap Hazards. Open manholes, pits, trenches, or similar hazards shall be noted on project maps, and marked with placarded barricades. The Site Recorder shall ensure that these locations are periodically checked during the day and additionally if entering personnel are not accounted for at the end of a shift.

13. CO. Vehicle/equipment operators shall ensure that personnel are not allowed to linger or work near exhaust pipes or CO sources.

14. Falling Objects. Hard hat areas located by site survey shall be noted on project maps.

15. UV Light Exposure. Sunscreens of protection factor 15 (or greater), and UV-tinted safety glasses shall be made available for response personnel as needed to prevent overexposure to UV light.

16. Buddy System. The buddy system shall be observed inside the work area (EZ and CRZ). Personnel must work within sight of their assigned partner at all times. A partner shall be assigned by the Recorder as personnel check in. Personnel shall use whistles to indicate that they need assistance in areas where they may be obscured from supervisors (e.g., high grass, boulders, or warehouse areas) as noted on the Project Map.

17. PPE. The following PPE ensembles shall be used while onsite. If designated "as needed", the equipment does not have to be worn unless the item is needed to keep oil off clothing and skin. The Site Safety Officer may modify ensembles on a case-by-case basis as approved by the Sector/Site Supervisor.

Location	Job Function	Level
Work Area (EZ)	Bioremediation crews	C1
	High-pressure wash crews	C2
	Sampling crews	C3
	Dispersant crews	D
	All others	D
CRZ	All personnel	D
SZ	All personnel	Street clothing

18. Sanitation and potable water.

    a. Potable water. An adequate supply of potable water or other drinking fluids shall be maintained at all times throughout the site. Containers for drinking fluids shall be capable of being tightly closed, and equipped with a tap. These containers must also be labeled so that the contents are not accidentally used for other purposes. Where single-serve cups are supplied, the unused cups shall be maintained in sanitary containers, and a separate disposal container provided for used cups.

    b. Non-potable water. Water intended for uses other than drinking or washing shall be identified in such a way that it is not accidentally used for drinking, washing, or cooking. There shall be no cross-connection of potable and non-potable water supplies.

    c. Toilet facilities. Toilet facilities shall be provided at a minimum in accordance with Table H-120.2 (Toilet Facilities) of 29 CFR 1910.120(n).

(1) 20 or fewer people	1 facility
20-200 people:	1 toilet seat, and
40 people	1 urinal
More than 200 people:	1 toilet seat, and
50 people	1 urinal

    (2) Toilets shall be provided so that they are readily accessible from all work areas. Mobile work crews with ready access to toilet facilities using their own transportation do not need toilet facilities at their temporary work sites.

    (3) Sewage shall be handled in accordance with local health codes using one of the following means:

    Sanitary sewer
    Chemical toilets
    Recirculating toilets
    Combustion toilets
    Flush toilets

    d. Food shall be handled in accordance with the requirements of local jurisdiction.

    e. Washing Facilities. Washing facilities shall be readily accessible by all employees. In addition to sanitary cleaning, these facilities shall be equipped used to remove oily residues from the skin. Washing facilities shall be maintained free of contaminants above exposure limits, and as free as practical from oily residues.

    f. Showers. For oil spill operations lasting more than 6 months, showers and changing rooms must be provided in accordance with 29 CFR 1910.120(n)(7); and 29 CFR 1910.141(d)(3) and 1910.141(e).

G. Communications

1. General signals:

    a. A whistle shall be treated as a need for assistance.
    b. Repeated short blasts from a hand-held foghorn shall be used to indicate a fire emergency.

2. VHF Channel has been designated as the working frequency for all sectors.

3. VHF Channel is designated for site emergencies.

4. Cellular phone number of Command Post:

5. Cellular phone number of Site Safety Officer:

6. Other cellular phone numbers:

7. Medical Assistance:

   Nearest Medical Facility (attach map):

   Phone:

   Location:

   Phone for Ambulance: 911 or local emergency number

8. Phone Police/Sheriff: 911 or local emergency number
9. Phone for Fire Department: 911 or local emergency number

H. Decontamination Procedures

1. Personnel with contaminated clothing and equipment shall leave the work area by following the prescribed decontamination procedures below:
   a. Wipe off oily equipment and PPE clothing with a sorbent pad.
   b. Inspect PPE clothing for rips or other damage. Inspect the inside of PPE clothing for signs of oil penetration. Discard if damage or oil penetration observed.
   c. Store oily equipment in contaminated equipment storage.
   d. Store oily PPE clothing in labeled lockers.
   e. Discard oily articles in appropriate trash bins.
   f. Remove, clean, and inspect respirators.
   g. Store cleaned respirators in respirator storage.
   h. Place cloth coveralls in laundry basket or discard if excessively dirty.
   i. Wash face and hands with soap and water.
   j. Change into street clothing.
2. Equipment for Decontamination:
   a. Decontamination shelter
   b. Range, red, yellow, green, and black and yellow tape for zones/hazards
   c. Plastic or painted metal placards for “Exclusion Zone”, “Contamination Reduction Zone”, “Support Zone”, and blank placards and markers
   d. Saw horses, wood stakes, hammers, and nails
   e. Area for new/clean equipment storage
   f. Area for new PPE storage
   g. Area for clean cloth coverall storage
   h. Hangers for oily PPE clothing
   i. Lockable storage for street clothing
   j. Waterless soap
   k. Soapy water for respirators (when applicable)
   l. Sterilizing solution for respirators
   m. Clean plastic bags for respirator storage

n. Towels

o. Sorbent pads

p. Lined bins for oily debris

q. Trash cans and trash bags for other debris/garbage

I. Emergency Procedures

1. Emergency Medical Procedures:

   a. Remain with your assigned buddy at all times.

   b. Use whistle to call for assistance, if necessary.

   c. Do not attempt to move seriously injured personnel; summon an ambulance to come to the injured person.

   d. Report all injuries to your supervisor.

2. Emergency Fire Procedures:

   a. Remain with your assigned buddy at all times.

   b. DO NOT attempt to fight fires other than small fires.

   c. DO NOT take extraordinary measures to fight fires.

   d. Sound fire signal if fire cannot be extinguished quickly.

   e. Alert nearby personnel to call fire department.

   f. Notify supervisor and Site/Sector Recorder.

   g. All other personnel hearing the fire foghorn signal shall immediately proceed, with their assigned buddy, to the designated entry/exit point and Site/Sector Recorder for roll call.

   h. The Site/Sector Supervisor OR the Fire Department shall ensure that the fire is extinguished OR that the Fire Department is called for assistance before restarting work.

J. Site Safety Meetings

Site safety meetings shall be held by each Supervisor immediately before a shift or beginning a new work assignment, and at the end of each shift. At a minimum these meetings will describe the work to be accomplished, discuss safety procedures changes, and develop pass-the-word notes for the Site/Sector Recorder to pass to personnel entering the area.

K. Site Safety Officer

The Site Safety Officer for this incident is: _____

The responsibilities of the Site Safety Officer include (but are not limited to):

1. Coordination of the FOSC safety and health concerns with the Scientific Support Coordinator
2. Keeping this plan current
3. Liaison with site safety officers from other organizations

L. Authorizations

Site Safety Officer: _____ Date: _____

FOSC: _____ Date: _____

Site/Sector Organization Record Sheet

The Site/Sector Recorder maintains an up-to-date, comprehensive organization record. When relieved, the Recorder provides this site organization record/log to the incident's Documentation Officer, assists the relief in starting a new organization record, and accounts for all personnel logged into the area. All persons wishing to enter the work area (including the EZ and CRZ) must subscribe to a site HASP, be adequately trained in hazardous waste site safety, and be adequately trained for their work assignments.

Site/Sector Organization Record Sheet

Site/Sector Name: _____

Recorder's Name: _____

Record Start Date/Time: _____ Stop Date/Time: _____

Supervisor: _____

Site Sector Safety: _____

Security: _____

Emergency Medical Technician/First Aid: _____

Other Reps: _____

Field Team Name: _____
(e.g., oil recovery team, bioremediation team, water wash team)

Supervisor: _____

Members: _____

PPE Ensembles

Level D Ensemble:

_____Cloth coveralls

Option: Long-sleeved coveralls (poison plant areas)

Option: Short-sleeved coveralls (heat stress alert)

Option: Street clothing may be worn by supervisory personnel, technicians, specialists, etc. who will not be exposed to liquid oil, or high-pressure wash sprays, etc.

_____Rubber steel toe/shank safety boots with textured bottoms

Option: hip-high rubber boots (e.g., designated snake areas)

Option: deck shoes with textured soles (e.g., boat operations)

_____Rubber gloves (as needed)

Option: leather gloves (if no contact with oil)

_____Rubber rain pants (as needed)

Option: disposable if oiling is light

_____Rubber rain jacket and hood (as needed)

Option: disposable if oiling is light

_____Rubber apron (as needed)

Option: disposable if oiling is light

_____Personal flotation device (all personnel on or near water)

_____Quart bottle to carry fluids (during heat stress alerts)

_____Hearing protection (in noisy areas)

_____Insect repellant (in designated mosquito/tick areas)

_____Hard hat (all personnel in designated areas)

_____Safety glasses (as required by Site Safety Officer)

Option: with tinted lenses (as required for sunlight)

_____Sunscreen (as needed for sunlight)

_____Whistle (in designated areas)

Notes:

1. *"As Needed" means to use when and in such a way to prevent significant skin contact with oil.*
2. *"Rubber" means chemical-resistant material that resists oil penetrating to the skin or cloth garments underneath.*

Level C Ensemble

_____All Level D items

_____Rubber gloves (mandatory)

_____Plastic rain pants (mandatory)

Option: disposable if oiling/contamination is light

_____Plastic rain jacket with hood (mandatory)

Option: disposable if oiling/contamination is light

_____Respiratory protection

_____Full face respirator

_____Half mask respirator

_____Organic vapor cartridge

_____Dust, fume, mists cartridge

_____Paint spray combination cartridge

_____Other:

_____Additional eye/face protection

_____Goggles

_____Face shields

_____Other:

Notes:

1. *"As Needed" means to use when and in such a way to prevent significant skin contact with oil.*
2. *"Rubber" means a chemical-resistant material that resists oil penetrating to the skin or cloth garments underneath.*

General Signs/Symptoms That Indicate Potential Toxic Exposures

1. Sudden weight loss or change in appetite
2. Unusual fatigue or new sleeping difficulties
3. Unusual irritability
4. Skin rashes, allergies, sores
5. Hearing loss
6. Vision loss, problems
7. Changes in sense of smell
8. Shortness of breath, asthma, cough or sputum production
9. Chest pains
10. Nausea, vomiting, diarrhea, constipation
11. Weakness, tremors
12. Headaches
13. Personality changes

Manifestations of Toxic Effects to Various Target Organs:

Target Organ: Skin

Manifestations: Dermatitis, chloracne, skin cancer
Chemical/Physical Agent(s): hydrocarbon solvents, chlorinated hydrocarbons (e.g., polychlorinated biphenyls, soap, dioxane, alcohols

Target Organ: Respiratory system

Manifestations: Acute pulmonary edema, pneumonitis, asthma, lung cancer
Chemical/Physical Agent(s): Many forms of dusts, fumes, and vapors

Target Organ: Cardiovascular system

Manifestations: Arrhythmias, angina
Chemical/Physical Agent(s): CO, hydrogen sulfide, organophosphates, glues/glue-solvents, temperature extremes

Target Organ: Gastrointestinal system

Manifestations: Abdominal pain, nausea, vomiting, diarrhea, bloody stools, hepatic necrosis, hepatic cancer, hepatic fibrosis

Target Organ: Genitourinary system

Manifestations: Chronic renal disease, bladder cancer
Chemical/Physical Agent(s): Halogenated hydrocarbons

Target Organ: Nervous system

Manifestations: Headache, convulsions, coma, peripheral neuropathy
Chemical/Physical Agent(s): CO, organophosphates, organic solvents

Target Organ: Auditory system

Manifestations: Temporary and permanent hearing loss/shift
Chemical/Physical Agent(s): Loud noise

Target Organ: Ophthalmic system

Manifestations: Eye irritation, cataracts
Chemical/Physical Agent(s): Petroleum products, UV radiation

Target Organ: Hematological system

Manifestations: Anemia, bleeding disorder, leukemia
Chemical/Physical Agent(s): Benzene

Heat Stress Information from NIOSH 86-112 Health

Safety Problems:

Safety problems are common to hot environments as heat tends to promote accidents due to slippery objects from sweaty palms, dizziness, or the visual distortions from fogged safety glasses.

The frequency of accidents, in general, appears to be higher in hot environments than in more- moderate environmental conditions. Working in a hot environment lowers an individual's mental alertness and physical performance. Increased body temperature and physical discomfort promote irritability, and other emotional states that can cause workers to overlook safety procedures or to divert attention from hazardous tasks**.**

Health Problems:

Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders.

Heat Stroke. Heat stroke is the most serious health problems associated with working in a hot environment. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate. A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is generally 105°F or higher, and the victim can be mentally confused, delirious, convulsive, or unconscious.

Any person showing symptoms of heat stroke requires immediate hospitalization. First aid including removing the victim to a cool area, thoroughly soaking the clothing with water, and vigorously fanning the body should be administered immediately. Further treatment, at a medical facility, should include continuing the cooling process and monitoring complications that often accompany the heat stroke. Early recognition and treatment of heatstroke is the only means of preventing permanent brain damage or death.

Heat Exhaustion. Heat exhaustion includes several clinical disorders having symptoms that may resemble the early symptoms of heat stroke. Heat exhaustion is caused by the loss of large amounts of fluid by sweating, sometimes with excessive loss of salt. A worker suffering from heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. In more serious cases, the victim may vomit or lose consciousness. The skin is clammy and moist, the complexion is pale or flushed, and the body temperature is normal or only slightly elevated.

In most cases, treatment involves resting the victim in a cool place and administering plenty of liquids. Victims with mild cases of heat exhaustion generally recover quickly. Those with severe cases may require extended care. There are no known permanent effects.

CAUTION: PERSONS WITH HEART PROBLEMS OR THOSE ON LOW-SODIUM DIETS WHO WORK IN HOT ENVIRONMENTS SHOULD CONSULT A PHYSICIAN ABOUT POTENTIAL HEALTH PROBLEMS.

Heat Cramps. Heat cramps are painful spasms of the muscles that can occur during times of high sweat without an adequate replacement of the body's salt. Drinking large quantities of water tends to dilute the body's fluids, while the body continues to lose salt. Shortly thereafter, the low salt level in the muscles can cause painful cramps. The affected muscles may be part of the arms, legs, or abdomen; but tired muscles (those used in performing the work) are generally most susceptible. Cramps may occur during or after work hours and may be relieved by ingesting salted liquids.

CAUTION: PERSONS WITH HEART PROBLEMS OR THOSE ON LOW-SODIUM DIETS WHO WORK IN HOT ENVIRONMENTS SHOULD CONSULT A PHYSICIAN ABOUT POTENTIAL HEALTH PROBLEMS.

Fainting. A worker who is not accustomed to hot environments and who stands immobile in the heat can faint. Due to the body's attempts to control internal temperature, enlarged blood vessels in the skin and lower body may pool blood rather than return it to the heart to be pumped to the brain. Upon lying down, the worker should

soon recover. By keeping active and moving around, blood should be prevented from pooling, and the patient can avoid further fainting.

Heat Rash. Heat rash is likely to occur in hot, humid environments where heat is not readily evaporated from the skin's surface, leaving it wet most of the time. Sweat ducts become plugged, and a skin rash can develop. When the rash is extensive or complicated by infection, heat rash can be very uncomfortable and may reduce a worker's performance. The worker can prevent this condition by resting in a cool place part of each day and by regularly bathing and drying the skin.

Transient Heat Fatigue. Transient heat fatigue refers to the temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. Workers unaccustomed to the heat are particularly susceptible and can suffer, to varying degrees, a decline in task performance, coordination, alertness, and vigilance. The severity of transient heat fatigue can be lessened by a period of gradual adjustment to the hot environment (heat acclimatization).

Preparing For Work in the Heat:

One of the best ways to reduce heat stress in workers is to minimize the heat in the workplace. However, there is some work environments where heat production is difficult to control, such as outdoors where exposed to various weather conditions.

Humans, to a large extent, are capable of adjusting to the heat. Adjusting to heat under normal circumstances usually takes five to seven days, during which time the body will undergo a series of changes that will make continued exposure to heat more endurable.

Gradual exposure to heat gives the body time to become accustomed to higher environmental temperatures. Heat disorders in general are more likely to occur among workers who have not been given time to adjust to working in the heat or among workers who have been away from hot environments or who have gotten accustomed to lower temperatures. Summer heat is likely to affect the unacclimated worker. Likewise, those who return to work after a leisurely vacation or extended illness can be affected by the heat in the work environment. Under such circumstances, the worker should be allowed to acclimatize to the hot environment.

Heat stress depends, in part, on the amount of heat the worker's body produces while a job is being performed. The amount of heat produced during hard, steady work is much higher than that produced during intermittent or light work. One way of reducing the potential for heat stress is to make the job less strenuous or lessen its duration by providing adequate rest time.

Number and Duration of Exposures:

Rather than be exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work-rest cycles. Work-rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, and provide greater blood flow to the skin.

Workers employed outdoors are especially subject to weather changes. A hot spell or a rise in humidity can create overly stressful conditions.

Rest Areas. Providing cool rest areas in hot work environments considerably reduces the stress of working in those environments. Rest areas should be as close to the work area as possible, and provide shade. Individual work periods should not be lengthened in favor of prolonged rest periods. Shorter but frequent work-rest cycles are the greatest benefit to the worker.

Drinking Water. In the course of a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced. Most workers exposed to hot conditions drink less fluids than needed due to an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink. Instead, the worker should drink five to seven ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body. There is no optimum temperature of drinking water, but

most people tend not to drink warm or very cold fluids as readily as they will cool ones. Whatever the temperature of the water, it must be palatable and readily available. Individual drinking cups should be provided - never use a common drinking cup.

Heat-acclimatized workers lose much less salt in their sweat than do workers who are not adjusted to the heat. The average American diet contains sufficient salt for acclimatized workers even when sweat production is high. When salt replacement is required, the best way to compensate for the loss is to add a little extra salt to the food. Salt tablets SHOULD NOT be used.

CAUTION: PERSONS WITH HEART PROBLEMS OR THOSE ON A LOW-SODIUM DIET WHO WORK IN HOT ENVIRONMENTS SHOULD CONSULT A PHYSICIAN ABOUT POTENTIAL HEALTH PROBLEMS.

Protective Clothing. Clothing inhibits the transfer of heat between the body and the surrounding environment. Therefore, in hot jobs where the air temperature is lower than skin temperature, wearing excessive clothing reduces the body's ability to lose heat to the air. When air temperature is higher than skin temperature, clothing can help to prevent the transfer of heat from the air to the body. The advantage of wearing additional clothes may be nullified if they interfere with the evaporation of sweat (such as rain slickers or chemical-protective clothing).

Bulk Liquid Cargoes That Contain Benzene

This is a partial list of products (and their assigned Chemical Hazards Response Information System codes in parentheses) that contain benzene. The exact volumes will vary among manufacturers and batches. Benzene vapor concentrations that may be produced by these products will also vary from mixture to mixture, depending on the chemical properties and volume percentages of the different components.

benzene (BNZ)

benzene hydrocarbon mixtures containing 10% or more benzene (BHB)

benzene hydrocarbon mixtures with acetylene (BHA)

benzene, toluene, xylene mixtures (BTX)

C-5 mixture (15% or more benzene, isoprene, 1,3-pentadiene [CFX])

cyclopentadiene, styrene, benzene mixtures (CSB)

gas oil (GOC)

gasoline:	automotive (GAT)
gasoline:	aviator (GAV)
gasoline:	pyrolysis (greater than 5% benzene) (GPY)
gasoline:	straight run (GSR)
gasoline:	blending stock reformats (GRF)
jet fuel:	F-24, similar to Commercial Jet A. F-24 generally does not contain benzene except in trace amounts. Consult SDSs for specific manufacturer
naphtha:	see "coal tar naphtha" (NCT)
naphtha:	solvent (NSV)
naphtha:	Stoddard solvent (NSS)
naphtha:	VM&P (75% naphtha) (NVM)
naphtha:	see "petroleum naphtha (TPN)"
oil:	crude oil (OIL)

oil: coal tar (OCT)

petroleum naphtha (PTN)

white spirit (WSP)

white spirit (low 15%-20% aromatic) (WSL)

Some Trade Name Products That May Contain Benzene:

Butadiene, Benzene Mix

Coke Oven Light Oil

Coal Tar Light Oil

Depentanized Aromatic Stream

Dripolene

Ethylene Dichloride-Crude

Hytrol D

Light Aromatics Containing Benzene

Naphtha Cracking Fraction

Petroleum Hydrocarbon Polymers

Phenol (and Cresol Mixtures with 5% Benzene or More)

Raffinate

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Appendix I
Incident Command System Forms

Incident Command System (ICS)

ICS was developed in the 1970s following a series of catastrophic fires in California's urban interface. Property damage ran into the millions, and many people died or were injured. The personnel assigned to determine the causes of these outcomes studied the case histories and discovered that response problems could rarely be attributed to lack of resources or failure of tactics. Surprisingly, studies found that response problems were far more likely to result from inadequate management than from any other single reason.

The Incident Command System:

- Is a standardized management tool for meeting the demands of small or large emergency or nonemergency situations.
- Represents "best practices" and has become the standard for emergency management across the country.
- May be used for planned events, natural disasters, and acts of terrorism.
- Is a key feature of the National Incident Management System (NIMS).

The ICS is a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to enable effective and efficient domestic incident management. A basic premise of ICS is that it is widely applicable. It is used to organize both near-term and long-term field-level operations for a broad spectrum of emergencies, from small to complex incidents, both natural and manmade. ICS is used by all levels of government—Federal, State, local, and tribal—as well as by many private-sector and nongovernmental organizations. ICS is also applicable across disciplines. It is normally structured to facilitate activities in five major functional areas: command, operations, planning, logistics, and finance and administration.

Incident Complexity

"Incident complexity" is the combination of involved factors that affect the probability of control of an incident. Many factors determine the complexity of an incident, including, but not limited to, area involved, threat to life and property, political sensitivity, organizational complexity, jurisdictional boundaries, values at risk, weather, strategy and tactics, and agency policy.

Incident complexity is considered when making incident management level, staffing, and safety decisions.

Various analysis tools have been developed to assist consideration of important factors involved in incident complexity. Listed below are the factors that may be considered in analyzing incident complexity:

- Impacts to life, property, and the economy
- Community and responder safety
- Potential hazardous materials
- Weather and other environmental influences
- Likelihood of cascading events
- Potential crime scene (including terrorism)
- Political sensitivity, external influences, and media relations
- Area involved, jurisdictional boundaries
- Availability of resources

ICS Review Materials: ICS History and Features

ICS Features

The 14 essential ICS features are listed below:

Standardization:

- **Common Terminology:** Using common terminology helps to define organizational functions, incident facilities, resource descriptions, and position titles.

Command:

- **Establishment and Transfer of Command:** The command function must be clearly established from the beginning of an incident. When command is transferred, the process must include a briefing that captures all essential information for continuing safe and effective operations.

- **Chain of Command and Unity of Command:** Chain of command refers to the orderly line of authority within the ranks of the incident management organization. Unity of command means that every individual has a designated supervisor to whom he or she reports at the scene of the incident. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives. Incident managers at all levels must be able to control the actions of all personnel under their supervision.

- **Unified Command:** In incidents involving multiple jurisdictions, a single jurisdiction with multiagency involvement, or multiple jurisdictions with multiagency involvement, Unified Command allows agencies with different legal, geographic, and functional authorities and responsibilities to work together effectively without affecting individual agency authority, responsibility, or accountability.

Planning/Organizational Structure:

- **Management by Objectives:** Includes establishing overarching objectives; developing strategies based on incident objectives; developing and issuing assignments, plans, procedures, and protocols; establishing specific, measurable objectives for various incident management functional activities and directing efforts to attain them, in support of defined strategies; and documenting results to measure performance and facilitate corrective action.

- **Modular Organization:** The Incident Command organizational structure develops in a modular fashion that is based on the size and complexity of the incident, as well as the specifics of the hazard environment created by the incident.

- **Incident Action Planning:** Incident Action Plans (IAPs) provide a coherent means of communicating the overall incident objectives in the context of both operational and support activities.

- **Manageable Span of Control:** Span of control is key to effective and efficient incident management. Within ICS, the span of control of any individual with incident management supervisory responsibility should range from three to seven subordinates.

ICS Review Materials: ICS History and Features

ICS Features (Continued)

Facilities and Resources:

- **Incident Locations and Facilities:** Various types of operational support facilities are established in the vicinity of an incident to accomplish a variety of purposes. Typical designated facilities include Incident Command Posts, Bases, Camps, Staging Areas, Mass Casualty Triage Areas, and others as required.

- **Comprehensive Resource Management:** Maintaining an accurate and up-to-date picture of resource utilization is a critical component of incident management. Resources are defined as personnel, teams, equipment, supplies, and facilities available or potentially available for assignment or allocation in support of incident management and emergency response activities.

Communications/Information Management

- **Integrated Communications:** Incident communications are facilitated through the development and use of a common communications plan and interoperable communications processes and architectures.

- **Information and Intelligence Management:** The incident management organization must establish a process for gathering, analyzing, sharing, and managing incident-related information and intelligence.

Professionalism:

- **Accountability:** Effective accountability at all jurisdictional levels and within individual functional areas during incident operations is essential. To that end, the following principles must be adhered to:

  - **Check-In:** All responders, regardless of agency affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander.
  - **Incident Action Plan:** Response operations must be directed and coordinated as outlined in the IAP.
  - **Unity of Command:** Each individual involved in incident operations will be assigned to only one supervisor.
  - **Personal Responsibility:** All responders are expected to use good judgment and be accountable for their actions.
  - **Span of Control:** Supervisors must be able to adequately supervise and control their subordinates, as well as communicate with and manage all resources under their supervision.
  - **Resource Tracking:** Supervisors must record and report resource status changes as they occur.

- **Dispatch/Deployment:** Personnel and equipment should respond only when requested or when dispatched by an appropriate authority.

Transfer of Command

The process of moving the responsibility for incident command from one Incident Commander to another is called "transfer of command." It should be recognized that transition of command on an expanding incident is to be expected. It does not reflect on the competency of the current Incident Commander.

There are five important steps in effectively assuming command of an incident in progress.

Step 1: The incoming Incident Commander should, if at all possible, personally perform an assessment of the incident situation with the existing Incident Commander.

Step 2: The incoming Incident Commander must be adequately briefed.

This briefing must be by the current Incident Commander, and take place face-to-face if possible. The briefing must cover the following:

- Incident history (what has happened)
- Priorities and objectives
- Current plan
- Resource assignments
- Incident organization
- Resources ordered/needed
- Facilities established
- Status of communications
- Any constraints or limitations
- Incident potential
- Delegation of Authority

The ICS Form 201 is especially designed to assist in incident briefings. It should be used whenever possible because it provides a written record of the incident as of the time prepared. The ICS Form 201 contains:

- Incident objectives.
- A place for a sketch map.
- Summary of current actions.
- Organizational framework.
- Resources summary.

Step 3: After the incident briefing, the incoming Incident Commander should determine an appropriate time for transfer of command.

Step 4: At the appropriate time, notice of a change in incident command should be made to:

- Agency headquarters (through dispatch).
- General Staff members (if designated).
- Command Staff members (if designated).
- All incident personnel.

Step 5: The incoming Incident Commander may give the previous Incident Commander another assignment on the incident. There are several advantages of this:

- The initial Incident Commander retains first-hand knowledge at the incident site.
- This strategy allows the initial Incident Commander to observe the progress of the incident and to gain experience.

Modular Organization

Standardization of the ICS organizational chart and associated terms does not limit the flexibility of the system. (See the chart on the next page.)

A key principle of ICS is its flexibility. The ICS organization may be expanded easily from a very small size for routine operations to a larger organization capable of handling catastrophic events.

Flexibility does not mean that the ICS feature of common terminology is superseded. Note that flexibility is allowed within the standard ICS organizational structure and position titles.

Position Titles

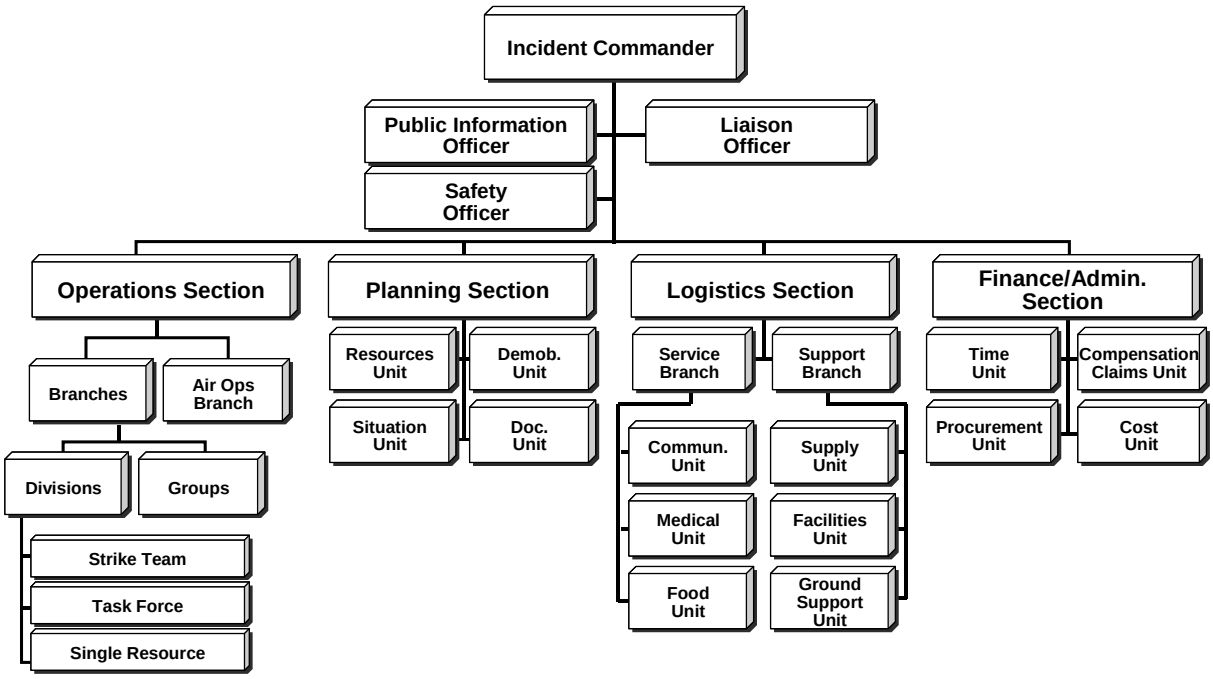
At each level within the ICS organization, individuals with primary responsibility positions have distinct titles. Titles provide a common standard for all users. For example, if one agency uses the title Branch Chief, another Branch Manager, etc., this lack of consistency can cause confusion at the incident.

The use of distinct titles for ICS positions allows for filling ICS positions with the most qualified individuals rather than by seniority. Standardized position titles are useful when requesting qualified personnel. For example, in deploying personnel, it is important to know if the positions needed are Unit Leaders, clerks, etc.

Listed below are the standard ICS titles:

Organizational Level	Title	Support Position
Incident Command	Incident Commander	Deputy
Command Staff	Officer	Assistant
General Staff (Section)	Chief	Deputy
Branch	Director	Deputy
Division/Group	Supervisor	N/A
Unit	Leader	Manager
Strike Team/Task Force	Leader	Single Resource Boss

ICS Organization



- **Command Staff:** The Command Staff consists of the Public Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander.

- **Section:** The organization level having functional responsibility for primary segments of incident management (Operations, Planning, Logistics, Finance/Administration). The Section level is organizationally between Branch and Incident Commander.

- **Branch:** That organizational level having functional, geographical, or jurisdictional responsibility for major parts of the incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section. Branches are identified by the use of Roman Numerals, by function, or by jurisdictional name.

- **Division:** That organizational level having responsibility for operations within a defined geographic area. The Division level is organizationally between the Strike Team and the Branch.

- **Group:** Groups are established to divide the incident into functional areas of operation. Groups are located between Branches (when activated) and Resources in the Operations Section.

- **Unit:** That organization element having functional responsibility for a specific incident planning, logistics, or finance/administration activity.

- **Task Force:** A group of resources with common communications and a leader that may be pre-established and sent to an incident, or formed at an incident.

- **Strike Team:** Specified combinations of the same kind and type of resources, with common communications and a leader.

- **Single Resource:** An individual piece of equipment and its personnel complement, or an established crew or team of individuals with an identified work supervisor that can be used on an incident.

Overall Organizational Functions

ICS was designed by identifying the primary activities or functions necessary to effectively respond to incidents. Analyses of incident reports and review of military organizations were all used in ICS development. These analyses identified the primary needs of incidents.

As incidents became more complex, difficult, and expensive, the need for an organizational manager became more evident. Thus in ICS, and especially in larger incidents, the Incident Commander manages the organization and not the incident.

In addition to the Command function, other desired functions and activities were:

- To delegate authority and to provide a separate organizational level within the ICS structure with sole responsibility for the tactical direction and control of resources.
- To provide logistical support to the incident organization.
- To provide planning services for both current and future activities.
- To provide cost assessment, time recording, and procurement control necessary to support the incident and the managing of claims.
- To promptly and effectively interact with the media, and provide informational services for the incident, involved agencies, and the public.
- To provide a safe operating environment within all parts of the incident organization.
- To ensure that assisting and cooperating agencies' needs are met, and to see that they are used in an effective manner.

Incident Commander

The Incident Commander is technically not a part of either the General or Command Staff. The Incident Commander is responsible for overall incident management, including:

- Ensuring clear authority and knowledge of agency policy.
- Ensuring incident safety.
- Establishing an Incident Command Post.
- Obtaining a briefing from the prior Incident Commander and/or assessing the situation.
- Establishing immediate priorities.
- Determining incident objectives and strategy(ies) to be followed.
- Establishing the level of organization needed, and continuously monitoring the operation and effectiveness of that organization.
- Managing planning meetings as required.
- Approving and implementing the Incident Action Plan.
- Coordinating the activities of the Command and General Staff.
- Approving requests for additional resources or for the release of resources.
- Approving the use of participants, volunteers, and auxiliary personnel.
- Authorizing the release of information to the news media.
- Ordering demobilization of the incident when appropriate.
- Ensuring incident after-action reports are complete.
- Authorizing information release to the media.

Command Staff

The Command Staff is assigned to carry out staff functions needed to support the Incident Commander. These functions include interagency liaison, incident safety, and public information.

Command Staff positions are established to assign responsibility for key activities not specifically identified in the General Staff functional elements. These positions may include the Public Information Officer, Safety Officer, and Liaison Officer, in addition to various others, as required and assigned by the Incident Commander.

The table on the following page summarizes the responsibilities of the Command Staff.

General Staff

The General Staff represents and is responsible for the functional aspects of the incident command structure. The General Staff typically consists of the Operations, Planning, Logistics, and Finance/Administration Sections.

General guidelines related to General Staff positions include the following:

- Only one person will be designated to lead each General Staff position.
- General Staff positions may be filled by qualified persons from any agency or jurisdiction.
- Members of the General Staff report directly to the Incident Commander. If a General Staff position is not activated, the Incident Commander will have responsibility for that functional activity.
- Deputy positions may be established for each of the General Staff positions. Deputies are individuals fully qualified to fill the primary position. Deputies can be designated from other jurisdictions or agencies, as appropriate. This is a good way to bring about greater interagency coordination.
- General Staff members may exchange information with any person within the organization. Direction takes place through the chain of command. This is an important concept in ICS.
- General Staff positions should not be combined. For example, to establish a "Planning and Logistics Section," it is better to initially create the two separate functions, and if necessary for a short time place one person in charge of both. That way, the transfer of responsibility can be made easier.

The following table summarizes the responsibilities of the Command and General Staff.

Command Staff	Responsibilities
Public Information Officer	▪ Determine, according to direction from the IC, any limits on information release. ▪ Develop accurate, accessible, and timely information for use in press/media briefings. ▪ Obtain IC's approval of news releases. ▪ Conduct periodic media briefings. ▪ Arrange for tours and other interviews or briefings that may be required. ▪ Monitor and forward media information that may be useful to incident planning. ▪ Maintain current information, summaries, and/or displays on the incident. ▪ Make information about the incident available to incident personnel. ▪ Participate in the planning meeting.
Safety Officer	▪ Identify and mitigate hazardous situations. ▪ Ensure safety messages and briefings are made. ▪ Exercise emergency authority to stop and prevent unsafe acts. ▪ Review the Incident Action Plan for safety implications. ▪ Assign assistants qualified to evaluate special hazards. ▪ Initiate preliminary investigation of accidents within the incident area. ▪ Review and approve the Medical Plan. ▪ Participate in planning meetings.
Liaison Officer	▪ Act as a point of contact for agency representatives. ▪ Maintain a list of assisting and cooperating agencies and agency representatives. ▪ Assist in setting up and coordinating interagency contacts. ▪ Monitor incident operations to identify current or potential interorganizational problems. ▪ Participate in planning meetings, providing current resource status, including limitations and capabilities of agency resources. ▪ Provide agency-specific demobilization information and requirements.
Assistants	In the context of large or complex incidents, Command Staff members may need one or more assistants to help manage their workloads. Each Command Staff member is responsible for organizing his or her assistants for maximum efficiency.
Additional Command Staff	Additional Command Staff positions may also be necessary depending on the nature and location(s) of the incident, and/or specific requirements established by the Incident Commander. For example, a Legal Counsel may be assigned directly to the Command Staff to advise the Incident Commander on legal matters, such as emergency proclamations, legality of evacuation orders, and legal rights and restrictions pertaining to media access. Similarly, a Medical Advisor may be designated and assigned directly to the Command Staff to provide advice and recommendations to the Incident Commander in the context of incidents involving medical and mental health services, mass casualty, acute care, vector control, epidemiology, and/or mass prophylaxis considerations, particularly in the response to a bioterrorism event.

Source: NIMS

General Staff	Responsibilities
Operations Section Chief	The Operations Section Chief is responsible for managing all tactical operations at an incident. The Incident Action Plan (IAP) provides the necessary guidance. The need to expand the Operations Section is generally dictated by the number of tactical resources involved and is influenced by span of control considerations. Major responsibilities of the Operations Section Chief are to: ▪ Assure safety of tactical operations. ▪ Manage tactical operations. ▪ Develop the operations portion of the IAP. ▪ Supervise execution of operations portions of the IAP. ▪ Request additional resources to support tactical operations. ▪ Approve release of resources from active operational assignments. ▪ Make or approve expedient changes to the IAP. ▪ Maintain close contact with IC, subordinate Operations personnel, and other agencies involved in the incident.
Planning Section Chief	The Planning Section Chief is responsible for providing planning services for the incident. Under the direction of the Planning Section Chief, the Planning Section collects situation and resources status information, evaluates it, and processes the information for use in developing action plans. Dissemination of information can be in the form of the IAP, in formal briefings, or through map and status board displays. Major responsibilities of the Planning Section Chief are to: ▪ Collect and manage all incident-relevant operational data. ▪ Supervise preparation of the IAP. ▪ Provide input to the IC and Operations in preparing the IAP. ▪ Incorporate Traffic, Medical, and Communications Plans and other supporting materials into the IAP. ▪ Conduct and facilitate planning meetings. ▪ Reassign personnel within the ICS organization. ▪ Compile and display incident status information. ▪ Establish information requirements and reporting schedules for units (e.g., Resources, Situation Units). ▪ Determine need for specialized resources. ▪ Assemble and disassemble Task Forces and Strike Teams not assigned to Operations. ▪ Establish specialized data collection systems as necessary (e.g., weather). ▪ Assemble information on alternative strategies. ▪ Provide periodic predictions on incident potential. ▪ Report significant changes in incident status. ▪ Oversee preparation of the Demobilization Plan.

General Staff	Responsibilities
Logistics Section Chief	The Logistics Section Chief provides all incident support needs with the exception of logistics support to air operations. The Logistics Section is responsible for providing: ▪ Facilities. ▪ Transportation. ▪ Communications. ▪ Supplies. ▪ Equipment maintenance and fueling. ▪ Food services (for responders). ▪ Medical services (for responders). ▪ All off-incident resources. Major responsibilities of the Logistics Section Chief are to: ▪ Provide all facilities, transportation, communications, supplies, equipment maintenance and fueling, food and medical services for incident personnel, and all off-incident resources. ▪ Manage all incident logistics. ▪ Provide logistical input to the IAP. ▪ Brief Logistics Staff as needed. ▪ Identify anticipated and known incident service and support requirements. ▪ Request additional resources as needed. ▪ Ensure and oversee the development of the Communications, Medical, and Traffic Plans as required. ▪ Oversee demobilization of the Logistics Section and associated resources.
Finance/ Administration Section Chief	The Finance/Administration Section Chief is responsible for managing all financial aspects of an incident. Not all incidents will require a Finance/Administration Section. Only when the involved agencies have a specific need for finance services will the Section be activated. Major responsibilities of the Finance/Administration Section Chief are to: ▪ Manage all financial aspects of an incident. ▪ Provide financial and cost analysis information as requested. ▪ Ensure compensation and claims functions are being addressed relative to the incident. ▪ Gather pertinent information from briefings with responsible agencies. ▪ Develop an operating plan for the Finance/Administration Section and fill Section supply and support needs. ▪ Determine the need to set up and operate an incident commissary. ▪ Meet with assisting and cooperating agency representatives as needed. ▪ Maintain daily contact with agency(s) headquarters on finance matters. ▪ Ensure that personnel time records are completed accurately and transmitted to home agencies. ▪ Ensure that all obligation documents initiated at the incident are properly prepared and completed. ▪ Brief agency administrative personnel on all incident-related financial issues needing attention or followup. ▪ Provide input to the IAP.

Agency Representatives

An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency. The Agency Representative must be given authority to make decisions on matters affecting that agency's participation at the incident.

Agency Representatives report to the Liaison Officer or to the Incident Commander in the absence of a Liaison Officer.

Major responsibilities of the Agency Representative are to:

- Ensure that all of their agency resources have completed check-in at the incident.
- Obtain briefing from the Liaison Officer or Incident Commander.
- Inform their agency personnel on the incident that the Agency Representative position has been filled.
- Attend planning meetings as required.
- Provide input to the planning process on the use of agency resources unless resource technical specialists are assigned from the agency.
- Cooperate fully with the Incident Commander and the Command and General Staff on the agency's involvement at the incident.
- Oversee the well-being and safety of agency personnel assigned to the incident.
- Advise the Liaison Officer of any special agency needs, requirements, or agency restrictions.
- Report to agency dispatch or headquarters on a prearranged schedule.
- Ensure that all agency personnel and equipment are properly accounted for and released prior to departure.
- Ensure that all required agency forms, reports, and documents are complete prior to departure.
- Have a debriefing session with the Liaison Officer or Incident Commander prior to departure.

Technical Specialists

Certain incidents or events may require the use of Technical Specialists who have specialized knowledge and expertise. Technical Specialists may function within the Planning Section, or be assigned wherever their services are required.

While each incident dictates the need for Technical Specialists, some examples of the more commonly used specialists are:

- Meteorologists.
- Environmental Impact Specialists.
- Flood Control Specialists.
- Water Use Specialists.
- Fuels and Flammable Specialists.
- Hazardous Substance Specialists.
- Fire Behavior Specialists.
- Structural Engineers.
- Training Specialists.

(Continued on next page.)

Additional advisory positions may also be necessary depending on the nature and location(s) of the incident, and/or specific requirements established by the Incident Commander. For example, a Legal Counsel may be assigned directly to the Command Staff to advise the Incident Commander on legal matters, such as emergency proclamations, legality of evacuation orders, and legal rights and restrictions pertaining to media access. Similarly, a Medical Advisor may be designated and assigned directly to the Command Staff to provide advice and recommendations to the Incident Commander in the context of incidents involving medical and mental health services, mass casualty, acute care, vector control, epidemiology, and/or mass prophylaxis considerations, particularly in the response to a bioterrorism event. These positions may also be considered Technical Specialists.

Intelligence/Investigations Function

- **The collection, analysis, and sharing of incident-related intelligence are important elements of ICS.**
  - Typically, operational information and situational intelligence are management functions located in the Planning Section, with a focus on three incident intelligence areas: situation status, resource status, and anticipated incident status or escalation (e.g., weather forecasts, location of supplies, etc.).
  - This information and intelligence is utilized for incident management decisionmaking. In addition, Technical Specialists may be utilized in the Planning Section to provide specific information that may support tactical decisions on an incident.
- **Incident management organizations must also establish a system for the collection, analysis, and sharing, as possible, of information developed during intelligence/investigations efforts**.
  - Some incidents require the utilization of intelligence and investigative information to support the process. Intelligence and investigative information is defined as information that either leads to the detection, prevention, apprehension, and prosecution of criminal activities (or the individuals(s) involved), including terrorist incidents, or information that leads to determination of the cause of a given incident (regardless of the source) such as public health events or fires with unknown origins.

Topic | **Organizational Structure**

- **ICS allows for organizational flexibility, so the Intelligence/Investigations Function can be embedded in several different places within the organizational structure:**

  - **Within the Planning Section.** This is the traditional placement for this function and is appropriate for incidents with little or no investigative information requirements, nor a significant amount of specialized information.
  - **As a Separate General Staff Section.** This option may be appropriate when there is an intelligence/investigative component to the incident or when multiple investigative agencies are part of the investigative process and/or there is a need for classified intelligence.
  - **Within the Operations Section.** This option may be appropriate for incidents that require a high degree of linkage and coordination between the investigative information and the operational tactics that are being employed.
  - **Within the Command Staff.** This option may be appropriate for incidents with little need for tactical information or classified intelligence and where supporting Agency Representatives are providing the real-time information to the Command Element.

- **The mission of the Intelligence/Investigations Function is to ensure that all investigative and intelligence operations, functions, and activities within the incident response are properly managed, coordinated, and directed in order to:**

  - Prevent/deter additional activity, incidents, and/or attacks.
  - Collect, process, analyze, and appropriately disseminate intelligence information.
  - Conduct a thorough and comprehensive investigation.
  - Identify, process, collect, create a chain of custody for, safeguard, examine/analyze, and store all situational intelligence and/or probative evidence.

- **The Intelligence/Investigations Function has responsibilities that cross all departments' interests involved during an incident, but there are functions that remain specific to law enforcement response and/or mission areas.** Two examples of these are expeditious identification and apprehension of all perpetrators, and successful prosecution of all defendants.

  Regardless of how the Intelligence/Investigations Function is organized, a close liaison will be maintained and information will be transmitted to Command, Operations, and Planning. However, classified information requiring a security clearance, sensitive information, or specific investigative tactics that would compromise the investigation will be shared only with those who have the appropriate security clearance and need to know.

Unified Command

The Unified Command organization consists of the Incident Commanders from the various jurisdictions or agencies operating together to form a single command structure.

Overview

Unified Command is an important element in multijurisdictional or multiagency domestic incident management. It provides guidelines to enable agencies with different legal, geographic, and functional responsibilities to coordinate, plan, and interact effectively.

As a team effort, Unified Command overcomes much of the inefficiency and duplication of effort that can occur when agencies from different functional and geographic jurisdictions, or agencies at different levels of government, operate without a common system or organizational framework.

All agencies with jurisdictional authority or functional responsibility for any or all aspects of an incident participate in the Unified Command structure and contribute to the following process and responsibilities:

- Determining overall incident strategies.
- Selecting objectives.
- Ensuring that joint planning for tactical activities is accomplished in accordance with approved incident objectives.
- Ensuring the integration of tactical operations.
- Approving, committing, and making optimal use of all assigned resources.

The exact composition of the Unified Command structure will depend on the location(s) of the incident (i.e., which geographical administrative jurisdictions are involved) and the type of incident (i.e., which functional agencies of the involved jurisdiction(s) are required). In the case of some multijurisdictional incidents, the designation of a single Incident Commander may be considered to promote greater unity of effort and efficiency.

Source: NIMS

Unified Command

Authority

Authority and responsibility for an Incident Commander to manage an incident or event comes in the form of a delegation of authority from the agency executive or administrator of the jurisdiction of occurrence or inherent in existing agency policies and procedures. When an incident/event spans multiple jurisdictions this responsibility belongs to the various jurisdictional and agency executives or administrators who set policy and are accountable to their jurisdictions or agencies. They must appropriately delegate to the Unified Commanders the authority to manage the incident. Given this authority, the Unified Commanders will then collectively develop one comprehensive set of incident objectives, and use them to develop strategies.

Advantages of Using Unified Command

The advantages of using Unified Command include:

- A single set of objectives is developed for the entire incident.
- A collective approach is used to develop strategies to achieve incident objectives.
- Information flow and coordination is improved between all jurisdictions and agencies involved in the incident.
- All agencies with responsibility for the incident have an understanding of joint priorities and restrictions.
- No agency's legal authorities will be compromised or neglected.
- The combined efforts of all agencies are optimized as they perform their respective assignments under a single Incident Action Plan.

Planning Process

It was recognized early in the development of the ICS that the critical factor of adequate planning for incident operations was often overlooked or not given enough emphasis. This resulted in poor use of resources, inappropriate strategies and tactics, safety problems, higher incident costs, and lower effectiveness.

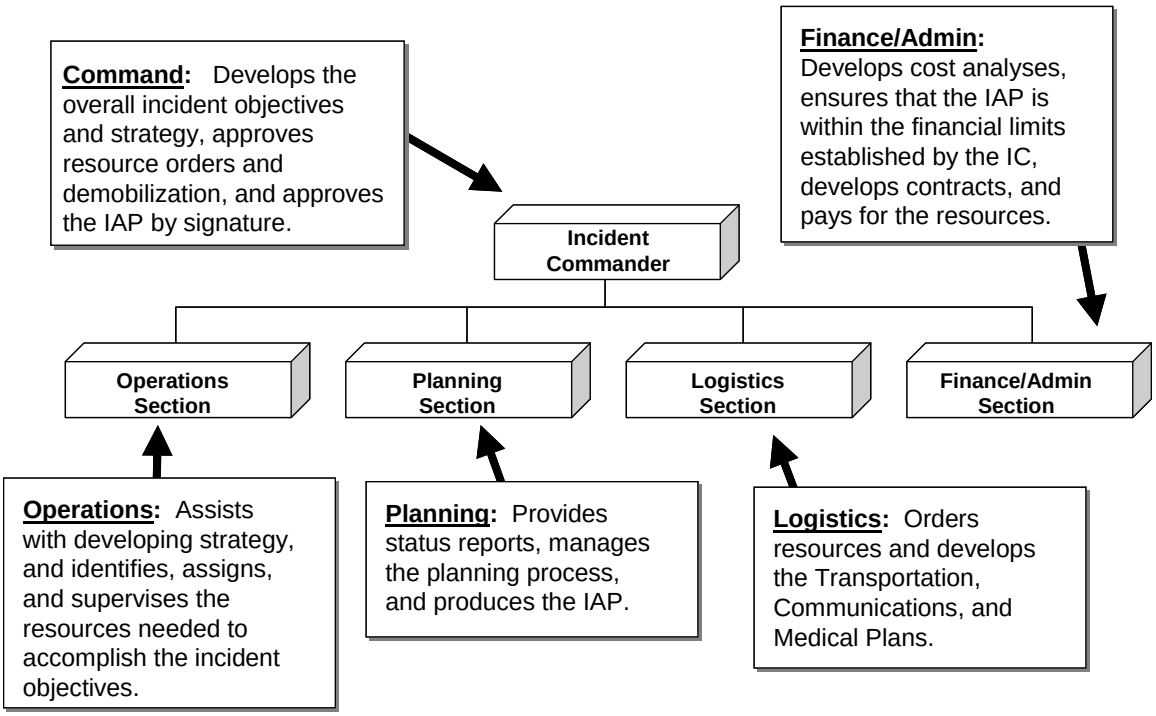
Those involved in the original ICS development felt that there was a need to develop a simple but thorough process for planning that could be utilized for both smaller, short-term incidents and events, and for longer, more complex incident planning. The planning process may begin with the scheduling of a planned event, the identification of a credible threat, or the initial response to an actual or impending event. The process continues with the implementation of the formalized steps and staffing required to develop a written Incident Action Plan (IAP).

The primary phases of the planning process are essentially the same for the Incident Commander who develops the initial plan, for the Incident Commander and Operations Section Chief revising the initial plan for extended operations, and for the incident management team developing a formal IAP, each following a similar process. During the initial stages of incident management, planners must develop a simple plan that can be communicated through concise verbal briefings. Frequently, this plan must be developed very quickly and with incomplete situation information. As the incident management effort evolves over time, additional lead time, staff, information systems, and technologies enable more detailed planning and cataloging of events and "lessons learned."

Planning involves:

- Evaluating the situation.
- Developing incident objectives.
- Selecting a strategy.
- Deciding which resources should be used to achieve the objectives in the safest, most efficient and cost-effective manner.

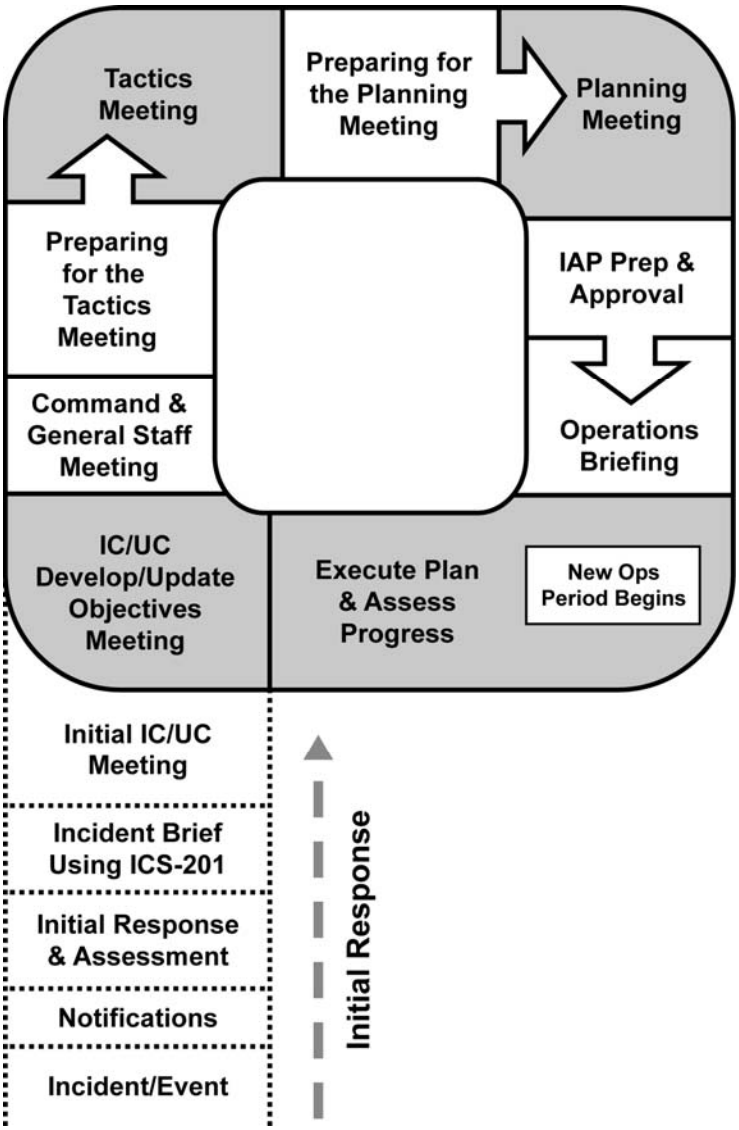
Planning Process



Caption: Organizational chart showing that Command develops the overall incident objectives and strategy, approves resource orders and demobilization, and approves the IAP by signature. Operations assists with developing strategy, and identifies, assigns, and supervises the resources needed to accomplish the incident objectives. Planning provides status reports, manages the planning process, and produces the IAP. Logistics orders resources and develops the Transportation, Communications, and Medical Plans. Finance/Administration develops cost analyses, ensures that the IAP is within the financial limits established by the Incident Commander, develops contracts, and pays for the resources.

Planning Process (Continued)

The Planning "P"



- The Planning "P" is a guide to the process and steps involved in planning for an incident. The leg of the "P" describes the initial response period: Once the incident/event begins, the steps are Notifications, Initial Response & Assessment, Incident Briefing Using ICS 201, and Initial Incident Command (IC)/Unified Command (UC) Meeting.
- At the top of the leg of the "P" is the beginning of the first operational planning period cycle. In this circular sequence, the steps are IC/UC Develop/Update Objectives Meeting, Command and General Staff Meeting, Preparing for the Tactics Meeting, Tactics Meeting, Preparing for the Planning Meeting, Planning Meeting, IAP Prep & Approval, and Operations Briefing.
- At this point a new operational period begins. The next step is Execute Plan & Assess Progress, after which the cycle begins again.

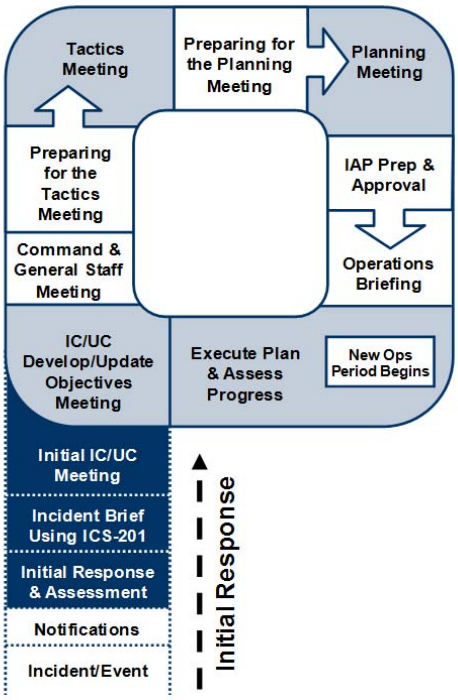
Source: draft NIMS document

Planning Process (Continued)

Initial Response

Planning begins with a thorough size-up that provides information needed to make initial management decisions.

The ICS Form 201 provides Command Staff with information about the incident situation and the resources allocated to the incident. This form serves as a permanent record of the initial response to the incident and can be used for transfer of command.

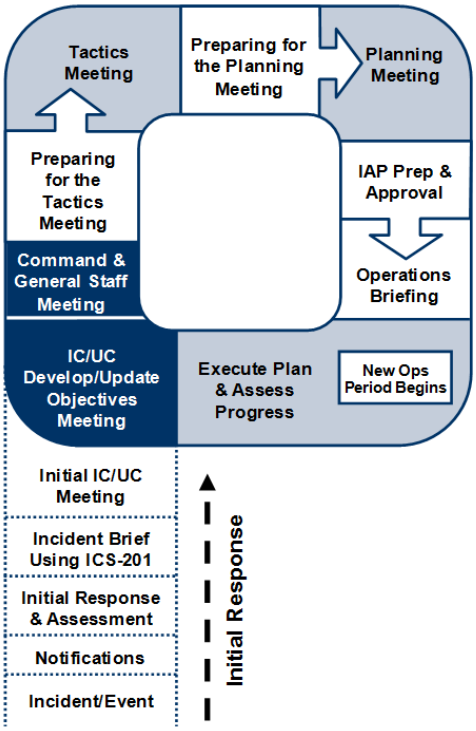


The Start of Each Planning Cycle

- **IC/UC Objectives Meeting:** The Incident Command/Unified Command establish incident objectives that cover the entire course of the incident. For complex incidents, it may take more than one operational period to accomplish the incident objectives.

  The cyclical planning process is designed to take the overall incident objectives and break them down into tactical assignments for each operational period. It is important that this initial overall approach to establishing incident objectives establish the course of the incident, rather than having incident objectives only address a single operational period.

- **Command and General Staff Meeting:** The Incident Command/Unified Command may meet with the Command and General Staff to gather input or to provide immediate direction that cannot wait until the planning process is completed. This meeting occurs as needed and should be as brief as possible.



Planning Process (Continued)

Preparing for and Conducting the Tactics Meeting

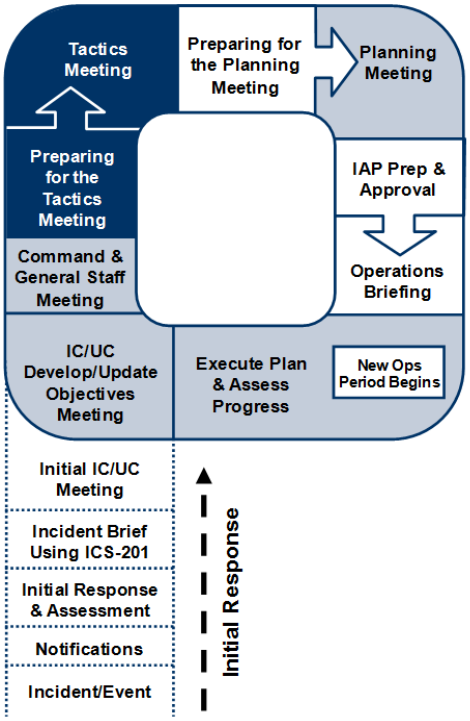
The purpose of the Tactics Meeting is to review the tactics developed by the Operations Section Chief. This includes the following:

- Determine how the selected strategy will be accomplished in order to achieve the incident objectives.
- Assign resources to implement the tactics.
- Identify methods for monitoring tactics and resources to determine if adjustments are required (e.g., different tactics, different resources, or new strategy).

The Operations Section Chief, Safety Officer, Logistics Section Chief, and Resources Unit Leader attend the Tactics Meeting. The Operations Section Chief leads the Tactics Meeting.

The ICS Forms 215, Operational Planning Worksheet, and 215A, Incident Safety Analysis, are used to document the Tactics Meeting.

Resource assignments will be made for each of the specific work tasks. Resource assignments will consist of the kind, type, and numbers of resources available and needed to achieve the tactical operations desired for the operational period. If the required tactical resources will not be available, then an adjustment should be made to the tactical assignments being planned for the Operational Period. It is very important that tactical resource availability and other needed support be determined prior to spending a great deal of time working on strategies and tactical operations that realistically cannot be achieved.

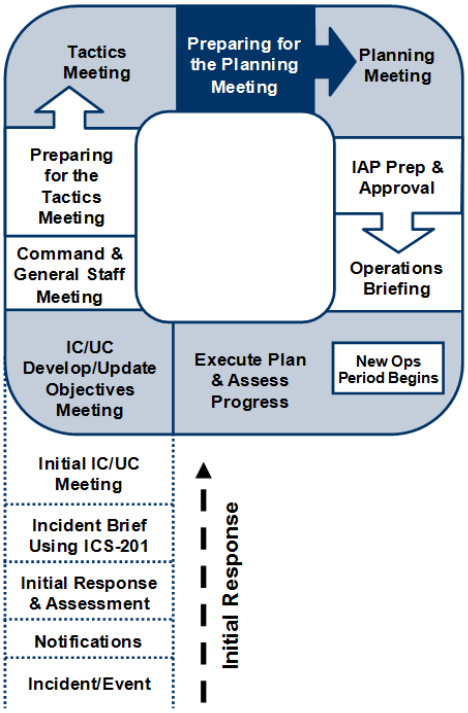


Planning Process (Continued)

Preparing for the Planning Meeting

Following the Tactics Meeting, preparations are made for the Planning Meeting, to include the following actions coordinated by the Planning Section:

- Review the ICS Form 215 developed in the Tactics Meeting.
- Review the ICS Form 215A, Incident Safety Analysis (prepared by the Safety Officer), based on the information in the ICS Form 215.
- Assess current operations effectiveness and resource efficiency.
- Gather information to support incident management decisions.

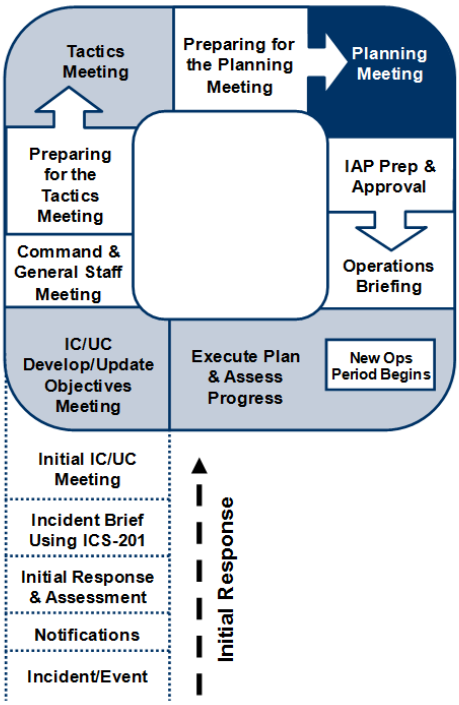


Planning Meeting

The Planning Meeting provides the opportunity for the Command and General Staff to review and validate the operational plan as proposed by the Operations Section Chief. Attendance is required for all Command and General Staff. Additional incident personnel may attend at the request of the Planning Section Chief or the Incident Commander. The Planning Section Chief conducts the Planning Meeting following a fixed agenda.

The Operations Section Chief delineates the amount and type of resources he or she will need to accomplish the plan. The Planning Section's "Resources Unit" will have to work with the Logistics Section to accommodate.

At the conclusion of the meeting, the Planning Section Staff will indicate when all elements of the plan and support documents are required to be submitted so the plan can be collated, duplicated, and made ready for the Operational Period Briefing.



Planning Process (Continued)

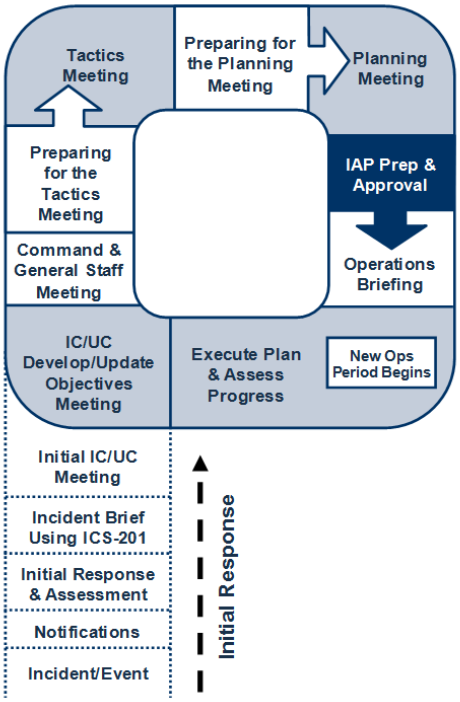
IAP Preparation and Approval

The next step in the Incident Action Planning Process is plan preparation and approval. The written plan is comprised of a series of standard forms and supporting documents that convey the Incident Commander's intent and the Operations Section direction for the accomplishment of the plan for that Operational Period.

For simple incidents of short duration, the Incident Action Plan (IAP) will be developed by the Incident Commander and communicated to subordinates in a verbal briefing. The planning associated with this level of complexity does not demand the formal planning meeting process as highlighted above.

Certain conditions result in the need for the Incident Commander to engage a more formal process. A written IAP should be considered whenever:

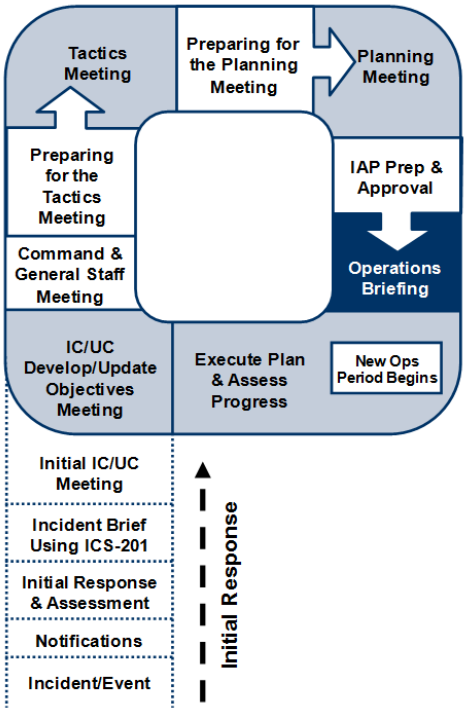
- Two or more jurisdictions are involved in the response.
- The incident continues into the next Operational Period.
- A number of ICS organizational elements are activated (typically when General Staff Sections are staffed).
- It is required by agency policy.
- A Hazmat incident is involved (required).



Operations Period Briefing

The Operations Period Briefing may be referred to as the Operational Briefing or the Shift Briefing. This briefing is conducted at the beginning of each Operational Period and presents the Incident Action Plan to supervisors of tactical resources.

Following the Operations Period Briefing supervisors will meet with their assigned resources for a detailed briefing on their respective assignments.

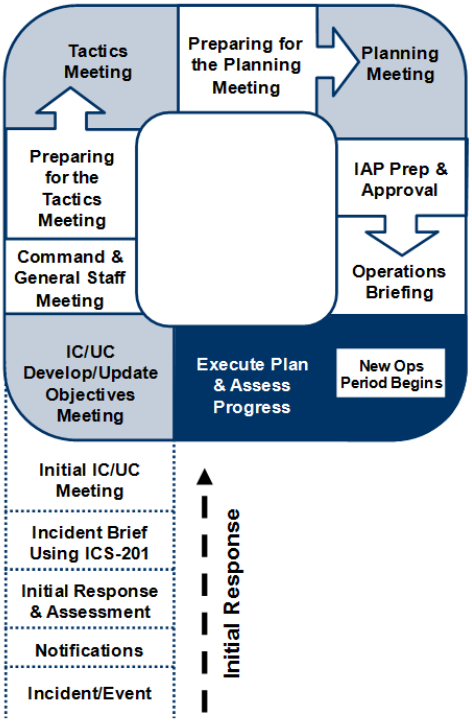


Planning Process (Continued)

Execute Plan and Assess Progress

The Operations Section directs the implementation of the plan. The supervisory personnel within the Operations Section are responsible for implementation of the plan for the specific Operational Period.

The plan is evaluated at various stages in its development and implementation. The Operations Section Chief may make the appropriate adjustments during the Operational Period to ensure that the objectives are met and effectiveness is assured.



ICS Forms

The ICS uses a series of standard forms and supporting documents that convey directions for the accomplishment of the objectives and distributing information. Listed below are the standard ICS form titles and descriptions of each form:

Standard Form Title	Description
Incident Action Plan Cover Page ICS 200	Indicates the incident name, plan operational period, date prepared, approvals, and attachments (resources, organization, Communications Plan, Medical Plan, and other appropriate information).
Incident Briefing ICS 201	Provides the Incident Command/Unified Command and General Staffs with basic information regarding the incident situation and the resources allocated to the incident. This form also serves as a permanent record of the initial response to the incident.
Incident Objectives ICS 202	Describes the basic strategy and objectives for use during each operational period.
Organization Assignment List ICS 203	Provides information on the response organization and personnel staffing.
Field Assignment ICS 204	Used to inform personnel of assignments. After Incident Command/Unified Command approve the objectives, staff members receive the assignment information contained in this form.
Incident Communications Plan ICS 205	Provides, in one location, information on the assignments for all communications equipment for each operational period. The plan is a summary of information. Information from the Incident Communications Plan on frequency assignments can be placed on the appropriate Assignment form (ICS Form 204).
Medical Plan ICS 206	Provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.
Incident Status Summary ICS 209	Summarizes incident information for staff members and external parties, and provides information to the Public Information Officer for preparation of media releases.
Check-In/Out List ICS 211	Used to check in personnel and equipment arriving at or departing from the incident. Check-in/out consists of reporting specific information that is recorded on the form.
General Message ICS 213	Used by: ▪ Incident dispatchers to record incoming messages that cannot be orally transmitted to the intended recipients. ▪ EOC and other incident personnel to transmit messages via radio or telephone to the addressee. ▪ Incident personnel to send any message or notification that requires hard-copy delivery to other incident personnel.

ICS Forms (Continued)

Standard Form Title	Description
Unit Log ICS 214	Provides a record of unit activities. Unit Logs can provide a basic reference from which to extract information for inclusion in any after-action report.
Operational Planning Worksheet ICS 215	Documents decisions made concerning resource needs for the next operational period. The Planning Section uses this Worksheet to complete Assignment Lists, and the Logistics Section uses it for ordering resources for the incident. This form may be used as a source document for updating resource information on other ICS forms such as the ICS 209.
Incident Action Plan Safety Analysis ICS 215A	Communicates to the Operations and Planning Section Chiefs safety and health issues identified by the Safety Officer.
Air Operations Summary ICS 220	Provides information on air operations including the number, type, location, and specific assignments of helicopters and fixed-wing aircraft.
General Plan ICS 226	Addresses long-term objectives approved by Incident Command/ Unified Command. These objectives are often expressed as milestones (i.e., timeframes for the completion of all and/or portions of incident response operations). A General Plan should identify the major tasks to be carried out through to the end of emergency response operations, the duration of the tasks, and the major equipment and personnel resources needed to accomplish the tasks within the specified duration.

Demobilization

Demobilization planning helps to:

- Eliminate waste in resources.
- Eliminate potential fiscal and legal impacts.
- Ensure a controlled, safe, efficient, and cost-effective release process.

Demobilization policies and procedures depend on size of incident and may involve:

- Fiscal/legal policies and procedures.
- Work rules.
- Special license requirements.
- Other requirements.

NATIONAL INCIDENT MANAGEMENT SYSTEM
INCIDENT COMMAND SYSTEM

ICS FORMS BOOKLET
FEMA 502-2

September 2010

INTRODUCTION TO ICS FORMS

The National Incident Management System (NIMS) Incident Command System (ICS) Forms Booklet, FEMA 502-2, is designed to assist emergency response personnel in the use of ICS and corresponding documentation during incident operations. This booklet is a companion document to the NIMS ICS Field Operations Guide (FOG), FEMA 502-1, which provides general guidance to emergency responders on implementing ICS. This booklet is meant to complement existing incident management programs and does not replace relevant emergency operations plans, laws, and ordinances. These forms are designed for use within the Incident Command System, and are not targeted for use in Area Command or in multiagency coordination systems.

These forms are intended for use as tools for the creation of Incident Action Plans (IAPs), for other incident management activities, and for support and documentation of ICS activities. Personnel using the forms should have a basic understanding of NIMS, including ICS, through training and/or experience to ensure they can effectively use and understand these forms. These ICS Forms represent an all-hazards approach and update to previously used ICS Forms. While the layout and specific blocks may have been updated, the functionality of the forms remains the same. It is recommended that all users familiarize themselves with the updated forms and instructions.

A general description of each ICS Form's purpose, suggested preparation, and distribution are included immediately after the form, including block-by-block completion instructions to ensure maximum clarity on specifics, or for those personnel who may be unfamiliar with the forms.

The ICS organizational charts contained in these forms are examples of how an ICS organization is typically developed for incident response. However, the flexibility and scalability of ICS allow modifications, as needed, based on experience and particular incident requirements.

These forms are designed to include the essential data elements for the ICS process they address. The use of these standardized ICS Forms is encouraged to promote consistency in the management and documentation of incidents in the spirit of NIMS, and to facilitate effective use of mutual aid. In many cases, additional pages can be added to the existing ICS Forms when needed, and several forms are set up with this specific provision. The section after the ICS Forms List provides details on adding appendixes or fields to the forms for jurisdiction- or discipline-specific needs.

It may be appropriate to compile and maintain other NIMS-related forms with these ICS Forms, such as resource management and/or ordering forms that are used to support incidents. Examples of these include the following Emergency Management Assistance Compact (EMAC) forms: REQ-A (Interstate Mutual Aid Request), Reimbursement Form R-1 (Interstate Reimbursement Form), and Reimbursement Form R-2 (Intrastate Reimbursement Form).

ICS FORMS LIST

This table lists all of the ICS Forms included in this publication.

Notes:

- In the following table, the ICS Forms identified with an asterisk (*) are typically included in an IAP.
- Forms identified with two asterisks (**) are additional forms that could be used in the IAP.
- The other ICS Forms are used in the ICS process for incident management activities, but are not typically included in the IAP.
- The date and time entered in the form blocks should be determined by the Incident Command or Unified Command. Local time is typically used.

ICS Form #:	Form Title:	Typically Prepared by:
ICS 201	**Incident Briefing**	Initial Incident Commander
***ICS 202**	**Incident Objectives**	Planning Section Chief
***ICS 203**	**Organization Assignment List**	Resources Unit Leader
***ICS 204**	**Assignment List**	Resources Unit Leader and Operations Section Chief
***ICS 205**	**Incident Radio Communications Plan**	Communications Unit Leader
****ICS 205A**	**Communications List**	Communications Unit Leader
***ICS 206**	**Medical Plan**	Medical Unit Leader (reviewed by Safety Officer)
ICS 207	**Incident Organization Chart** *(wall-mount size, optional 8½" x 14")*	Resources Unit Leader
****ICS 208**	**Safety Message/Plan**	Safety Officer
ICS 209	**Incident Status Summary**	Situation Unit Leader
ICS 210	**Resource Status Change**	Communications Unit Leader
ICS 211	**Incident Check-In List** *(optional 8½" x 14" and 11" x 17")*	Resources Unit/Check-In Recorder
ICS 213	**General Message** *(3-part form)*	Any Message Originator
ICS 214	**Activity Log** *(optional 2-sided form)*	All Sections and Units
ICS 215	**Operational Planning Worksheet** *(optional 8½" x 14" and 11" x 17")*	Operations Section Chief
ICS 215A	**Incident Action Plan Safety Analysis**	Safety Officer
ICS 218	**Support Vehicle/Equipment Inventory** *(optional 8½" x 14" and 11" x 17")*	Ground Support Unit
ICS 219-1 to ICS 219-8, ICS 219-10 *(Cards)*	**Resource Status Card (T-Card)** *(may be printed on cardstock)*	Resources Unit
ICS 220	**Air Operations Summary Worksheet**	Operations Section Chief or Air Branch Director
ICS 221	**Demobilization Check-Out**	Demobilization Unit Leader
ICS 225	**Incident Personnel Performance Rating**	Supervisor at the incident

ICS FORM ADAPTION, EXTENSION, AND APPENDIXES

The ICS Forms in this booklet are designed to serve all-hazards, cross-discipline needs for incident management across the Nation. These forms include the essential data elements for the ICS process they address, and create a foundation within ICS for complex incident management activities. However, the flexibility and scalability of NIMS should allow for needs outside this foundation, so the following are possible mechanisms to add to, extend, or adapt ICS Forms when needed.

Because the goal of NIMS is to have a consistent nationwide approach to incident management, jurisdictions and disciplines are encouraged to use the ICS Forms as they are presented here – unless these forms do not meet an organization's particular incident management needs for some unique reason. If changes are needed, the focus on essential information elements should remain, and as such the spirit and intent of particular fields or "information elements" on the ICS Forms should remain intact to maintain consistency if the forms are altered. Modifications should be clearly indicated as deviations from or additions to the ICS Forms. The following approaches may be used to meet any unique needs.

ICS Form Adaptation

When agencies and organizations require specialized forms or information for particular kinds of incidents, events, or disciplines, it may be beneficial to utilize the essential data elements from a particular ICS Form to create a more localized or field-specific form. When this occurs, organizations are encouraged to use the relevant essential data elements and ICS Form number, but to clarify that the altered form is a specific organizational adaptation of the form. For example, an altered form should clearly indicate in the title that it has been changed to meet a specific need, such as "ICS 215A, Hazard Risk Analysis Worksheet, Adapted for Story County Hazmat Program."

Extending ICS Form Fields

Particular fields on an ICS Form may need to include further breakouts or additional related elements. If such additions are needed, the form itself should be clearly labeled as an adapted form (see above), and the additional sub-field numbers should be clearly labeled as unique to the adapted form. Letters or other indicators may be used to label the new sub-fields (if the block does not already include sub-fields).

Examples of possible field additions are shown below for the ICS 209:

- Block 2: Incident Number.
  - Block 2A (adapted): Full agency accounting cost charge number for primary authority having jurisdiction.
- Block 29: Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.).
  - Block 29A (adapted): Indicate specific wildland fire fuel model number.

Creating ICS Form Appendixes

Certain ICS Forms may require appendixes to include additional information elements needed by a particular jurisdiction or discipline. When an appendix is needed for a given form, it is expected that the jurisdiction or discipline will determine standardized fields for such an appendix and make the form available as needed.

Any ICS Form appendixes should be clearly labeled with the form name and an indicator that it is a discipline- or jurisdiction-specific appendix. Appendix field numbering should begin following the last identified block in the corresponding ICS Form.

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Date Time: HHMM

4. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment)**:**

5. Situation Summary and Health and Safety Briefing (for briefings or transfer of command)**:** Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.

6. Prepared by: Name: Position/Title: Signature: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Date Time: HHMM

7. Current and Planned Objectives:

8. Current and Planned Actions, Strategies, and Tactics:

Time:	Actions:
HHMM	
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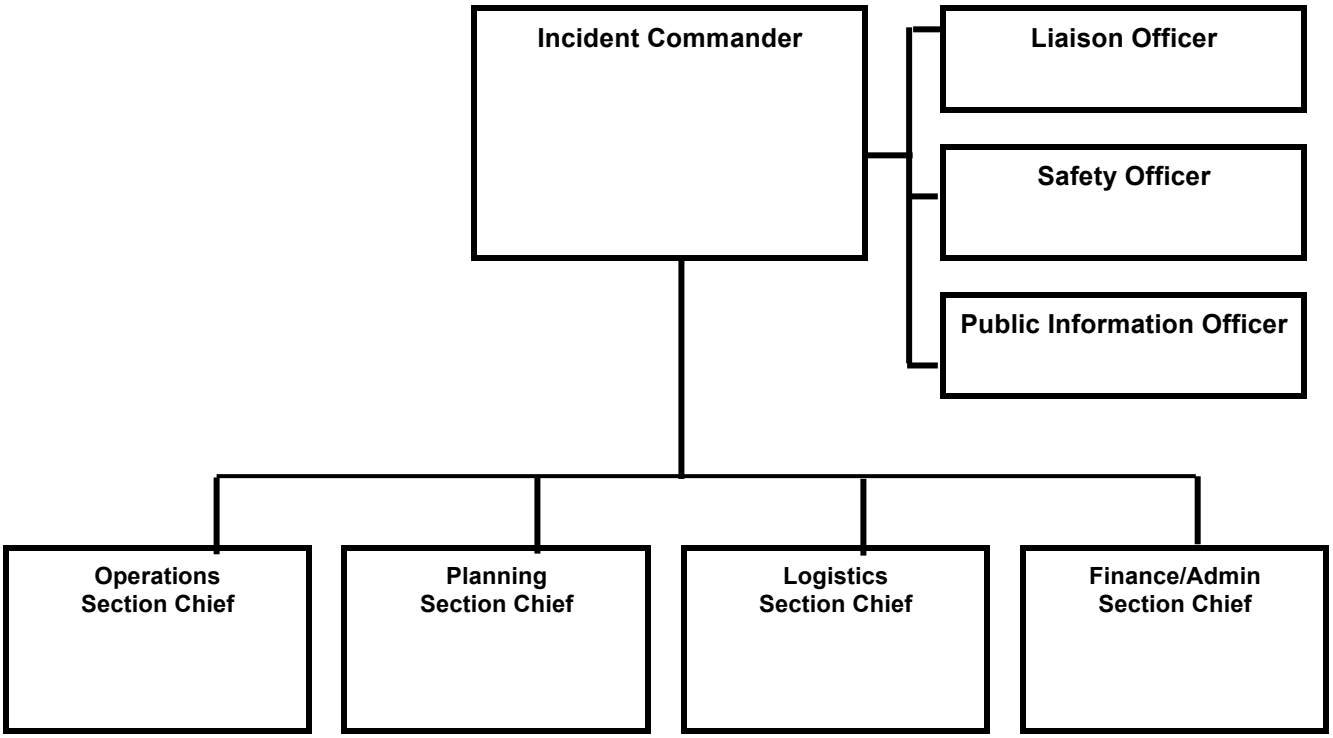
6. Prepared by: Name: Position/Title: Signature: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Date Time: HHMM

9. Current Organization (fill in additional organization as appropriate)**:**



6. Prepared by: Name:	Position/Title:	Signature:
ICS 201, Page 3	Date/Time: Date	

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: DateTime: HHMM

10. Resource Summary:

Resource	Resource Identifier	Date/Time Ordered	ETA	Arrived	Notes (location/assignment/status)
				☐	
				☐	
				☐	
				☐	
				☐	
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				☐	
				☐	

6. Prepared by: Name: Position/Title: Signature: _____

ICS 201
Incident Briefing

Purpose. The Incident Briefing (ICS 201) provides the Incident Commander (and the Command and General Staffs) with basic information regarding the incident situation and the resources allocated to the incident. In addition to a briefing document, the ICS 201 also serves as an initial action worksheet. It serves as a permanent record of the initial response to the incident.

Preparation. The briefing form is prepared by the Incident Commander for presentation to the incoming Incident Commander along with a more detailed oral briefing.

Distribution. Ideally, the ICS 201 is duplicated and distributed before the initial briefing of the Command and General Staffs or other responders as appropriate. The "Map/Sketch" and "Current and Planned Actions, Strategies, and Tactics" sections (pages 1–2) of the briefing form are given to the Situation Unit, while the "Current Organization" and "Resource Summary" sections (pages 3–4) are given to the Resources Unit.

Notes:

- The ICS 201 can serve as part of the initial Incident Action Plan (IAP).
- If additional pages are needed for any form page, use a blank ICS 201 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Initiated** • Date, Time	Enter date initiated (month/day/year) and time initiated (using the 24-hour clock).
4	**Map/Sketch** (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment)	Show perimeter and other graphics depicting situational status, resource assignments, incident facilities, and other special information on a map/sketch or with attached maps. Utilize commonly accepted ICS map symbology. If specific geospatial reference points are needed about the incident's location or area outside the ICS organization at the incident, that information should be submitted on the Incident Status Summary (ICS 209). North should be at the top of page unless noted otherwise.
5	**Situation Summary and Health and Safety Briefing (**for briefings or transfer of command): Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.	Self-explanatory.
6	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
7	**Current and Planned Objectives**	Enter the objectives used on the incident and note any specific problem areas.

Block Number	Block Title	Instructions
8	**Current and Planned Actions, Strategies, and Tactics** • Time • Actions	Enter the current and planned actions, strategies, and tactics and time they may or did occur to attain the objectives. If additional pages are needed, use a blank sheet or another ICS 201 (Page 2), and adjust page numbers accordingly.
9	**Current Organization** (fill in additional organization as appropriate) • Incident Commander(s) • Liaison Officer • Safety Officer • Public Information Officer • Planning Section Chief • Operations Section Chief • Finance/Administration Section Chief • Logistics Section Chief	• Enter on the organization chart the names of the individuals assigned to each position. • Modify the chart as necessary, and add any lines/spaces needed for Command Staff Assistants, Agency Representatives, and the organization of each of the General Staff Sections. • If Unified Command is being used, split the Incident Commander box. • Indicate agency for each of the Incident Commanders listed if Unified Command is being used.
10	**Resource Summary**	Enter the following information about the resources allocated to the incident. If additional pages are needed, use a blank sheet or another ICS 201 (Page 4), and adjust page numbers accordingly.
	• Resource	Enter the number and appropriate category, kind, or type of resource ordered.
	• Resource Identifier	Enter the relevant agency designator and/or resource designator (if any).
	• Date/Time Ordered	Enter the date (month/day/year) and time (24-hour clock) the resource was ordered.
	• ETA	Enter the estimated time of arrival (ETA) to the incident (use 24-hour clock).
	• Arrived	Enter an “X” or a checkmark upon arrival to the incident.
	• Notes (location/ assignment/status)	Enter notes such as the assigned location of the resource and/or the actual assignment and status.

INCIDENT OBJECTIVES (ICS 202)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Objective(s):

4. Operational Period Command Emphasis:

General Situational Awareness

5. Site Safety Plan Required? Yes ☐ No ☐

Approved Site Safety Plan(s) Located at: _____

6. Incident Action Plan (the items checked below are included in this Incident Action Plan)**:**

☐ ICS 203	☐ ICS 207	Other Attachments:
☐ ICS 204	☐ ICS 208	☐ _____
☐ ICS 205	☐ Map/Chart	☐ _____
☐ ICS 205A	☐ Weather Forecast/Tides/Currents	☐ _____
☐ ICS 206		☐ _____

7. Prepared by: Name: Position/Title: Signature: _____

8. Approved by Incident Commander: Name: Signature: _____

ICS 202	IAP Page	Date/Time: Date

ICS 202
Incident Objectives

Purpose. The Incident Objectives (ICS 202) describes the basic incident strategy, incident objectives, command emphasis/priorities, and safety considerations for use during the next operational period.

Preparation. The ICS 202 is completed by the Planning Section following each Command and General Staff meeting conducted to prepare the Incident Action Plan (IAP). In case of a Unified Command, one Incident Commander (IC) may approve the ICS 202. If additional IC signatures are used, attach a blank page.

Distribution. The ICS 202 may be reproduced with the IAP and may be part of the IAP and given to all supervisory personnel at the Section, Branch, Division/Group, and Unit levels. All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 202 is part of the IAP and can be used as the opening or cover page.
- If additional pages are needed, use a blank ICS 202 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident. If needed, an incident number can be added.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Objective(s)**	Enter clear, concise statements of the objectives for managing the response. Ideally, these objectives will be listed in priority order. These objectives are for the incident response for this operational period as well as for the duration of the incident. Include alternative and/or specific tactical objectives as applicable. Objectives should follow the SMART model or a similar approach: **S**pecific – Is the wording precise and unambiguous? **M**easurable – How will achievements be measured? **A**ction-oriented – Is an action verb used to describe expected accomplishments? **R**ealistic – Is the outcome achievable with given available resources? **T**ime-sensitive – What is the timeframe?
4	**Operational Period Command Emphasis**	Enter command emphasis for the operational period, which may include tactical priorities or a general weather forecast for the operational period. It may be a sequence of events or order of events to address. This is not a narrative on the objectives, but a discussion about where to place emphasis if there are needs to prioritize based on the Incident Commander's or Unified Command's direction. Examples: Be aware of falling debris, secondary explosions, etc.
	General Situational Awareness	General situational awareness may include a weather forecast, incident conditions, and/or a general safety message. If a safety message is included here, it should be reviewed by the Safety Officer to ensure it is in alignment with the Safety Message/Plan (ICS 208).
5	**Site Safety Plan Required?** Yes ☐ No ☐	Safety Officer should check whether or not a site safety plan is required for this incident.
	Approved Site Safety Plan(s) Located At	Enter the location of the approved Site Safety Plan(s).

Block Number	Block Title	Instructions
6	**Incident Action Plan** (the items checked below are included in this Incident Action Plan): ☐ ICS 203 ☐ ICS 204 ☐ ICS 205 ☐ ICS 205A ☐ ICS 206 ☐ ICS 207 ☐ ICS 208 ☐ Map/Chart ☐ Weather Forecast/ Tides/Currents Other Attachments:	Check appropriate forms and list other relevant documents that are included in the IAP. ☐ ICS 203 – Organization Assignment List ☐ ICS 204 – Assignment List ☐ ICS 205 – Incident Radio Communications Plan ☐ ICS 205A – Communications List ☐ ICS 206 – Medical Plan ☐ ICS 207 – Incident Organization Chart ☐ ICS 208 – Safety Message/Plan
7	**Prepared by** • Name • Position/Title • Signature	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
8	**Approved by Incident Commander** • Name • Signature • Date/Time	In the case of a Unified Command, one IC may approve the ICS 202. If additional IC signatures are used, attach a blank page.

ORGANIZATION ASSIGNMENT LIST (ICS 203)

1. Incident Name:	2. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM

3. Incident Commander(s) and Command Staff:	
IC/UCs	
Deputy	
Safety Officer	
Public Info. Officer	
Liaison Officer	

4. Agency/Organization Representatives:	
Agency/Organization	Name

5. Planning Section:	
Chief	
Deputy	
Resources Unit	
Situation Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. Logistics Section:	
Chief	
Deputy	
Support Branch	
Director	
Supply Unit	
Facilities Unit	
Ground Support Unit	
Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. Operations Section:		
Chief		
Deputy		
Staging Area		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Air Operations Branch		
Air Ops Branch Dir.		

8. Finance/Administration Section:	
Chief	
Deputy	
Time Unit	
Procurement Unit	
Comp/Claims Unit	
Cost Unit	

9. Prepared by: Name:	Position/Title:	Signature: _____
ICS 203	**IAP Page**	Date/Time: Date

ICS 203
Organization Assignment List

Purpose. The Organization Assignment List (ICS 203) provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit. It is used to complete the Incident Organization Chart (ICS 207) which is posted on the Incident Command Post display. An actual organization will be incident or event-specific. **Not all positions need to be filled.** Some blocks may contain more than one name. The size of the organization is dependent on the magnitude of the incident, and can be expanded or contracted as necessary.

Preparation. The Resources Unit prepares and maintains this list under the direction of the Planning Section Chief. Complete only the blocks for the positions that are being used for the incident. If a trainee is assigned to a position, indicate this with a "T" in parentheses behind the name (e.g., "A. Smith (T)").

Distribution. The ICS 203 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 203 serves as part of the IAP.
- If needed, more than one name can be put in each block by inserting a slash.
- If additional pages are needed, use a blank ICS 203 and repaginate as needed.
- ICS allows for organizational flexibility, so the Intelligence/Investigations Function can be embedded in several different places within the organizational structure.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Incident Commander(s) and Command Staff** • IC/UCs • Deputy • Safety Officer • Public Information Officer • Liaison Officer	Enter the names of the Incident Commander(s) and Command Staff. Label Assistants to Command Staff as such (for example, "Assistant Safety Officer"). For all individuals, use at least the first initial and last name. For Unified Command, also include agency names.
4	**Agency/Organization Representatives** • Agency/Organization • Name	Enter the agency/organization names and the names of their representatives. For all individuals, use at least the first initial and last name.
5	**Planning Section** • Chief • Deputy • Resources Unit • Situation Unit • Documentation Unit • Demobilization Unit • Technical Specialists	Enter the name of the Planning Section Chief, Deputy, and Unit Leaders after each position title. List Technical Specialists with an indication of specialty. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.

Block Number	Block Title	Instructions
6	**Logistics Section** • Chief • Deputy **Support Branch** • Director • Supply Unit • Facilities Unit • Ground Support Unit **Service Branch** • Director • Communications Unit • Medical Unit • Food Unit	Enter the name of the Logistics Section Chief, Deputy, Branch Directors, and Unit Leaders after each position title. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
7	**Operations Section** • Chief • Deputy • Staging Area **Branch** • Branch Director • Deputy • Division/Group **Air Operations Branch** • Air Operations Branch Director	Enter the name of the Operations Section Chief, Deputy, Branch Director(s), Deputies, and personnel staffing each of the listed positions. For Divisions/Groups, enter the Division/Group identifier in the left column and the individual's name in the right column. Branches and Divisions/Groups may be named for functionality or by geography. For Divisions/Groups, indicate Division/Group Supervisor. Use an additional page if more than three Branches are activated. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
8	**Finance/Administration Section** • Chief • Deputy • Time Unit • Procurement Unit • Compensation/Claims Unit • Cost Unit	Enter the name of the Finance/Administration Section Chief, Deputy, and Unit Leaders after each position title. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

ASSIGNMENT LIST (ICS 204)

1. Incident Name:	2. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM	3. Branch: Division: Group: Staging Area:

4. Operations Personnel:	Name	Contact Number(s)
Operations Section Chief:		XXX-XXX-XXXX
Branch Director:		XXX-XXX-XXXX
Division/Group Supervisor:		XXX-XXX-XXXX

5. Resources Assigned:		# of Persons	Contact (e.g., phone, pager, radio frequency, etc.)	Reporting Location, Special Equipment and Supplies, Remarks, Notes, Information
Resource Identifier	Leader			

6. Work Assignments:

7. Special Instructions:

8. Communications (radio and/or phone contact numbers needed for this assignment)**:**

Name	/Function	Primary Contact: indicate cell, pager, or radio (frequency/system/channel)
	/	
	/	
	/	
	/	

9. Prepared by: Name: Position/Title: Signature: _____

ICS 204	IAP Page	Date/Time: Date

ICS 204
Assignment List

Purpose. The Assignment List(s) (ICS 204) informs Division and Group supervisors of incident assignments. Once the Command and General Staffs agree to the assignments, the assignment information is given to the appropriate Divisions and Groups.

Preparation. The ICS 204 is normally prepared by the Resources Unit, using guidance from the Incident Objectives (ICS 202), Operational Planning Worksheet (ICS 215), and the Operations Section Chief. It must be approved by the Incident Commander, but may be reviewed and initialed by the Planning Section Chief and Operations Section Chief as well.

Distribution. The ICS 204 is duplicated and attached to the ICS 202 and given to all recipients as part of the Incident Action Plan (IAP). In some cases, assignments may be communicated via radio/telephone/fax. All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 204 details assignments at Division and Group levels and is part of the IAP.
- Multiple pages/copies can be used if needed.
- If additional pages are needed, use a blank ICS 204 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Branch** **Division** **Group** **Staging Area**	This block is for use in a large IAP for reference only. Write the alphanumeric abbreviation for the Branch, Division, Group, and Staging Area (e.g., "Branch 1," "Division D," "Group 1A") in large letters for easy referencing.
4	**Operations Personnel** • Name, Contact Number(s) – Operations Section Chief – Branch Director – Division/Group Supervisor	Enter the name and contact numbers of the Operations Section Chief, applicable Branch Director(s), and Division/Group Supervisor(s).
5	**Resources Assigned**	Enter the following information about the resources assigned to the Division or Group for this period:
	• Resource Identifier	The identifier is a unique way to identify a resource (e.g., ENG-13, IA-SCC-413). If the resource has been ordered but no identification has been received, use TBD (to be determined).
	• Leader	Enter resource leader's name.
	• # of Persons	Enter total number of persons for the resource assigned, including the leader.
	• Contact (e.g., phone, pager, radio frequency, etc.)	Enter primary means of contacting the leader or contact person (e.g., radio, phone, pager, etc.). Be sure to include the area code when listing a phone number.
5 (continued)	• Reporting Location, Special Equipment and Supplies, Remarks, Notes, Information	Provide special notes or directions specific to this resource. If required, add notes to indicate: (1) specific location/time where the resource should report or be dropped off/picked up; (2) special equipment and supplies that will be used or needed; (3) whether or not the resource received briefings; (4) transportation needs; or (5) other information.

Block Number	Block Title	Instructions
6	**Work Assignments**	Provide a statement of the tactical objectives to be achieved within the operational period by personnel assigned to this Division or Group.
7	**Special Instructions**	Enter a statement noting any safety problems, specific precautions to be exercised, dropoff or pickup points, or other important information.
8	**Communications** (radio and/or phone contact numbers needed for this assignment) • Name/Function • Primary Contact: indicate cell, pager, or radio (frequency/system/channel)	Enter specific communications information (including emergency numbers) for this Branch/Division/Group. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics. In light of potential IAP distribution, use sensitivity when including cell phone number. Add a secondary contact (phone number or radio) if needed.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205)

1. Incident Name:	2. Date/Time Prepared: Date: Date Time: HHMM	3. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System Talkgroup	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode (A, D, or M)	Remarks

5. Special Instructions:

6. Prepared by (Communications Unit Leader)**:** Name: Signature: _____

ICS 205	IAP Page	Date/Time: Date

ICS 205
Incident Radio Communications Plan

Purpose. The Incident Radio Communications Plan (ICS 205) provides information on all radio frequency or trunked radio system talkgroup assignments for each operational period. The plan is a summary of information obtained about available radio frequencies or talkgroups and the assignments of those resources by the Communications Unit Leader for use by incident responders. Information from the Incident Radio Communications Plan on frequency or talkgroup assignments is normally placed on the Assignment List (ICS 204).

Preparation. The ICS 205 is prepared by the Communications Unit Leader and given to the Planning Section Chief for inclusion in the Incident Action Plan.

Distribution. The ICS 205 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit. Information from the ICS 205 is placed on Assignment Lists.

Notes:

- The ICS 205 is used to provide, in one location, information on all radio frequency assignments down to the Division/Group level for each operational period.
- The ICS 205 serves as part of the IAP.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Date/Time Prepared**	Enter date prepared (month/day/year) and time prepared (using the 24-hour clock).
3	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
4	**Basic Radio Channel Use**	Enter the following information about radio channel use:
	Zone Group	
	Channel Number	Use at the Communications Unit Leader's discretion. Channel Number (Ch #) may equate to the channel number for incident radios that are programmed or cloned for a specific Communications Plan, or it may be used just as a reference line number on the ICS 205 document.
	Function	Enter the Net function each channel or talkgroup will be used for (Command, Tactical, Ground-to-Air, Air-to-Air, Support, Dispatch).
	Channel Name/Trunked Radio System Talkgroup	Enter the nomenclature or commonly used name for the channel or talk group such as the National Interoperability Channels which follow DHS frequency Field Operations Guide (FOG).
	Assignment	Enter the name of the ICS Branch/Division/Group/Section to which this channel/talkgroup will be assigned.
	RX (Receive) Frequency (N or W)	Enter the Receive Frequency (RX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions. The name of the specific trunked radio system with which the talkgroup is associated may be entered across all fields on the ICS 205 normally used for conventional channel programming information.
	RX Tone/NAC	Enter the Receive Continuous Tone Coded Squelch System (CTCSS) subaudible tone (RX Tone) or Network Access Code (RX NAC) for the receive frequency as the mobile or portable subscriber would be programmed.

Block Number	Block Title	Instructions
4 (continued)	TX (Transmit) Frequency (N or W)	Enter the Transmit Frequency (TX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions.
	TX Tone/NAC	Enter the Transmit Continuous Tone Coded Squelch System (CTCSS) subaudible tone (TX Tone) or Network Access Code (TX NAC) for the transmit frequency as the mobile or portable subscriber would be programmed.
	Mode (A, D, or M)	Enter "A" for analog operation, "D" for digital operation, or "M" for mixed mode operation.
	Remarks	Enter miscellaneous information concerning repeater locations, information concerning patched channels or talkgroups using links or gateways, etc.
5	**Special Instructions**	Enter any special instructions (e.g., using cross-band repeaters, secure-voice, encoders, private line (PL) tones, etc.) or other emergency communications needs). If needed, also include any special instructions for handling an incident within an incident.
6	**Prepared by** (Communications Unit Leader) • Name • Signature • Date/Time	Enter the name and signature of the person preparing the form, typically the Communications Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).

COMMUNICATIONS LIST (ICS 205A)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Basic Local Communications Information:

Incident Assigned Position	Name (Alphabetized)	Method(s) of Contact (phone, pager, cell, etc.)

4. Prepared by: Name:	Position/Title:	Signature:
ICS 205A | IAP Page	Date/Time: Date	

ICS 205A
Communications List

Purpose. The Communications List (ICS 205A) records methods of contact for incident personnel. While the Incident Radio Communications Plan (ICS 205) is used to provide information on all radio frequencies down to the Division/Group level, the ICS 205A indicates all methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.), and functions as an incident directory.

Preparation. The ICS 205A can be filled out during check-in and is maintained and distributed by Communications Unit personnel. This form should be updated each operational period.

Distribution. The ICS 205A is distributed within the ICS organization by the Communications Unit, and posted as necessary. All completed original forms must be given to the Documentation Unit. If this form contains sensitive information such as cell phone numbers, it should be clearly marked in the header that it contains sensitive information and is not for public release.

Notes:

- The ICS 205A is an optional part of the Incident Action Plan (IAP).
- This optional form is used in conjunction with the ICS 205.
- If additional pages are needed, use a blank ICS 205A and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Basic Local Communications Information**	Enter the communications methods assigned and used for personnel by their assigned ICS position.
	• Incident Assigned Position	Enter the ICS organizational assignment.
	• Name	Enter the name of the assigned person.
	• Method(s) of Contact (phone, pager, cell, etc.)	For each assignment, enter the radio frequency and contact number(s) to include area code, etc. If applicable, include the vehicle license or ID number assigned to the vehicle for the incident (e.g., HAZMAT 1, etc.).
4	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

MEDICAL PLAN (ICS 206)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Medical Aid Stations:

Name	Location	Contact Number(s)/Frequency	Paramedics on Site?
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

4. Transportation (indicate air or ground)**:**

Ambulance Service	Location	Contact Number(s)/Frequency	Level of Service
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS

5. Hospitals:

Hospital Name	Address, Latitude & Longitude if Helipad	Contact Number(s)/ Frequency	Travel Time		Trauma Center	Burn Center	Helipad
			Air	Ground			
					☐ Yes Level: ____ ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐Yes Level: ____ ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level: ____ ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level: ____ ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level: ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

6. Special Medical Emergency Procedures:

☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.

7. Prepared by (Medical Unit Leader)**:** Name: Signature: _____

8. Approved by (Safety Officer)**:** Name: Signature: _____

ICS 206
Medical Plan

Purpose. The Medical Plan (ICS 206) provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

Preparation. The ICS 206 is prepared by the Medical Unit Leader and reviewed by the Safety Officer to ensure ICS coordination. If aviation assets are utilized for rescue, coordinate with Air Operations.

Distribution. The ICS 206 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). Information from the plan pertaining to incident medical aid stations and medical emergency procedures may be noted on the Assignment List (ICS 204). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 206 serves as part of the IAP.
- This form can include multiple pages.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Medical Aid Stations**	Enter the following information on the incident medical aid station(s):
	• Name	Enter name of the medical aid station.
	• Location	Enter the location of the medical aid station (e.g., Staging Area, Camp Ground).
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the medical aid station(s).
	• Paramedics on Site? ☐ Yes ☐ No	Indicate (yes or no) if paramedics are at the site indicated.
4	**Transportation** (indicate air or ground)	Enter the following information for ambulance services available to the incident:
	• Ambulance Service	Enter name of ambulance service.
	• Location	Enter the location of the ambulance service.
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the ambulance service.
	• Level of Service ☐ ALS ☐ BLS	Indicate the level of service available for each ambulance, either ALS (Advanced Life Support) or BLS (Basic Life Support).

Block Number	Block Title	Instructions
5	**Hospitals**	Enter the following information for hospital(s) that could serve this incident:
	• Hospital Name	Enter hospital name and identify any predesignated medivac aircraft by name a frequency.
	• Address, Latitude & Longitude if Helipad	Enter the physical address of the hospital and the latitude and longitude if the hospital has a helipad.
	• Contact Number(s)/ Frequency	Enter the contact number(s) and/or communications frequency(s) for the hospital.

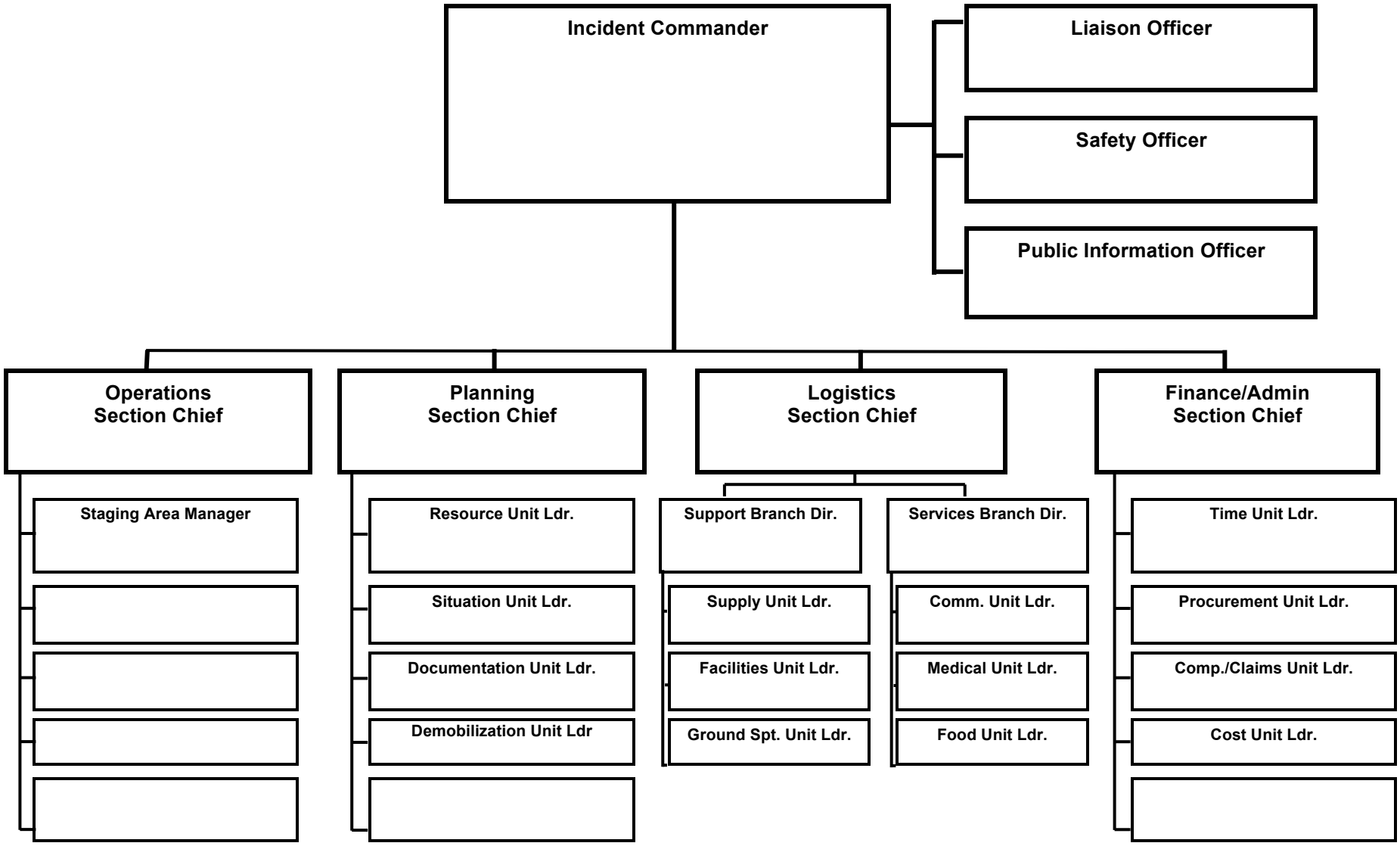
	• Travel Time
	  • Air
	  • Ground
		Enter the travel time by air and ground from the incident to the hospital.

	• Trauma Center ☐ Yes Level:_____	Indicate yes and the trauma level if the hospital has a trauma center.
	• Burn Center ☐ Yes ☐ No	Indicate (yes or no) if the hospital has a burn center.
	• Helipad ☐ Yes ☐ No	Indicate (yes or no) if the hospital has a helipad. Latitude and Longitude data format need to compliment Medical Evacuation Helicopters and Medical Air Resources
6	**Special Medical Emergency Procedures**	Note any special emergency instructions for use by incident personnel, including (1) who should be contacted, (2) how should they be contacted; and (3) who manages an incident within an incident due to a rescue, accident, etc. Include procedures for how to report medical emergencies.
	☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.	Self explanatory. Incident assigned aviation assets should be included in ICS 220.
7	**Prepared by** (Medical Unit Leader) • Name • Signature	Enter the name and signature of the person preparing the form, typically the Medical Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).
8	**Approved by** (Safety Officer) • Name • Signature • Date/Time	Enter the name of the person who approved the plan, typically the Safety Officer. Enter date (month/day/year) and time reviewed (24-hour clock).

INCIDENT ORGANIZATION CHART (ICS 207)

1. Incident Name:	2. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM

3. Organization Chart



ICS 207	IAP Page	4. Prepared by: Name:	Position/Title:	Signature: _____	Date/Time:

ICS 207
Incident Organization Chart

Purpose. The Incident Organization Chart (ICS 207) provides a **visual wall chart** depicting the ICS organization position assignments for the incident. The ICS 207 is used to indicate what ICS organizational elements are currently activated and the names of personnel staffing each element. An actual organization will be event-specific. The size of the organization is dependent on the specifics and magnitude of the incident and is scalable and flexible. Personnel responsible for managing organizational positions are listed in each box as appropriate.

Preparation. The ICS 207 is prepared by the Resources Unit Leader and reviewed by the Incident Commander. Complete only the blocks where positions have been activated, and add additional blocks as needed, especially for Agency Representatives and all Operations Section organizational elements. For detailed information about positions, consult the NIMS ICS Field Operations Guide. The ICS 207 is intended to be used as a wall-size chart and printed on a plotter for better visibility. A chart is completed for each operational period, and updated when organizational changes occur.

Distribution. The ICS 207 is intended to be **wall mounted** at Incident Command Posts and other incident locations as needed, and is not intended to be part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 207 is intended to be **wall mounted** (printed on a plotter). Document size can be modified based on individual needs.
- Also available as 8½ x 14 (legal size) chart.
- ICS allows for organizational flexibility, so the Intelligence/Investigative Function can be embedded in several different places within the organizational structure.
- Use additional pages if more than three branches are activated. Additional pages can be added based on individual need (such as to distinguish more Division/Groups and Branches as they are activated).

Block Number	Block Title	Instructions
1	**Incident Name**	Print the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Organization Chart**	• Complete the incident organization chart. • For all individuals, use at least the first initial and last name. • List agency where it is appropriate, such as for Unified Commanders. • If there is a shift change during the specified operational period, list both names, separated by a slash.
4	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

SAFETY MESSAGE/PLAN (ICS 208)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan:

4. Site Safety Plan Required? Yes ☐ No ☐

Approved Site Safety Plan(s) Located At:

5. Prepared by:	Name:	Position/Title:	Signature: _____
ICS 208	**IAP Page**	Date/Time: Date	

ICS 208
Safety Message/Plan

Purpose. The Safety Message/Plan (ICS 208) expands on the Safety Message and Site Safety Plan.

Preparation. The ICS 208 is an optional form that may be included and completed by the Safety Officer for the Incident Action Plan (IAP).

Distribution. The ICS 208, if developed, will be reproduced with the IAP and given to all recipients as part of the IAP. All completed original forms must be given to the Documentation Unit.

Notes:
- The ICS 208 may serve (optionally) as part of the IAP.
- Use additional copies for continuation sheets as needed, and indicate pagination as used.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan**	Enter clear, concise statements for safety message(s), priorities, and key command emphasis/decisions/directions. Enter information such as known safety hazards and specific precautions to be observed during this operational period. If needed, additional safety message(s) should be referenced and attached.
4	**Site Safety Plan Required?** Yes ☐ No ☐	Check whether or not a site safety plan is required for this incident.
	Approved Site Safety Plan(s) Located At	Enter where the approved Site Safety Plan(s) is located.
5	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT STATUS SUMMARY (ICS 209)

***1. Incident Name:**			**2. Incident Number:**	
***3. Report Version** (check one box on left)**:** ☐ Initial Rpt # (if used): ☐ Update ☐ Final	***4. Incident Commander(s) & Agency or Organization:**		**5. Incident Management Organization:**	***6. Incident Start Date/Time:** Date: _____ Time: _____ Time Zone: _____
7. Current Incident Size or Area Involved (use unit label – e.g., "sq mi," "city block")**:**	**8. Percent (%) Contained** **Completed**	***9. Incident Definition:**	**10. Incident Complexity Level:**	***11. For Time Period:** From Date/Time: _____ To Date/Time: _____

Approval & Routing Information

***12. Prepared By:** Print Name: _____ ICS Position: _____ Date/Time Prepared: _____	***13. Date/Time Submitted** **Time Zone:**
***14. Approved By:** Print Name: _____ ICS Position: _____ Signature: _____	***15. Primary Location, Organization, or Agency Sent To:**

Incident Location Information

***16. State:**	***17. County/Parish/Borough:**	***18. City:**
19. Unit or Other:	***20. Incident Jurisdiction:**	**21. Incident Location Ownership** (if different than jurisdiction)**:**
22. Longitude (indicate format)**:** **Latitude** (indicate format)**:**	**23. US National Grid Reference:**	**24. Legal Description** (township, section, range)**:**
***25. Short Location or Area Description** (list all affected areas or a reference point)**:**		**26. UTM Coordinates:**
27. Note any electronic geospatial data included or attached (indicate data format, content, and collection time information and labels)**:**		

Incident Summary

***28. Significant Events for the Time Period Reported** (summarize significant progress made, evacuations, incident growth, etc.)**:**
29. Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.)**:**

30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.)**:**	A. Structural Summary	B. # Threatened (72 hrs)	C. # Damaged	D. # Destroyed
	E. Single Residences			
	F. Nonresidential Commercial Property			
	Other Minor Structures			
	Other			

** Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:	2. Incident Number:

Additional Incident Decision Support Information

*31. Public Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Civilians (Public) Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing *(note if estimated)*		
H. Evacuated *(note if estimated)*		
I. Sheltering in Place *(note if estimated)*		
J. In Temporary Shelters *(note if est.)*		
K. Have Received Mass Immunizations		
L. Require Immunizations *(note if est.)*		
M. In Quarantine		
N. Total # Civilians (Public) Affected:		

*32. Responder Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Responders Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing		
H. Sheltering in Place		
I. Have Received Immunizations		
J. Require Immunizations		
K. In Quarantine		
N. Total # Responders Affected:		

33. Life, Safety, and Health Status/Threat Remarks:

35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern)**:**

*34. Life, Safety, and Health Threat Management:	A. Check if Active
A. No Likely Threat	☐
B. Potential Future Threat	☐
C. Mass Notifications in Progress	☐
D. Mass Notifications Completed	☐
E. No Evacuation(s) Imminent	☐
F. Planning for Evacuation	☐
G. Planning for Shelter-in-Place	☐
H. Evacuation(s) in Progress	☐
I. Shelter-in-Place in Progress	☐
J. Repopulation in Progress	☐
K. Mass Immunization in Progress	☐
L. Mass Immunization Complete	☐
M. Quarantine in Progress	☐
N. Area Restriction in Effect	☐
	☐
	☐
	☐
	☐

36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes:

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

37. Strategic Objectives (define planned end-state for incident)**:**

** Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:	2. Incident Number:

Additional Incident Decision Support Information *(continued)*

38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts.

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:

1) critical resource needs identified above,
2) the Incident Action Plan and management objectives and targets,
3) anticipated results.

Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.

41. Planned Actions for Next Operational Period:

42. Projected Final Incident Size/Area (use unit label – e.g., "sq mi")**:**

43. Anticipated Incident Management Completion Date:

44. Projected Significant Resource Demobilization Start Date:

45. Estimated Incident Costs to Date:

46. Projected Final Incident Cost Estimate:

47. Remarks (or continuation of any blocks above – list block number in notation)**:**

** Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

1. Incident Name:	2. Incident Number:

Incident Resource Commitment Summary

48. Agency or Organization:	49. **Resources** (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box)**:**															**50. Additional Personnel** not assigned to a resource**:**	**51. Total Personnel** (includes those associated with resources – e.g., aircraft or engines – *and* individual overhead)**:**
52. Total Resources																	

53. Additional Cooperating and Assisting Organizations Not Listed Above:

ICS 209, Page of	** Required when applicable.*

ICS 209
Incident Status Summary

Purpose. The ICS 209 is used for reporting information on significant incidents. It is not intended for every incident, as most incidents are of short duration and do not require scarce resources, significant mutual aid, or additional support and attention. **T**he ICS 209 contains basic information elements needed to support decisionmaking at all levels above the incident to support the incident. Decisionmakers may include the agency having jurisdiction, but also all multiagency coordination system (MACS) elements and parties, such as cooperating and assisting agencies/organizations, dispatch centers, emergency operations centers, administrators, elected officials, and local, tribal, county, State, and Federal agencies. Once ICS 209 information has been submitted from the incident, decisionmakers and others at all incident support and coordination points may transmit and share the information (based on its sensitivity and appropriateness) for access and use at local, regional, State, and national levels as it is needed to facilitate support.

Accurate and timely completion of the ICS 209 is necessary to identify appropriate resource needs, determine allocation of limited resources when multiple incidents occur, and secure additional capability when there are limited resources due to constraints of time, distance, or other factors. The information included on the ICS 209 influences the priority of the incident, and thus its share of available resources and incident support.

The ICS 209 is designed to provide a "snapshot in time" to effectively move incident decision support information where it is needed. It should contain the most accurate and up-to-date information available at the time it is prepared. However, readers of the ICS 209 may have access to more up-to-date or real-time information in reference to certain information elements on the ICS 209. Coordination among communications and information management elements within ICS and among MACS should delineate authoritative sources for more up-to-date and/or real-time information when ICS 209 information becomes outdated in a quickly evolving incident.

Reporting Requirements. The ICS 209 is intended to be used when an incident reaches a certain threshold where it becomes significant enough to merit special attention, require additional resource support needs, or cause media attention, increased public safety threat, etc. Agencies or organizations may set reporting requirements and, therefore, ICS 209s should be completed according to each jurisdiction or discipline's policies, mobilization guide, or preparedness plans. It is recommended that consistent ICS 209 reporting parameters be adopted and used by jurisdictions or disciplines for consistency over time, documentation, efficiency, trend monitoring, incident tracking, etc.

For example, an agency or MAC (Multiagency Coordination) Group may require the submission of an initial ICS 209 when a new incident has reached a certain predesignated level of significance, such as when a given number of resources are committed to the incident, when a new incident is not completed within a certain timeframe, or when impacts/threats to life and safety reach a given level.

Typically, ICS 209 forms are completed either once daily or for each operational period – in addition to the initial submission. Jurisdictional or organizational guidance may indicate frequency of ICS 209 submission for particular definitions of incidents or for all incidents. This specific guidance may help determine submission timelines when operational periods are extremely short (e.g., 2 hours) and it is not necessary to submit new ICS 209 forms for all operational periods.

Any plans or guidelines should also indicate parameters for when it is appropriate to stop submitting ICS 209s for an incident, based upon incident activity and support levels.

Preparation. When an Incident Management Organization (such as an Incident Management Team) is in place, the Situation Unit Leader or Planning Section Chief prepares the ICS 209 at the incident. On other incidents, the ICS 209 may be completed by a dispatcher in the local communications center, or by another staff person or manager. This form should be completed at the incident or at the closest level to the incident.

The ICS 209 should be completed with the best possible, currently available, and verifiable information at the time it is completed and signed.

This form is designed to serve incidents impacting specific geographic areas that can easily be defined. It also has the flexibility for use on ubiquitous events, or those events that cover extremely large areas and that may involve many jurisdictions and ICS organizations. For these incidents, it will be useful to clarify on the form exactly which portion of the larger incident the ICS 209 is meant to address. For example, a particular ICS 209 submitted during a statewide outbreak of mumps may be relevant only to mumps-related activities in Story County, Iowa. This can be indicated in both the incident name, Block 1, and in the Incident Location Information section in Blocks 16–26.

While most of the "Incident Location Information" in Blocks 16–26 is optional, the more information that can be submitted, the better. Submission of multiple location indicators increases accuracy, improves interoperability, and increases information sharing between disparate systems. Preparers should be certain to follow accepted protocols or standards when entering location information, and clearly label all location information. As with other ICS 209 data, geospatial information may be widely shared and utilized, so accuracy is essential.

If electronic data is submitted with the ICS 209, do not attach or send extremely large data files. Incident geospatial data that is distributed with the ICS 209 should be in simple incident geospatial basics, such as the incident perimeter, point of origin, etc. Data file sizes should be small enough to be easily transmitted through dial-up connections or other limited communications capabilities when ICS 209 information is transmitted electronically. Any attached data should be clearly labeled as to format content and collection time, and should follow existing naming conventions and standards.

Distribution. ICS 209 information is meant to be completed at the level as close to the incident as possible, preferably at the incident. Once the ICS 209 has been submitted outside the incident to a dispatch center or MACS element, it may subsequently be transmitted to various incident supports and coordination entities based on the support needs and the decisions made within the MACS in which the incident occurs.

Coordination with public information system elements and investigative/intelligence information organizations at the incident and within MACS is essential to protect information security and to ensure optimal information sharing and coordination. There may be times in which particular ICS 209s contain sensitive information that should not be released to the public (such as information regarding active investigations, fatalities, etc.). When this occurs, the ICS 209 (or relevant sections of it) should be labeled appropriately, and care should be taken in distributing the information within MACS.

All completed and signed original ICS 209 forms MUST be given to the incident's Documentation Unit and/or maintained as part of the official incident record.

Notes:

- To promote flexibility, only a limited number of ICS 209 blocks are typically required, and most of those are required only when applicable.
- Most fields are optional, to allow responders to use the form as best fits their needs and protocols for information collection.
- For the purposes of the ICS 209, responders are those personnel who are assigned to an incident or who are a part of the response community as defined by NIMS. This may include critical infrastructure owners and operators, nongovernmental and nonprofit organizational personnel, and contract employees (such as caterers), depending on local/jurisdictional/discipline practices.
- For additional flexibility only pages 1–3 are numbered, for two reasons:
  - Possible submission of additional pages for the Remarks Section (Block 47), and
  - Possible submission of additional copies of the fourth/last page (the "Incident Resource Commitment Summary") to provide a more detailed resource summary.

Block Number	Block Title	Instructions
***1**	**Incident Name**	**REQUIRED BLOCK.** • Enter the full name assigned to the incident. • Check spelling of the full incident name. • For an incident that is a Complex, use the word "Complex" at the end of the incident name. • If the name changes, explain comments in Remarks, Block 47. • Do not use the same incident name for different incidents in the same calendar year.

Block Number	Block Title	Instructions
2	**Incident Number**	• Enter the appropriate number based on current guidance. The incident number may vary by jurisdiction and discipline. • Examples include: o A computer-aided dispatch (CAD) number. o An accounting number. o A county number. o A disaster declaration number. o A combination of the State, unit/agency ID, and a dispatch system number. o A mission number. o Any other unique number assigned to the incident and derived by means other than those above. • Make sure the number entered is correct. • Do not use the same incident number for two different incidents in the same calendar year. • Incident numbers associated with host jurisdictions or agencies and incident numbers assigned by agencies represented in Unified Command should be listed, or indicated in Remarks, Block 47.
***3**	**Report Version** (check one box on left)	**REQUIRED BLOCK.** • This indicates the current version of the ICS 209 form being submitted. • If only one ICS 209 will be submitted, check BOTH "Initial" and "Final" (or check only "Final").
	☐ Initial	Check "Initial" if this is the first ICS 209 for this incident.
	☐ Update	Check "Update" if this is a subsequent report for the same incident. These can be submitted at various time intervals (see "Reporting Requirements" above).
	☐ Final	• Check "Final" if this is the last ICS 209 to be submitted for this incident (usually when the incident requires only minor support that can be supplied by the organization having jurisdiction). • Incidents may also be marked as "Final" if they become part of a new Complex (when this occurs, it can be indicated in Remarks, Block 47).
	Report # (if used)	Use this optional field if your agency or organization requires the tracking of ICS 209 report numbers. Agencies may also track the ICS 209 by the date/time submitted.
***4**	**Incident Commander(s) & Agency or Organization**	**REQUIRED BLOCK.** • Enter both the first and last name of the Incident Commander. • If the incident is under a Unified Command, list all Incident Commanders by first initial and last name separated by a comma, including their organization. For example: L. Burnett – Minneapolis FD, R. Domanski – Minneapolis PD, C. Taylor – St. Paul PD, Y. Martin – St. Paul FD, S. McIntyre – U.S. Army Corps, J. Hartl – NTSB
5	**Incident Management Organization**	Indicate the incident management organization for the incident, which may be a Type 1, 2, or 3 Incident Management Team (IMT), a Unified Command, a Unified Command with an IMT, etc. This block should not be completed unless a recognized incident management organization is assigned to the incident.

Block Number	Block Title	Instructions
*6	**Incident Start Date/Time**	**REQUIRED.** This is always the start date and time of the incident (not the report date and time or operational period).
	Date	Enter the start date (month/day/year).
	Time	Enter the start time (using the 24-hour clock).
	Time Zone	Enter the time zone of the incident (e.g., EDT, PST).
7	**Current Incident Size or Area Involved** (use unit label – e.g., "sq mi," "city block")	• Enter the appropriate incident descriptive size or area involved (acres, number of buildings, square miles, hectares, square kilometers, etc.). • Enter the total area involved for incident Complexes in this block, and list each sub-incident and size in Remarks (Block 47). • Indicate that the size is an estimate, if a more specific figure is not available. • Incident size may be a population figure rather than a geographic figure, depending on the incident definition and objectives. • If the incident involves more than one jurisdiction or mixed ownership, agencies/organizations may require listing a size breakdown by organization, or including this information in Remarks (Block 47). • The incident may be one part of a much larger event (refer to introductory instructions under "Preparation). Incident size/area depends on the area actively managed within the incident objectives and incident operations, and may also be defined by a delegation of authority or letter of expectation outlining management bounds.
8	**Percent (%) Contained or Completed** (circle one)	• Enter the percent that this incident is completed or contained (e.g., 50%), with a % label. • For example, a spill may be 65% contained, or flood response objectives may be 50% met.
*9	**Incident Definition**	**REQUIRED BLOCK.** Enter a general definition of the incident in this block. This may be a general incident category or kind description, such as "tornado," "wildfire," "bridge collapse," "civil unrest," "parade," "vehicle fire," "mass casualty," etc.
10	**Incident Complexity Level**	Identify the incident complexity level as determined by Unified/Incident Commanders, if available or used.
*11	**For Time Period**	**REQUIRED BLOCK.** • Enter the time interval for which the form applies. This period should include all of the time since the last ICS 209 was submitted, or if it is the initial ICS 209, it should cover the time lapsed since the incident started. • The time period may include one or more operational periods, based on agency/organizational reporting requirements.
	From Date/Time	• Enter the start date (month/day/year). • Enter the start time (using the 24-hour clock).
	To Date/Time	• Enter the end date (month/day/year). • Enter the end time (using the 24-hour clock).

Block Number	Block Title	Instructions
APPROVAL & ROUTING INFORMATION		
***12**	**Prepared By**	**REQUIRED BLOCK.** When an incident management organization is in place, this would be the Situation Unit Leader or Planning Section Chief at the incident. On other incidents, it could be a dispatcher in the local emergency communications center, or another staff person or manager.
	Print Name	Print the name of the person preparing the form.
	ICS Position	The ICS title of the person preparing the form (e.g., "Situation Unit Leader").
	Date/Time Prepared	Enter the date (month/day/year) and time (using the 24-hour clock) the form was prepared. Enter the time zone if appropriate.
***13**	**Date/Time Submitted**	**REQUIRED.** Enter the submission date (month/day/year) and time (using the 24-hour clock).
	Time Zone	Enter the time zone from which the ICS 209 was submitted (e.g., EDT, PST).
***14**	**Approved By**	**REQUIRED.** When an incident management organization is in place, this would be the Planning Section Chief or Incident Commander at the incident. On other incidents, it could be the jurisdiction's dispatch center manager, organizational administrator, or other manager.
	Print Name	Print the name of the person approving the form.
	ICS Position	The position of the person signing the ICS 209 should be entered (e.g., "Incident Commander").
	Signature	Signature of the person approving the ICS 209, typically the Incident Commander. The original signed ICS 209 should be maintained with other incident documents.
***15**	**Primary Location, Organization, or Agency Sent To**	**REQUIRED BLOCK.** Enter the appropriate primary location or office the ICS 209 was sent to apart from the incident. This most likely is the entity or office that ordered the incident management organization that is managing the incident. This may be a dispatch center or a MACS element such as an emergency operations center. If a dispatch center or other emergency center prepared the ICS 209 for the incident, indicate where it was submitted initially.
INCIDENT LOCATION INFORMATION		
• Much of the "Incident Location Information" in Blocks 16–26 is optional, but completing as many fields as possible increases accuracy, and improves interoperability and information sharing between disparate systems. • As with all ICS 209 information, accuracy is essential because the information may be widely distributed and used in a variety of systems. Location and/or geospatial data may be used for maps, reports, and analysis by multiple parties outside the incident. • Be certain to follow accepted protocols, conventions, or standards where appropriate when submitting location information, and clearly label all location information. • Incident location information is usually based on the point of origin of the incident, and the majority of the area where the incident jurisdiction is.		
***16**	**State**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the State where the incident originated. • If other States or jurisdictions are involved, enter them in Block 25 or Block 44.

Block Number	Block Title	Instructions
*17	**County / Parish / Borough**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the county, parish, or borough where the incident originated. • If other counties or jurisdictions are involved, enter them in Block 25 or Block 47.
*18	**City**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the city where the incident originated. • If other cities or jurisdictions are involved, enter them in Block 25 or Block 47.
19	**Unit or Other**	Enter the unit, sub-unit, unit identification (ID) number or code (if used), or other information about where the incident originated. This may be a local identifier that indicates primary incident jurisdiction or responsibility (e.g., police, fire, public works, etc.) or another type of organization. Enter specifics in Block 25.
*20	**Incident Jurisdiction**	**REQUIRED BLOCK WHEN APPLICABLE.** Enter the jurisdiction where the incident originated (the entry may be general, such as Federal, city, or State, or may specifically identify agency names such as Warren County, U.S. Coast Guard, Panama City, NYPD).
21	**Incident Location Ownership** (if different than jurisdiction)	• When relevant, indicate the ownership of the area where the incident originated, especially if it is different than the agency having jurisdiction. • This may include situations where jurisdictions contract for emergency services, or where it is relevant to include ownership by private entities, such as a large industrial site.
22	**22. Longitude** (indicate format)**:** **Latitude** (indicate format)**:**	• Enter the longitude and latitude where the incident originated, if available and normally used by the authority having jurisdiction for the incident. • Clearly label the data, as longitude and latitude can be derived from various sources. For example, if degrees, minutes, and seconds are used, label as “33 degrees, 45 minutes, 01 seconds.”
23	**US National Grid Reference**	• Enter the US National Grid (USNG) reference where the incident originated, if available and commonly used by the agencies/jurisdictions with primary responsibility for the incident. • Clearly label the data.
24	**Legal Description** (township, section, range)	• Enter the legal description where the incident originated, if available and commonly used by the agencies/jurisdictions with primary responsibility for the incident. • Clearly label the data (e.g., N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E).
*25	**Short Location or Area Description** (list all affected areas or a reference point)	**REQUIRED BLOCK.** • List all affected areas as described in instructions for Blocks 16–24 above, OR summarize a general location, OR list a reference point for the incident (e.g., “the southern third of Florida,” “in ocean 20 miles west of Catalina Island, CA,” or “within a 5 mile radius of Walden, CO”). • This information is important for readers unfamiliar with the area (or with other location identification systems) to be able to quickly identify the general location of the incident on a map. • Other location information may also be listed here if needed or relevant for incident support (e.g., base meridian).
26	**UTM Coordinates**	Indicate Universal Transverse Mercator reference coordinates if used by the discipline or jurisdiction.

Block Number	Block Title	Instructions
27	**Note any electronic geospatial data included or attached** (indicate data format, content, and collection time information and labels)	• Indicate whether and how geospatial data is included or attached. • Utilize common and open geospatial data standards. • WARNING: Do not attach or send extremely large data files with the ICS 209. Incident geospatial data that is distributed with the ICS 209 should be simple incident geospatial basics, such as the incident perimeter, origin, etc. Data file sizes should be small enough to be easily transmitted through dial-up connections or other limited communications capabilities when ICS 209 information is transmitted electronically. • NOTE: Clearly indicate data content. For example, data may be about an incident perimeter (such as a shape file), the incident origin (a point), a point and radius (such as an evacuation zone), or a line or lines (such as a pipeline). • NOTE: Indicate the data format (e.g., .shp, .kml, .kmz, or .gml file) and any relevant information about projection, etc. • NOTE: Include a hyperlink or other access information if incident map data is posted online or on an FTP (file transfer protocol) site to facilitate downloading and minimize information requests. • NOTE: Include a point of contact for getting geospatial incident information, if included in the ICS 209 or available and supporting the incident.
INCIDENT SUMMARY		

***28**	**Significant Events for the Time Period Reported** (summarize significant progress made, evacuations, incident growth, etc.)	**REQUIRED BLOCK.**
		• Describe significant events that occurred during the period being reported in Block 6. Examples include:
		  ○ Road closures.
		  ○ Evacuations.
		  ○ Progress made and accomplishments.
		  ○ Incident command transitions.
		  ○ Repopulation of formerly evacuated areas and specifics.
		  ○ Containment.
		• Refer to other blocks in the ICS 209 when relevant for additional information (e.g., “Details on evacuations may be found in Block 33”), or in Remarks, Block 47.
		• Be specific and detailed in reference to events. For example, references to road closures should include road number and duration of closure (or include further detail in Block 33). Use specific metrics if needed, such as the number of people or animals evacuated, or the amount of a material spilled and/or recovered.
		• This block may be used for a single-paragraph synopsis of overall incident status.

29	**Primary Materials or Hazards Involved** (hazardous chemicals, fuel types, infectious agents, radiation, etc.)	• When relevant, enter the appropriate primary materials, fuels, or other hazards involved in the incident that are leaking, burning, infecting, or otherwise influencing the incident. • Examples include hazardous chemicals, wildland fuel models, biohazards, explosive materials, oil, gas, structural collapse, avalanche activity, criminal activity, etc.
	Other	Enter any miscellaneous issues which impacted Critical Infrastructure and Key Resources.

Block Number	Block Title	Instructions
30	**Damage Assessment Information** (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.)	• Include a short summary of damage or use/access restrictions/ limitations caused by the incident for the reporting period, and cumulatively. • Include if needed any information on the facility status, such as operational status, if it is evacuated, etc. when needed. • Include any critical infrastructure or key resources damaged/destroyed/ impacted by the incident, the kind of infrastructure, and the extent of damage and/or impact and any known cascading impacts. • Refer to more specific or detailed damage assessment forms and packages when they are used and/or relevant.
	A. Structural Summary	Complete this table as needed based on the definitions for 30B–F below. Note in table or in text block if numbers entered are estimates or are confirmed. Summaries may also include impact to Shoreline and Wildlife, etc.
	B. # Threatened (72 hrs)	Enter the number of structures potentially threatened by the incident within the next 72 hours, based on currently available information.
	C. # Damaged	Enter the number of structures damaged by the incident.
	D. # Destroyed	Enter the number of structures destroyed beyond repair by the incident.
	E. Single Residences	Enter the number of single dwellings/homes/units impacted in Columns 30B–D. Note any specifics in the text block if needed, such as type of residence (apartments, condominiums, single-family homes, etc.).
	F. Nonresidential Commercial Properties	Enter the number of buildings or units impacted in Columns 30B–D. This includes any primary structure used for nonresidential purposes, excluding Other Minor Structures (Block 30G). Note any specifics regarding building or unit types in the text block.
	Other Minor Structures	Enter any miscellaneous structures impacted in Columns 30B–D not covered in 30E–F above, including any minor structures such as booths, sheds, or outbuildings.
	Other	Enter any miscellaneous issues which impacted Critical Infrastructure and Key Resources.

Block Number	Block Title	Instructions
ADDITIONAL INCIDENT DECISION SUPPORT INFORMATION (PAGE 2)		

***31**	**Public Status Summary**	• This section is for summary information regarding incident-related injuries, illness, and fatalities for civilians (or members of the public); see 31C–N below.
		• Explain or describe the nature of any reported injuries, illness, or other activities in Life, Safety, and Health Status/Threat Remarks (Block 33).
		• Illnesses include those that may be caused through a biological event such as an epidemic or an exposure to toxic or radiological substances.
		• NOTE: *Do not estimate any fatality information*.
		• NOTE: Please use caution when reporting information in this section that may be on the periphery of the incident or change frequently. This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change.
		• NOTE: Do not complete this block if the incident covered by the ICS 209 is *not directly responsible* for these actions (such as evacuations, sheltering, immunizations, etc.) *even if they are related to the incident*.
		  ○ Only the authority having jurisdiction should submit reports for these actions, to mitigate multiple/conflicting reports.
		  ○ For example, if managing evacuation shelters is part of the incident operation itself, do include these numbers in Block 31J with any notes in Block 33.
		• NOTE: When providing an estimated value, denote in parenthesis: "est."
		
		Handling Sensitive Information
		• Release of information in this section should be carefully coordinated within the incident management organization to ensure synchronization with public information and investigative/intelligence actions.
		• Thoroughly review the "Distribution" section in the introductory ICS 209 instructions for details on handling sensitive information. Use caution when providing information in any situation involving fatalities, and verify that appropriate notifications have been made prior to release of this information. Electronic transmission of any ICS 209 may make information available to many people and networks at once.
		• Information regarding fatalities should be cleared with the Incident Commander and/or an organizational administrator prior to submission of the ICS 209.

	A. # This Reporting Period	Enter the total number of individuals impacted in each category for this reporting period (since the previous ICS 209 was submitted).
	B. Total # to Date	• Enter the total number of individuals impacted in each category for the entire duration of the incident. • This is a cumulative total number that should be adjusted each reporting period.
	C. Indicate Number of Civilians (Public) Below	• For lines 31D–M below, enter the number of civilians affected for each category. • Indicate if numbers are estimates, for those blocks where this is an option. • Civilians are those members of the public who are affected by the incident, but who are not included as part of the response effort through Unified Command partnerships and those organizations and agencies assisting and cooperating with response efforts.
	D. Fatalities	• Enter the number of *confirmed* civilian/public fatalities. • See information in introductory instructions ("Distribution") and in Block 31 instructions regarding sensitive handling of fatality information.

Block Number	Block Title	Instructions
	E. With Injuries/Illness	Enter the number of civilian/public injuries or illnesses directly related to the incident. Injury or illness is defined by the incident or jurisdiction(s).
***31** (continued)	F. Trapped/In Need of Rescue	Enter the number of civilians who are trapped or in need of rescue due to the incident.
	G. Missing (note if estimated)	Enter the number of civilians who are missing due to the incident. Indicate if an estimate is used.
	H. Evacuated (note if estimated)	Enter the number of civilians who are evacuated due to the incident. These are likely to be best estimates, but indicate if they are estimated.
	I. Sheltering-in-Place (note if estimated)	Enter the number of civilians who are sheltering in place due to the incident. Indicate if estimates are used.
	J. In Temporary Shelters (note if estimated)	Enter the number of civilians who are in temporary shelters as a direct result of the incident, noting if the number is an estimate.
	K. Have Received Mass Immunizations	Enter the number of civilians who have received mass immunizations due to the incident and/or as part of incident operations. Do not estimate.
	L. Require Mass Immunizations (note if estimated)	Enter the number of civilians who require mass immunizations due to the incident and/or as part of incident operations. Indicate if it is an estimate.
	M. In Quarantine	Enter the number of civilians who are in quarantine due to the incident and/or as part of incident operations. Do not estimate.
	N. Total # Civilians (Public) Affected	Enter sum totals for Columns 31A and 31B for Rows 31D–M.
***32**	**Responder Status Summary**	• This section is for summary information regarding incident-related injuries, illness, and fatalities for responders; see 32C–N. • Illnesses include those that may be related to a biological event such as an epidemic or an exposure to toxic or radiological substances directly in relation to the incident. • Explain or describe the nature of any reported injuries, illness, or other activities in Block 33. • NOTE: *Do not estimate any fatality information or responder status information.* • NOTE: Please use caution when reporting information in this section that may be on the periphery of the incident or change frequently. This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change. • NOTE: Do not complete this block if the incident covered by the ICS 209 is *not directly responsible* for these actions (such as evacuations, sheltering, immunizations, etc.) even if they are related to the incident. Only the authority having jurisdiction should submit reports for these actions, to mitigate multiple/conflicting reports. **Handling Sensitive Information** • Release of information in this section should be carefully coordinated within the incident management organization to ensure synchronization with public information and investigative/intelligence actions. • Thoroughly review the "Distribution" section in the introductory ICS 209 instructions for details on handling sensitive information. Use caution when providing information in any situation involving fatalities, and verify that appropriate notifications have been made prior to release of this information. Electronic transmission of any ICS 209 may make information available to many people and networks at once. • Information regarding fatalities should be cleared with the Incident Commander and/or an organizational administrator prior to submission of the ICS 209.

Block Number	Block Title	Instructions
***32** (continued)	A. # This Reporting Period	Enter the total number of responders impacted in each category for this reporting period (since the previous ICS 209 was submitted).
	B. Total # to Date	• Enter the total number of individuals impacted in each category for the *entire duration* of the incident. • This is a *cumulative* total number that should be adjusted each reporting period.
	C. Indicate Number of Responders Below	• For lines 32D–M below, enter the number of responders relevant for each category. • Responders are those personnel included as part of Unified Command partnerships and those organizations and agencies assisting and cooperating with response efforts.
	D. Fatalities	• Enter the number of *confirmed* responder fatalities. • See information in introductory instructions ("Distribution") and for Block 32 regarding sensitive handling of fatality information.
	E. With Injuries/Illness	• Enter the number of incident responders with serious injuries or illnesses due to the incident. • *For responders, serious injuries or illness are typically those in which the person is unable to continue to perform in his or her incident assignment,* but the authority having jurisdiction may have additional guidelines on reporting requirements in this area.
	F. Trapped/In Need Of Rescue	Enter the number of incident responders who are in trapped or in need of rescue due to the incident.
	G. Missing	Enter the number of incident responders who are missing due to incident conditions.
	H.	(BLANK; use however is appropriate.)
	I. Sheltering in Place	Enter the number of responders who are sheltering in place due to the incident. Once responders become the victims, this needs to be noted in Block 33 or Block 47 and handled accordingly.
	J.	(BLANK; use however is appropriate.)
	L. Require Immunizations	Enter the number of responders who require immunizations due to the incident and/or as part of incident operations.
	M. In Quarantine	Enter the number of responders who are in quarantine as a direct result of the incident and/or related to incident operations.
	N. Total # Responders Affected	Enter sum totals for Columns 32A and 32B for Rows 32D–M.
33	**Life, Safety, and Health Status/Threat Remarks**	• Enter any details needed for Blocks 31, 32, and 34. Enter any specific comments regarding illness, injuries, fatalities, and threat management for this incident, such as whether estimates were used for numbers given in Block 31. • This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change. • Evacuation information can be very sensitive to local residents and officials. Be accurate in the assessment. • Clearly note primary responsibility and contacts for any activities or information in Blocks 31, 32, and 34 that may be caused by the incident, but that are being managed and/or reported by other parties. • Provide additional explanation or information as relevant in Blocks 28, 36, 38, 40, 41, or in Remarks (Block 47).

Block Number	Block Title	Instructions
*34	**Life, Safety, and Health Threat Management**	Note any details in Life, Safety, and Health Status/Threat Remarks (Block 33), and provide additional explanation or information as relevant in Blocks 28, 36, 38, 40, 41, or in Remarks (Block 47). Additional pages may be necessary for notes.
	A. Check if Active	Check any applicable blocks in 34C–P based on currently available information regarding incident activity and potential.
	B. Notes	Note any specific details, or include in Block 33.
	C. No Likely Threat	Check if there is no likely threat to life, health, and safety.
	D. Potential Future Threat	Check if there is a potential future threat to life, health, and safety.
	E. Mass Notifications In Progress	• Check if there are any mass notifications in progress regarding emergency situations, evacuations, shelter in place, or other public safety advisories related to this incident. • These may include use of threat and alert systems such as the Emergency Alert System or a “reverse 911” system. • Please indicate the areas where mass notifications have been completed (e.g., “mass notifications to ZIP codes 50201, 50014, 50010, 50011,” or “notified all residents within a 5-mile radius of Gatlinburg”).
	F. Mass Notifications Completed	Check if actions referred to in Block 34E above have been completed.
	G. No Evacuation(s) Imminent	Check if evacuations are not anticipated in the near future based on current information.
	H. Planning for Evacuation	Check if evacuation planning is underway in relation to this incident.
	I. Planning for Shelter-in-Place	Check if planning is underway for shelter-in-place activities related to this incident.
	J. Evacuation(s) in Progress	Check if there are active evacuations in progress in relation to this incident.
	K. Shelter-In-Place in Progress	Check if there are active shelter-in-place actions in progress in relation to this incident.
	L. Repopulation in Progress	Check if there is an active repopulation in progress related to this incident.
	M. Mass Immunization in Progress	Check if there is an active mass immunization in progress related to this incident.
	N. Mass Immunization Complete	Check if a mass immunization effort has been completed in relation to this incident.
	O. Quarantine in Progress	Check if there is an active quarantine in progress related to this incident.
	P. Area Restriction in Effect	Check if there are any restrictions in effect, such as road or area closures, especially those noted in Block 28.

Block Number	Block Title	Instructions
35	**Weather Concerns** (synopsis of current and predicted weather; discuss related factors that may cause concern)	• Complete a short synopsis/discussion on significant weather factors that could cause concerns for the incident when relevant. • Include current and/or predicted weather factors, and the timeframe for predictions. • Include relevant factors such as: o Wind speed (label units, such as mph). o Wind direction (clarify and label where wind is coming from and going to in plain language – e.g., "from NNW," "from E," or "from SW"). o Temperature (label units, such as F). o Relative humidity (label %). o Watches. o Warnings. o Tides. o Currents. • Any other weather information relative to the incident, such as flooding, hurricanes, etc.
36	**Projected Incident Activity, Potential, Movement, Escalation, or Spread** and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	• Provide an estimate (when it is possible to do so) of the direction/scope in which the incident is expected to spread, migrate, or expand during the next indicated operational period, or other factors that may cause activity changes. • Discuss incident potential relative to values at risk, or values to be protected (such as human life), and the potential changes to those as the incident changes. • Include an estimate of the acreage or area that will likely be affected. • If known, provide the above information in 12-, 24-, 48- and 72-hour timeframes, and any activity anticipated after 72 hours.
37	**Strategic Objectives** (define planned end-state for incident)	Briefly discuss the desired outcome for the incident based on currently available information. Note any high-level objectives and any possible strategic benefits as well (especially for planned events).

Block Number	Block Title	Instructions
ADDITIONAL INCIDENT DECISION SUPPORT INFORMATION (continued) **(PAGE 3)**		
38	**Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond.** Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts. **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	Summarize major or significant threats due to incident activity based on currently available information. Include a breakdown of threats in terms of 12-, 24-, 48-, and 72-hour timeframes.

Block Number	Block Title	Instructions
39	**Critical Resource Needs** in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order: **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	• List the specific critical resources and numbers needed, in order of priority. *Be specific as to the need.* • Use plain language and common terminology for resources, and indicate resource category, kind, and type (if available or known) to facilitate incident support. • If critical resources are listed in this block, there should be corresponding orders placed for them through appropriate resource ordering channels. • Provide critical resource needs in 12-, 24-, 48- and 72-hour increments. List the most critical resources needed for each timeframe, if needs have been identified for each timeframe. Listing critical resources by the time they are needed gives incident support personnel a "heads up" for short-range planning, and assists the ordering process to ensure these resources will be in place when they are needed. • More than one resource need may be listed for each timeframe. For example, a list could include: o 24 hrs: 3 Type 2 firefighting helicopters, 2 Type I Disaster Medical Assistance Teams o 48 hrs: Mobile Communications Unit (Law/Fire) o After 72 hrs: 1 Type 2 Incident Management Team • Documentation in the ICS 209 can help the incident obtain critical regional or national resources through outside support mechanisms including multiagency coordination systems and mutual aid. o Information provided in other blocks on the ICS 209 can help to support the need for resources, including Blocks 28, 29, 31–38, and 40–42. o Additional comments in the Remarks section (Block 47) can also help explain what the incident is requesting and why it is critical (for example, "Type 2 Incident Management Team is needed in three days to transition command when the current Type 2 Team times out"). • Do not use this block for noncritical resources.
40	**Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:** 1) critical resource needs identified above, 2) the Incident Action Plan and management objectives and targets, 3) anticipated results. **Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.**	• Wording should be consistent with Block 39 to justify critical resource needs, which should relate to planned actions in the Incident Action Plan. • Give a short assessment of the likelihood of meeting the incident management targets, given the current management strategy and currently known constraints. • Identify when the chosen management strategy will succeed given the current constraints. Adjust the anticipated incident management completion target in Block 43 as needed based on this discussion. • Explain major problems and concerns as indicated.

Block Number	Block Title	Instructions
41	**Planned Actions for Next Operational Period**	• Provide a short summary of actions planned for the next operational period. • Examples: o "The current Incident Management Team will transition out to a replacement IMT." o "Continue to review operational/ engineering plan to facilitate removal of the partially collapsed west bridge supports." o "Continue refining mapping of the recovery operations and damaged assets using GPS." o "Initiate removal of unauthorized food vendors."
42	**Projected Final Incident Size/Area** (use unit label – e.g., "sq mi")	• Enter an estimate of the total area likely to be involved or affected over the course of the incident. • Label the estimate of the total area or population involved, affected, or impacted with the relevant units such as acres, hectares, square miles, etc. • Note that total area involved may not be limited to geographic area (see previous discussions regarding incident definition, scope, operations, and objectives). Projected final size may involve a population rather than a geographic area.
43	**Anticipated Incident Management Completion Date**	• Enter the date (month/day/year) at which time it is expected that incident objectives will be met. This is often explained similar to incident containment or control, or the time at which the incident is expected to be closed or when significant incident support will be discontinued. • Avoid leaving this block blank if possible, as this is important information for managers.
44	**Projected Significant Resource Demobilization Start Date**	Enter the date (month/day/year) when initiation of significant resource demobilization is anticipated.
45	**Estimated Incident Costs to Date**	• Enter the estimated total incident costs to date for the entire incident based on currently available information. • Incident costs include estimates of all costs for the response, including all management and support activities per discipline, agency, or organizational guidance and policy. • This does not include damage assessment figures, as they are impacts from the incident and not response costs. • If costs decrease, explain in Remarks (Block 47). • If additional space is required, please add as an attachment.
46	**Projected Final Incident Cost Estimate**	• Enter an estimate of the total costs for the incident once all costs have been processed based on current spending and projected incident potential, per discipline, agency, or organizational guidance and policy. This is often an estimate of daily costs combined with incident potential information. • This does not include damage assessment figures, as they are impacts from the incident and not response costs. • If additional space is required, please add as an attachment.

Block Number	Block Title	Instructions
47	**Remarks** (or continuation of any blocks above – list block number in notation)	• Use this block to expand on information that has been entered in previous blocks, or to include other pertinent information that has not been previously addressed. • List the block number for any information continued from a previous block. • Additional information may include more detailed weather information, specifics on injuries or fatalities, threats to critical infrastructure or other resources, more detailed evacuation site locations and number of evacuated, information or details regarding incident cause, etc. • For Complexes that include multiple incidents, list all sub-incidents included in the Complex. • List jurisdictional or ownership breakdowns if needed when an incident is in more than one jurisdiction and/or ownership area. Breakdown may be: o By size (e.g., 35 acres in City of Gatlinburg, 250 acres in Great Smoky Mountains), and/or o By geography (e.g., incident area on the west side of the river is in jurisdiction of City of Minneapolis; area on east side of river is City of St. Paul jurisdiction; river is joint jurisdiction with USACE). • Explain any reasons for incident size reductions or adjustments (e.g., reduction in acreage due to more accurate mapping). • This section can also be used to list any additional information about the incident that may be needed by incident support mechanisms outside the incident itself. This may be basic information needed through multiagency coordination systems or public information systems (e.g., a public information phone number for the incident, or the incident Web site address). • Attach additional pages if it is necessary to include additional comments in the Remarks section.

INCIDENT RESOURCE COMMITMENT SUMMARY (PAGE 4)

- This last/fourth page of the ICS 209 can be copied and used if needed to accommodate additional resources, agencies, or organizations. Write the actual page number on the pages as they are used.
- Include only resources that have been assigned to the incident and that have arrived and/or been checked in to the incident. Do not include resources that have been ordered but have *not* yet arrived.

For summarizing:

- When there are large numbers of responders, it may be helpful to group agencies or organizations together. Use the approach that works best for the multiagency coordination system applicable to the incident. For example,
  - Group State, local, county, city, or Federal responders together under such headings, or
  - Group resources from one jurisdiction together and list only individual jurisdictions (e.g., list the public works, police, and fire department resources for a city under that city's name).
- On a large incident, it may also be helpful to group similar categories, kinds, or types of resources together for this summary.

Block Number	Block Title	Instructions
48	**Agency or Organization**	• List the agencies or organizations contributing resources to the incident as responders, through mutual aid agreements, etc. • List agencies or organizations using clear language so readers who may not be from the discipline or host jurisdiction can understand the information. • Agencies or organizations may be listed individually or in groups. • When resources are grouped together, individual agencies or organizations may be listed below in Block 53. • Indicate in the rows under Block 49 how many resources are assigned to the incident under each resource identified. o These can listed with the number of resources on the top of the box, and the number of personnel associated with the resources on the bottom half of the box. o For example: ▪ *Resource:* Type 2 Helicopters… 3/8 (indicates 3 aircraft, 8 personnel). ▪ *Resource:* Type 1 Decontamination Unit… 1/3 (indicates 1 unit, 3 personnel). • Indicate in the rows under Block 51 the total number of personnel assigned for each agency listed under Block 48, including both individual overhead and those associated with other resources such as fire engines, decontamination units, etc.
49	**Resources** (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box)	• List resources using clear language when possible – so ICS 209 readers who may not be from the discipline or host jurisdiction can understand the information. o Examples: Type 1 Fire Engines, Type 4 Helicopters • Enter total numbers in columns for each resource by agency, organization, or grouping in the proper blocks. o These can listed with the number of resources on the top of the box, and the number of personnel associated with the resources on the bottom half of the box. o For example: ▪ *Resource:* Type 2 Helicopters… 3/8 (indicates 3 aircraft, 8 personnel). ▪ *Resource:* Type 1 Decontamination Unit… 1/3 (indicates 1 unit, 3 personnel). • NOTE: One option is to group similar resources together when it is sensible to do so for the summary. o For example, do not list every type of fire engine – rather, it may be advisable to list two generalized types of engines, such as “structure fire engines” and “wildland fire engines” in separate columns with totals for each. • NOTE: It is not advisable to list individual overhead personnel individually in the resource section, especially as this form is intended as a summary. These personnel should be included in the Total Personnel sums in Block 51.
50	**Additional Personnel** not assigned to a resource	List the number of *additional* individuals (or overhead) that are not assigned to a specific resource by agency or organization.
51	**Total Personnel** (includes those associated with resources – e.g., aircraft or engines – *and* individual overhead)	• Enter the total personnel for each agency, organization, or grouping in the Total Personnel column. • WARNING: Do not simply add the numbers across! • The number of Total Personnel for each row should include both: o The total number of personnel assigned to each of the resources listed in Block 49, and o The total number of additional individual overhead personnel from each agency, organization, or group listed in Block 50.

Block Number	Block Title	Instructions
52	**Total Resources**	Include the sum total of resources for each column, including the total for the column under Blocks 49, 50, and 51. This should include the total number of *resources* in Block 49, as personnel totals will be counted under Block 51.
53	**Additional Cooperating and Assisting Organizations Not Listed Above**	• List all agencies and organizations that are not directly involved in the incident, but are providing support. • Examples may include ambulance services, Red Cross, DHS, utility companies, etc. • Do not repeat any resources counted in Blocks 48–52, unless explanations are needed for groupings created under Block 48 (Agency or Organization).

RESOURCE STATUS CHANGE (ICS 210)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Resource Number	4. New Status (Available, Assigned, O/S)	5. From (Assignment and Status):	6. To (Assignment and Status):	7. Time and Date of Change:	

8. Comments:

9. Prepared by: Name: Position/Title: Signature: _____

ICS 210 Date/Time: Date

ICS 210
Resource Status Change

Purpose. The Resource Status Change (ICS 210) is used by the Incident Communications Center Manager to record status change information received on resources assigned to the incident. This information could be transmitted with a General Message (ICS 213). The form could also be used by Operations as a worksheet to track entry, etc.

Preparation. The ICS 210 is completed by radio/telephone operators who receive status change information from individual resources, Task Forces, Strike Teams, and Division/Group Supervisors. Status information could also be reported by Staging Area and Helibase Managers and fixed-wing facilities.

Distribution. The ICS 210 is maintained by the Communications Unit and copied to Resources Unit and filed by Documentation Unit.

Notes:

- The ICS 210 is essentially a message form that can be used to update Resource Status Cards or T-Cards (ICS 219) for incident-level resource management.
- If additional pages are needed, use a blank ICS 210 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Resource Number**	Enter the resource identification (ID) number (this may be a letter and number combination) assigned by either the sending unit or the incident.
4	**New Status** (Available, Assigned, Out of Service)	Indicate the current status of the resource: • Available – Indicates resource is available for incident use immediately. • Assigned – Indicates resource is checked in and assigned a work task on the incident. • Out of Service – Indicates resource is assigned to the incident but unable to respond for mechanical, rest, or personnel reasons. If space permits, indicate the estimated time of return (ETR). It may be useful to indicate the reason a resource is out of service (e.g., "O/S – Mech" (for mechanical issues), "O/S – Rest" (for off shift), or "O/S – Pers" (for personnel issues).
5	**From** (Assignment and Status)	Indicate the current location of the resource (where it came from) and the status. When more than one Division, Staging Area, or Camp is used, identify the specific location (e.g., Division A, Staging Area, Incident Command Post, Western Camp).
6	**To** (Assignment and Status)	Indicate the assigned incident location of the resource and status. When more than one Division, Staging Area, or Camp is used, identify the specific location.
7	**Time and Date of Change**	Enter the time and location of the status change (24-hour clock). Enter the date as well if relevant (e.g., out of service).
8	**Comments**	Enter any special information provided by the resource or dispatch center. This may include details about why a resource is out of service, or individual identifying designators (IDs) of Strike Teams and Task Forces.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT CHECK-IN LIST (ICS 211)

1. Incident Name:	2. Incident Number:	3. Check-In Location (complete all that apply):					4. Start Date/Time:
		☐ Base	☐ Staging Area	☐ ICP	☐ Helibase	☐ Other	Date: Date Time: HHMM

Check-In Information (use reverse of form for remarks or comments)

5. List single resource personnel (overhead) by agency and name, OR list resources by the following format:							6. Order Request #	7. Date/Time Check-In	8. Leader's Name	9. Total Number of Personnel	10. Incident Contact Information	11. Home Unit or Agency	12. Departure Point, Date and Time	13. Method of Travel	14. Incident Assignment	15. Other Qualifications	16. Data Provided to Resources Unit
State	Agency	Category	Kind	Type	Resource Name or Identifier	ST or TF											

ICS 211	17. Prepared by:	Name:	Position/Title:	Signature: _____	Date/Time:

ICS 211
Incident Check-In List

Purpose. Personnel and equipment arriving at the incident can check in at various incident locations. Check-in consists of reporting specific information, which is recorded on the Check-In List (ICS 211). The ICS 211 serves several purposes, as it: (1) records arrival times at the incident of all overhead personnel and equipment, (2) records the initial location of personnel and equipment to facilitate subsequent assignments, and (3) supports demobilization by recording the home base, method of travel, etc., for resources checked in.

Preparation. The ICS 211 is initiated at a number of incident locations including: Staging Areas, Base, and Incident Command Post (ICP). Preparation may be completed by: (1) overhead at these locations, who record the information and give it to the Resources Unit as soon as possible, (2) the Incident Communications Center Manager located in the Communications Center, who records the information and gives it to the Resources Unit as soon as possible, (3) a recorder from the Resources Unit during check-in to the ICP. As an option, the ICS 211 can be printed on colored paper to match the designated Resource Status Card (ICS 219) colors. The purpose of this is to aid the process of completing a large volume of ICS 219s. The ICS 219 colors are:

- 219-1: Header Card – Gray (used only as label cards for T-Card racks)
- 219-2: Crew/Team Card – Green
- 219-3: Engine Card – Rose
- 219-4: Helicopter Card – Blue
- 219-5: Personnel Card – White
- 219-6: Fixed-Wing Card – Orange
- 219-7: Equipment Card – Yellow
- 219-8: Miscellaneous Equipment/Task Force Card – Tan
- 219-10: Generic Card – Light Purple

Distribution. ICS 211s, which are completed by personnel at the various check-in locations, are provided to the Resources Unit, Demobilization Unit, and Finance/Administration Section. The Resources Unit maintains a master list of all equipment and personnel that have reported to the incident.

Notes:

- Also available as 8½ x 14 (legal size) or 11 x 17 chart.
- Use reverse side of form for remarks or comments.
- If additional pages are needed for any form page, use a blank ICS 211 and repaginate as needed.
- Contact information for sender and receiver can be added for communications purposes to confirm resource orders. Refer to 213RR example (Appendix B)

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Check-In Location** ☐ Base ☐ Staging Area ☐ ICP ☐ Helibase ☐ Other	Check appropriate box and enter the check-in location for the incident. Indicate specific information regarding the locations under each checkbox. ICP is for Incident Command Post. Other may include…
4	**Start Date/Time** • Date • Time	Enter the date (month/day/year) and time (using the 24-hour clock) that the form was started.

Block Number	Block Title	Instructions
	Check-In Information	Self explanatory.
5	**List single resource personnel (overhead) by agency and name, OR list resources by the following format**	Enter the following information for resources: OPTIONAL: Indicate if resource is a single resource versus part of Strike Team or Task Force. Fields can be left blank if not necessary.
	• State	Use this section to list the home State for the resource.
	• Agency	Use this section to list agency name (or designator), and individual names for all single resource personnel (e.g., ORC, ARL, NYPD).
	• Category	Use this section to list the resource category based on NIMS, discipline, or jurisdiction guidance.
	• Kind	Use this section to list the resource kind based on NIMS, discipline, or jurisdiction guidance.
	• Type	Use this section to list the resource type based on NIMS, discipline, or jurisdiction guidance.
	• Resource Name or Identifier	Use this section to enter the resource name or unique identifier. If it is a Strike Team or a Task Force, list the unique Strike Team or Task Force identifier (if used) on a single line with the component resources of the Strike Team or Task Force listed on the following lines. For example, for an Engine Strike Team with the call sign "XLT459" show "XLT459" in this box and then in the next five rows, list the unique identifier for the five engines assigned to the Strike Team.
	• ST or TF	Use ST or TF to indicate whether the resource is part of a Strike Team or Task Force. See above for additional instructions.
6	**Order Request #**	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline, since several incident numbers may be used for the same incident.
7	**Date/Time Check-In**	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
8	**Leader's Name**	• For equipment, enter the operator's name. • Enter the Strike Team or Task Force leader's name. • Leave blank for single resource personnel (overhead).
9	**Total Number of Personnel**	Enter total number of personnel associated with the resource. Include leaders.
10	**Incident Contact Information**	Enter available contact information (e.g., radio frequency, cell phone number, etc.) for the incident.
11	**Home Unit or Agency**	Enter the home unit or agency to which the resource or individual is normally assigned (may not be departure location).
12	**Departure Point, Date and Time**	Enter the location from which the resource or individual departed for this incident. Enter the departure time using the 24-hour clock.
13	**Method of Travel**	Enter the means of travel the individual used to bring himself/herself to the incident (e.g., bus, truck, engine, personal vehicle, etc.).
14	**Incident Assignment**	Enter the incident assignment at time of dispatch.
15	**Other Qualifications**	Enter additional duties (ICS positions) pertinent to the incident that the resource/individual is qualified to perform. Note that resources should not be reassigned on the incident without going through the established ordering process. This data may be useful when resources are demobilized and remobilized for another incident.

Block Number	Block Title	Instructions
16	**Data Provided to Resources Unit**	Enter the date and time that the information pertaining to that entry was transmitted to the Resources Unit, and the initials of the person who transmitted the information.
17	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

GENERAL MESSAGE (ICS 213)

1. Incident Name (Optional)**:**		
2. To (Name and Position)**:**		
3. From (Name and Position)**:**		
4. Subject:	**5. Date:** Date	**6. Time** HHMM
7. Message:		
8. Approved by: Name:	Signature: _____	Position/Title:
9. Reply:		
10. Replied by: Name:	Position/Title:	Signature: _____
ICS 213	Date/Time: Date	

ICS 213
General Message

Purpose. The General Message (ICS 213) is used by the incident dispatchers to record incoming messages that cannot be orally transmitted to the intended recipients. The ICS 213 is also used by the Incident Command Post and other incident personnel to transmit messages (e.g., resource order, incident name change, other ICS coordination issues, etc.) to the Incident Communications Center for transmission via radio or telephone to the addressee. This form is used to send any message or notification to incident personnel that requires hard-copy delivery.

Preparation. The ICS 213 may be initiated by incident dispatchers and any other personnel on an incident.

Distribution. Upon completion, the ICS 213 may be delivered to the addressee and/or delivered to the Incident Communication Center for transmission.

Notes:

- The ICS 213 is a three-part form, typically using carbon paper. The sender will complete Part 1 of the form and send Parts 2 and 3 to the recipient. The recipient will complete Part 2 and return Part 3 to the sender.
- A copy of the ICS 213 should be sent to and maintained within the Documentation Unit.
- Contact information for the sender and receiver can be added for communications purposes to confirm resource orders. Refer to 213RR example (Appendix B)

Block Number	Block Title	Instructions
1	**Incident Name** (Optional)	Enter the name assigned to the incident. This block is optional.
2	**To** (Name and Position)	Enter the name and position the General Message is intended for. For all individuals, use at least the first initial and last name. For Unified Command, include agency names.
3	**From** (Name and Position)	Enter the name and position of the individual sending the General Message. For all individuals, use at least the first initial and last name. For Unified Command, include agency names.
4	**Subject**	Enter the subject of the message.
5	**Date**	Enter the date (month/day/year) of the message.
6	**Time**	Enter the time (using the 24-hour clock) of the message.
7	**Message**	Enter the content of the message. Try to be as concise as possible.
8	**Approved by** • Name • Signature • Position/Title	Enter the name, signature, and ICS position/title of the person approving the message.
9	**Reply**	The intended recipient will enter a reply to the message and return it to the originator.
10	**Replied by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person replying to the message. Enter date (month/day/year) and time prepared (24-hour clock).

ACTIVITY LOG (ICS 214)

1. Incident Name:	2. Operational Period:	Date From: Date Time From: HHMM	Date To: Date Time To: HHMM
3. Name:	4. ICS Position:	5. Home Agency (and Unit):	

6. Resources Assigned:

Name	ICS Position	Home Agency (and Unit)

7. Activity Log:

Date/Time	Notable Activities

8. Prepared by: Name: Position/Title: Signature: _____

 Date/Time: Date

ACTIVITY LOG (ICS 214)

1. **Incident Name:**	**2. Operational Period:** Date From: Date Date To: Date Time From: HHMM Time To: HHMM

7. Activity Log (continuation)**:**

Date/Time	Notable Activities

8. Prepared by: Name: Position/Title: Signature: ____________________

ICS 214, Page 2 Date/Time: Date

ICS 214
Activity Log

Purpose. The Activity Log (ICS 214) records details of notable activities at any ICS level, including single resources, equipment, Task Forces, etc. These logs provide basic incident activity documentation, and a reference for any after-action report.

Preparation. An ICS 214 can be initiated and maintained by personnel in various ICS positions as it is needed or appropriate. Personnel should document how relevant incident activities are occurring and progressing, or any notable events or communications.

Distribution. Completed ICS 214s are submitted to supervisors, who forward them to the Documentation Unit. All completed original forms must be given to the Documentation Unit, which maintains a file of all ICS 214s. It is recommended that individuals retain a copy for their own records.

Notes:

- The ICS 214 can be printed as a two-sided form.
- Use additional copies as continuation sheets as needed, and indicate pagination as used.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Name**	Enter the title of the organizational unit or resource designator (e.g., Facilities Unit, Safety Officer, Strike Team).
4	**ICS Position**	Enter the name and ICS position of the individual in charge of the Unit.
5	**Home Agency** (and Unit)	Enter the home agency of the individual completing the ICS 214. Enter a unit designator if utilized by the jurisdiction or discipline.
6	**Resources Assigned**	Enter the following information for resources assigned:
	• Name	Use this section to enter the resource's name. For all individuals, use at least the first initial and last name. Cell phone number for the individual can be added as an option.
	• ICS Position	Use this section to enter the resource's ICS position (e.g., Finance Section Chief).
	• Home Agency (and Unit)	Use this section to enter the resource's home agency and/or unit (e.g., Des Moines Public Works Department, Water Management Unit).
7	**Activity Log** • Date/Time • Notable Activities	• Enter the time (24-hour clock) and briefly describe individual notable activities. Note the date as well if the operational period covers more than one day. • Activities described may include notable occurrences or events such as task assignments, task completions, injuries, difficulties encountered, etc. • This block can also be used to track personal work habits by adding columns such as "Action Required," "Delegated To," "Status," etc.
8	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

OPERATIONAL PLANNING WORKSHEET (ICS 215)

1. Incident Name:

2. Operational Period: Date From: Date Date To: Date
Time From: HHMM Time To: HHMM

3. Branch	4. Division, Group, or Other	5. Work Assignment & Special Instructions	6. Resources													7. Overhead Position(s)	8. Special Equipment & Supplies	9. Reporting Location	10. Requested Arrival Time
			Req.																
			Have																
			Need																
			Req.																
			Have																
			Need																
			Req.																
			Have																
			Need																
			Req.																
			Have																
			Need																
			Req.																
			Have																
			Need																
			Req.																
			Have																
			Need																
		11. Total Resources Required																	
		12. Total Resources Have on Hand																	
ICS 215		**13. Total Resources Need To Order**																	

14. Prepared by:

Name: ______________

Position/Title: ______________

Signature: ______________

Date/Time: Date

ICS 215
Operational Planning Worksheet

Purpose. The Operational Planning Worksheet (ICS 215) communicates the decisions made by the Operations Section Chief during the Tactics Meeting concerning resource assignments and needs for the next operational period. The ICS 215 is used by the Resources Unit to complete the Assignment Lists (ICS 204) and by the Logistics Section Chief for ordering resources for the incident.

Preparation. The ICS 215 is initiated by the Operations Section Chief and often involves logistics personnel, the Resources Unit, and the Safety Officer. The form is shared with the rest of the Command and General Staffs during the Planning Meeting. It may be useful in some disciplines or jurisdictions to prefill ICS 215 copies prior to incidents.

Distribution. When the Branch, Division, or Group work assignments and accompanying resource allocations are agreed upon, the form is distributed to the Resources Unit to assist in the preparation of the ICS 204. The Logistics Section will use a copy of this worksheet for preparing requests for resources required for the next operational period.

Notes:

- This worksheet can be made into a wall mount.
- Also available as 8½ x 14 (legal size) and 11 x 17 chart.
- If additional pages are needed, use a blank ICS 215 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Branch**	Enter the Branch of the work assignment for the resources.
4	**Division, Group, or Other**	Enter the Division, Group, or other location (e.g., Staging Area) of the work assignment for the resources.
5	**Work Assignment & Special Instructions**	Enter the specific work assignments given to each of the Divisions/Groups and any special instructions, as required.
6	**Resources**	Complete resource headings for category, kind, and type as appropriate for the incident. The use of a slash indicates a single resource in the upper portion of the slash and a Strike Team or Task Force in the bottom portion of the slash.
	• Required	Enter, for the appropriate resources, the number of resources by type (engine, squad car, Advanced Life Support ambulance, etc.) required to perform the work assignment.
	• Have	Enter, for the appropriate resources, the number of resources by type (engines, crew, etc.) available to perform the work assignment.
	• Need	Enter the number of resources needed by subtracting the number in the "Have" row from the number in the "Required" row.
7	**Overhead Position(s)**	List any supervisory and nonsupervisory ICS position(s) not directly assigned to a previously identified resource (e.g., Division/Group Supervisor, Assistant Safety Officer, Technical Specialist, etc.).
8	**Special Equipment & Supplies**	List special equipment and supplies, including aviation support, used or needed. This may be a useful place to monitor span of control.
9	**Reporting Location**	Enter the specific location where the resources are to report (Staging Area, location at incident, etc.).
10	**Requested Arrival Time**	Enter the time (24-hour clock) that resources are requested to arrive at the reporting location.

Block Number	Block Title	Instructions
11	**Total Resources Required**	Enter the total number of resources required by category/kind/type as preferred (e.g., engine, squad car, ALS ambulance, etc.). A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/ Task Forces in the bottom portion of the slash.
12	**Total Resources Have on Hand**	Enter the total number of resources on hand that are assigned to the incident for incident use. A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/Task Forces in the bottom portion of the slash.
13	**Total Resources Need To Order**	Enter the total number of resources needed. A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/Task Forces in the bottom portion of the slash.
14	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS 215A)

1. Incident Name:	2. Incident Number:
3. Date/Time Prepared: Date: Date Time: HHMM	4. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM

5. Incident Area	6. Hazards/Risks	7. Mitigations

8. Prepared by (Safety Officer)**:** Name: Signature: _____

Prepared by (Operations Section Chief)**:** Name: Signature: _____

ICS 215A Date/Time: Date

ICS 215A
Incident Action Plan Safety Analysis

Purpose. The purpose of the Incident Action Plan Safety Analysis (ICS 215A) is to aid the Safety Officer in completing an operational risk assessment to prioritize hazards, safety, and health issues, and to develop appropriate controls. This worksheet addresses communications challenges between planning and operations, and is best utilized in the planning phase and for Operations Section briefings.

Preparation. The ICS 215A is typically prepared by the Safety Officer during the incident action planning cycle. When the Operations Section Chief is preparing for the tactics meeting, the Safety Officer collaborates with the Operations Section Chief to complete the Incident Action Plan Safety Analysis. This worksheet is closely linked to the Operational Planning Worksheet (ICS 215). Incident areas or regions are listed along with associated hazards and risks. For those assignments involving risks and hazards, mitigations or controls should be developed to safeguard responders, and appropriate incident personnel should be briefed on the hazards, mitigations, and related measures. Use additional sheets as needed.

Distribution. When the safety analysis is completed, the form is distributed to the Resources Unit to help prepare the Operations Section briefing. All completed original forms must be given to the Documentation Unit.

Notes:

- This worksheet can be made into a wall mount, and can be part of the IAP.
- If additional pages are needed, use a blank ICS 215A and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Prepared**	Enter date (month/day/year) and time (using the 24-hour clock) prepared.
4	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (24-hour clock) and end date and time for the operational period to which the form applies.
5	**Incident Area**	Enter the incident areas where personnel or resources are likely to encounter risks. This may be specified as a Branch, Division, or Group.
6	**Hazards/Risks**	List the types of hazards and/or risks likely to be encountered by personnel or resources at the incident area relevant to the work assignment.
7	**Mitigations**	List actions taken to reduce risk for each hazard indicated (e.g., specify personal protective equipment or use of a buddy system or escape routes).
8	**Prepared by** (Safety Officer and Operations Section Chief) • Name • Signature • Date/Time	Enter the name of both the Safety Officer and the Operations Section Chief, who should collaborate on form preparation. Enter date (month/day/year) and time (24-hour clock) reviewed.

SUPPORT VEHICLE/EQUIPMENT INVENTORY (ICS 218)

1. Incident Name:	2. Incident Number:	3. Date/Time Prepared: Date: Date Time: HHMM	4. Vehicle/Equipment Category:

5. Vehicle/Equipment Information

Order Request Number	Incident ID No.	Vehicle or Equipment Classification	Vehicle or Equipment Make	Category/ Kind/Type, Capacity, or Size	Vehicle or Equipment Features	Agency or Owner	Operator Name or Contact	Vehicle License or ID No.	Incident Assignment	Incident Start Date and Time	Incident Release Date and Time

ICS 218	6. Prepared by: Name: Position/Title: Signature: _____

ICS 218
Support Vehicle/Equipment Inventory

Purpose. The Support Vehicle/Equipment Inventory (ICS 218) provides an inventory of all transportation and support vehicles and equipment assigned to the incident. The information is used by the Ground Support Unit to maintain a record of the types and locations of vehicles and equipment on the incident. The Resources Unit uses the information to initiate and maintain status/resource information.

Preparation. The ICS 218 is prepared by Ground Support Unit personnel at intervals specified by the Ground Support Unit Leader.

Distribution. Initial inventory information recorded on the form should be given to the Resources Unit. Subsequent changes to the status or location of transportation and support vehicles and equipment should be provided to the Resources Unit immediately.

Notes:

- If additional pages are needed, use a blank ICS 218 and repaginate as needed.
- Also available as 8½ x 14 (legal size) and 11 x 17 chart.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Prepared**	Enter the date (month/day/year) and time (using the 24-hour clock) the form is prepared.
4	**Vehicle/Equipment Category**	Enter the specific vehicle or equipment category (e.g., buses, generators, dozers, pickups/sedans, rental cars, etc.). Use a separate sheet for each vehicle or equipment category.
5	**Vehicle/Equipment Information**	Record the following information:
	Order Request Number	Enter the order request number for the resource as used by the jurisdiction or discipline, or the relevant EMAC order request number.
	Incident Identification Number	Enter any special incident identification numbers or agency radio identifier assigned to the piece of equipment used only during the incident, if this system if used (e.g., “Decontamination Unit 2,” or “Water Tender 14”).
	Vehicle or Equipment Classification	Enter the specific vehicle or equipment classification (e.g., bus, backhoe, Type 2 engine, etc.) as relevant.
	Vehicle or Equipment Make	Enter the vehicle or equipment manufacturer name (e.g., “GMC,” “International”).
	Category/Kind/Type, Capacity, or Size	Enter the vehicle or equipment category/kind/type, capacity, or size (e.g., 30-person bus, 3/4-ton truck, 50 kW generator).
	Vehicle or Equipment Features	Indicate any vehicle or equipment features such as 2WD, 4WD, towing capability, number of axles, heavy-duty tires, high clearance, automatic vehicle locator (AVL), etc.
	Agency or Owner	Enter the name of the agency or owner of the vehicle or equipment.
	Operator Name or Contact	Enter the operator name and/or contact information (cell phone, radio frequency, etc.).
	Vehicle License or Identification Number	Enter the license plate number or another identification number (such as a serial or rig number) of the vehicle or equipment.
	Incident Assignment	Enter where the vehicle or equipment will be located at the incident and its function (use abbreviations per discipline or jurisdiction).

Block Number	Block Title	Instructions
5 (continued)	Incident Start Date and Time	Indicate start date (month/day/year) and time (using the 24-hour clock) for driver or for equipment as may be relevant.
	Incident Release Date and Time	Enter the date (month/day/year) and time (using the 24-hour clock) the vehicle or equipment is released from the incident.
6	**Prepared by** • Name • Position/Title • Signature	Enter the name, ICS position/title, and signature of the person preparing the form.

ICS 219
Resource Status Card (T-Card)

Purpose. Resource Status Cards (ICS 219) are also known as "T-Cards," and are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. These cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including, but not limited to:

- Incident Briefing (ICS 201).
- Incident Check-In List (ICS 211).
- General Message (ICS 213).
- Agency-supplied information or electronic resource management systems.

Distribution. ICS 219s are displayed in resource status or "T-Card" racks where they can be easily viewed, retrieved, updated, and rearranged. The Resources Unit typically maintains cards for resources assigned to an incident until demobilization. At demobilization, all cards should be turned in to the Documentation Unit.

Notes. There are eight different status cards (see list below) and a header card, to be printed front-to-back on cardstock. Each card is printed on a different color of cardstock and used for a different resource category/kind/type. The format and content of information on each card varies depending upon the intended use of the card.

- 219-1: Header Card – Gray (used only as label cards for T-Card racks)
- 219-2: Crew/Team Card – Green
- 219-3: Engine Card – Rose
- 219-4: Helicopter Card – Blue
- 219-5: Personnel Card – White
- 219-6: Fixed-Wing Card – Orange
- 219-7: Equipment Card – Yellow
- 219-8: Miscellaneous Equipment/Task Force Card – Tan
- 219-10: Generic Card – Light Purple

Acronyms. Abbreviations utilized on the cards are listed below:

- AOV: Agency-owned vehicle
- ETA: Estimated time of arrival
- ETD: Estimated time of departure
- ETR: Estimated time of return
- O/S Mech: Out-of-service for mechanical reasons
- O/S Pers: Out-of-service for personnel reasons
- O/S Rest: Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft
- POV: Privately owned vehicle

Prepared by:
Date/Time: Date

ICS 219-1 HEADER CARD (GRAY)

Prepared by:
Date/Time: Date

ICS 219-1 HEADER CARD (GRAY)

ICS 219-1: Header Card

Block Title	Instructions
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Crew/Team ID #(s) or Name(s):

Manifest: ☐ Yes ☐ No	**Total Weight:**

Method of Travel to Incident:
☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other

Home Base:

Departure Point:

ETD:	**ETA:**

Transportation Needs at Incident:
☐ Vehicle ☐ Bus ☐ Air ☐ Other

Date/Time Ordered:

Remarks:

Prepared by:
Date/Time: Date

ICS 219-2 CREW/TEAM (GREEN)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:
Date/Time: Date

ICS 219-2 CREW/TEAM (GREEN)

ICS 219-2: Crew/Team Card

Block Title	Instructions
ST/Unit	Enter the State and/or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work
# Pers	Enter total number of personnel associated with the crew/team. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline, since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Crew/Team ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for this crew/team (e.g., Air Monitoring Team 2, Entry Team 3).
Manifest ☐ Yes ☐ No	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
Total Weight	Enter the total weight for the crew/team. This information is necessary when the crew/team are transported by charter air.
Method of Travel to Incident ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of travel the individual used to bring himself/herself to the incident. AOV is "agency-owned vehicle." POV is "privately owned vehicle."
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the crew/team's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the crew/team's estimated time of arrival (using the 24-hour clock) at the incident.
Transportation Needs at Incident ☐ Vehicle ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of transportation at the incident.

Block Title	Instructions
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the crew/team was ordered to the incident.
Remarks	Enter any additional information pertaining to the crew/team.
BACK OF FORM	
Incident Location	Enter the location of the crew/team.
Time	Enter the time (24-hour clock) the crew/team reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the crew/team's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the crew/team's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD:	**ETA:**

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-3 ENGINE (ROSE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	**Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-3 ENGINE (ROSE)

ICS 219-3: Engine Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for the resource(s).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Pilot Name:

Home Base:

Departure Point:

ETD: | **ETA:**

Destination Point:

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-4 HELICOPTER (BLUE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-4 HELICOPTER (BLUE)

ICS 219-4: Helicopter Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include the pilot.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Pilot Name:	Enter pilot's name (use at least the first initial and last name).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the destination point.
Destination Point	Use this section to enter the location at the incident where the resource has been requested to report.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	Name:	Position/Title:

Front

Date/Time Checked In:	
Name:	
Primary Contact Information:	
Manifest: ☐ Yes ☐ No	**Total Weight:**
Method of Travel to Incident: ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other	
Home Base:	
Departure Point:	
ETD:	**ETA:**
Transportation Needs at Incident: ☐ Vehicle ☐ Bus ☐ Air ☐ Other	
Date/Time Ordered:	
Remarks:	
Prepared by: **Date/Time:** Date	
ICS 219-5 PERSONNEL (WHITE CARD)	

ST/Unit:	Name:	Position/Title:

Back

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: HHMM	
Notes:	
Incident Location:	**Time:**
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: HHMM	
Notes:	
Incident Location:	**Time:**
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: HHMM	
Notes:	
Incident Location:	**Time:**
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: HHMM	
Notes:	
Prepared by: **Date/Time:** Date	
ICS 219-5 PERSONNEL (WHITE CARD)	

ICS 219-5: Personnel Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
Name	Enter the individual's first initial and last name.
Position/Title	Enter the individual's ICS position/title.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Name	Enter the individual's full name.
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Manifest ☐ Yes ☐ No	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
Total Weight	Enter the total weight for the crew. This information is necessary when the crew are transported by charter air.
Method of Travel to Incident ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of travel the individual used to bring himself/herself to the incident. AOV is "agency-owned vehicle." POV is "privately owned vehicle."
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the crew's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the crew's estimated time of arrival (using the 24-hour clock) at the incident.
Transportation Needs at Incident ☐ Vehicle ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of transportation at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the crew was ordered to the incident.
Remarks	Enter any additional information pertaining to the crew.
BACK OF FORM	
Incident Location	Enter the location of the crew.
Time	Enter the time (24-hour clock) the crew reported to this location.

Block Title	Instructions
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the crew's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the crew's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked-In:

Pilot Name:

Home Base:

Departure Point:

ETD: | **ETA:**

Destination Point:

Date/Time Ordered:

Manufacturer:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-6 FIXED-WING (ORANGE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-6 FIXED-WING (ORANGE)

ICS 219-6: Fixed-Wing Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include the pilot.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Pilot Name:	Enter pilot's name (use at least the first initial and last name).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the destination point.
Destination Point	Use this section to enter the location at the incident where the resource has been requested to report.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Manufacturer	Enter the manufacturer of the aircraft.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD:	ETA:

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-7 EQUIPMENT (YELLOW)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-7 EQUIPMENT (YELLOW)

ICS 219-7: Equipment Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for this resource.
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD:	ETA:

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-8 MISCELLANEOUS EQUIPMENT/TASK FORCE (TAN)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-8 MISCELLANEOUS EQUIPMENT/TASK FORCE (TAN)

ICS 219-8: Miscellaneous Equipment/Task Force Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available work day that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number or name for this resource.
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD:	ETA:

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time: Date

ICS 219-10 GENERIC (LIGHT PURPLE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: HHMM

Notes:

Prepared by:

Date/Time: Date

ICS 219-10 GENERIC (LIGHT PURPLE)

ICS 219-10: Generic Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for this resource.
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

AIR OPERATIONS SUMMARY (ICS 220)

1. Incident Name:	**2. Operational Period:** Date From: Date Date To: Date Time From: HHMM Time To: HHMM	**3. Sunrise:** HHMM **Sunset:** HHMM

4. Remarks (safety notes, hazards, air operations special equipment, etc.)**:**	**5. Ready Alert Aircraft:** Medivac: New Incident:	**6. Temporary Flight Restriction Number:** Altitude: Center Point:

7. Personnel:	Name:	Phone Number:
Air Operations Branch Director		XXX-XXX-XXXX
Air Support Group Supervisor		XXX-XXX-XXXX
Air Tactical Group Supervisor		XXX-XXX-XXXX
Helicopter Coordinator		XXX-XXX-XXXX
Helibase Manager		XXX-XXX-XXXX

8. Frequencies:	AM	FM
Air/Air Fixed-Wing		
Air/Air Rotary-Wing – Flight Following		
Air/Ground		
Command		
Deck Coordinator		
Take-Off & Landing Coordinator		
Air Guard		

9. Fixed-Wing (category/kind/type, make/model, N#, base)**:**
Air Tactical Group Supervisor Aircraft:
Other Fixed-Wing Aircraft:

10. Helicopters (use additional sheets as necessary)**:**

FAA N#	Category/Kind/Type	Make/Model	Base	Available	Start	Remarks

11. Prepared by: Name: Position/Title: Signature: _____

AIR OPERATIONS SUMMARY (ICS 220)

1. Incident Name:	2. Operational Period: Date From: Date Date To: Date Time From: HHMM Time To: HHMM	3. Sunrise: HHMM Sunset: HHMM

12. Task/Mission/Assignment (category/kind/type and function includes: air tactical, reconnaissance, personnel transport, search and rescue, etc.)**:**

Category/Kind/Type and Function	Name of Personnel or Cargo (if applicable) or Instructions for Tactical Aircraft	Mission Start	Fly From	Fly To

11. Prepared by: Name: Position/Title: Signature: _____

 Date/Time: Date

ICS 220
Air Operations Summary

Purpose. The Air Operations Summary (ICS 220) provides the Air Operations Branch with the number, type, location, and specific assignments of helicopters and air resources.

Preparation. The ICS 220 is completed by the Operations Section Chief or the Air Operations Branch Director during each Planning Meeting. General air resources assignment information is obtained from the Operational Planning Worksheet (ICS 215), which also is completed during each Planning Meeting. Specific designators of the air resources assigned to the incident are provided by the Air and Fixed-Wing Support Groups. If aviation assets would be utilized for rescue or are referenced on the Medical Plan (ICS 206), coordinate with the Medical Unit Leader and indicate on the ICS 206.

Distribution. After the ICS 220 is completed by Air Operations personnel, the form is given to the Air Support Group Supervisor and Fixed-Wing Coordinator personnel. These personnel complete the form by indicating the designators of the helicopters and fixed-wing aircraft assigned missions during the specified operational period. This information is provided to Air Operations personnel who, in turn, give the information to the Resources Unit.

Notes:

- If additional pages are needed for any form page, use a blank ICS 220 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Sunrise/Sunset**	Enter the sunrise and sunset times.
4	**Remarks** (safety notes, hazards, air operations special equipment, etc.)	Enter special instructions or information, including safety notes, hazards, and priorities for Air Operations personnel.
5	**Ready Alert Aircraft** • Medivac • New Incident	Identify ready alert aircraft that will be used as Medivac for incident assigned personnel and indicate on the Medical Plan (ICS 206). Identify aircraft to be used for new incidents within the area or new incident(s) within an incident.
6	**Temporary Flight Restriction Number** • Altitude • Center Point	Enter Temporary Flight Restriction Number, altitude (from the center point), and center point (latitude and longitude). This number is provided by the Federal Aviation Administration (FAA) or is the order request number for the Temporary Flight Restriction.
7	**Personnel** • Name • Phone Number	Enter the name and phone number of the individuals in Air Operations.
	Air Operations Branch Director	
	Air Support Group Supervisor	
	Air Tactical Group Supervisor	
	Helicopter Coordinator	
	Helibase Manager	

Block Number	Block Title	Instructions
8	**Frequencies** • AM • FM	Enter primary air/air, air/ground (if applicable), command, deck coordinator, take-off and landing coordinator, and other radio frequencies to be used during the incident.
	Air/Air Fixed-Wing	
	Air/Air Rotary-Wing – Flight Following	Flight following is typically done by Air Operations.
	Air/Ground	
	Command	
	Deck Coordinator	
	Take-Off & Landing Coordinator	
	Air Guard	
9	**Fixed-Wing** (category/kind/type, make/model, N#, base)	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance, make/model, N#, and base of air assets allocated to the incident.
	Air Tactical Group Supervisor Aircraft	
	Other Fixed-Wing Aircraft	
10	**Helicopters**	Enter the following information about the helicopter resources allocated to the incident.
	FAA N#	Enter the FAA N#.
	Category/Kind/Type	Enter the helicopter category/kind/type based on NIMS, discipline, or jurisdiction guidance.
	Make/Model	Enter the make and model of the helicopter.
	Base	Enter the base where the helicopter is located.
	Available	Enter the time the aircraft is available.
	Start	Enter the time the aircraft becomes operational.
	Remarks	
11	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
12	**Task/Mission/Assignment** (category/kind/type and function includes: air tactical, reconnaissance, personnel transport, search and rescue, etc.)	Enter the specific assignment (e.g., water or retardant drops, logistical support, or availability status for a specific purpose, support backup, recon, Medivac, etc.). If applicable, enter the primary air/air and air/ground radio frequency to be used. Mission assignments may be listed by priority.
	Category/Kind/Type and Function	
	Name of Personnel or Cargo (if applicable) or Instructions for Tactical Aircraft	
	Mission Start	
	Fly From	Enter the incident location or air base the aircraft is flying from.
	Fly To	Enter the incident location or air base the aircraft is flying to.

DEMOBILIZATION CHECK-OUT (ICS 221)

1. Incident Name:	2. Incident Number:

3. Planned Release Date/Time:	4. Resource or Personnel Released:	5. Order Request Number:
Date: Date Time: HHMM		

6. Resource or Personnel:

You and your resources are in the process of being released. Resources are not released until the checked boxes below have been signed off by the appropriate overhead and the Demobilization Unit Leader (or Planning Section representative).

LOGISTICS SECTION

	Unit/Manager	Remarks	Name	Signature
☐	Supply Unit			
☐	Communications Unit			
☐	Facilities Unit			
☐	Ground Support Unit			
☐	Security Manager			
☐				

FINANCE/ADMINISTRATION SECTION

	Unit/Leader	Remarks	Name	Signature
☐	Time Unit			
☐				
☐				

OTHER SECTION/STAFF

	Unit/Other	Remarks	Name	Signature
☐				
☐				

PLANNING SECTION

	Unit/Leader	Remarks	Name	Signature
☐				
☐	Documentation Leader			
☐	Demobilization Leader			

7. Remarks:

8. Travel Information:

Room Overnight: ☐ Yes ☐ No

Estimated Time of Departure: _____ Actual Release Date/Time: _____

Destination: _____ Estimated Time of Arrival: _____

Travel Method: _____ Contact Information While Traveling: _____

Manifest: ☐ Yes ☐ No Number: _____ Area/Agency/Region Notified: _____

9. Reassignment Information: ☐ Yes ☐ No

Incident Name: _____ Incident Number: _____

Location: _____ Order Request Number: _____

10. Prepared by: Name: Position/Title: Signature: _____

ICS 221 Date/Time: Date

ICS 221
Demobilization Check-Out

Purpose. The Demobilization Check-Out (ICS 221) ensures that resources checking out of the incident have completed all appropriate incident business, and provides the Planning Section information on resources released from the incident. Demobilization is a planned process and this form assists with that planning.

Preparation. The ICS 221 is initiated by the Planning Section, or a Demobilization Unit Leader if designated. The Demobilization Unit Leader completes the top portion of the form and checks the appropriate boxes in Block 6 that may need attention after the Resources Unit Leader has given written notification that the resource is no longer needed. The individual resource will have the appropriate overhead personnel sign off on any checked box(es) in Block 6 prior to release from the incident.

Distribution. After completion, the ICS 221 is returned to the Demobilization Unit Leader or the Planning Section. All completed original forms must be given to the Documentation Unit. Personnel may request to retain a copy of the ICS 221.

Notes:

- Members are not released until form is complete when all of the items checked in Block 6 have been signed off.
- If additional pages are needed for any form page, use a blank ICS 221 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Planned Release Date/Time**	Enter the date (month/day/year) and time (using the 24-hour clock) of the planned release from the incident.
4	**Resource or Personnel Released**	Enter name of the individual or resource being released.
5	**Order Request Number**	Enter order request number (or agency demobilization number) of the individual or resource being released.
6	**Resource or Personnel** You and your resources are in the process of being released. Resources are not released until the checked boxes below have been signed off by the appropriate overhead and the Demobilization Unit Leader (or Planning Section representative). • Unit/Leader/Manager/Other • Remarks • Name • Signature	Resources are not released until the checked boxes below have been signed off by the appropriate overhead. Blank boxes are provided for any additional unit requirements as needed (e.g., Safety Officer, Agency Representative, etc.).
	Logistics Section ☐ Supply Unit ☐ Communications Unit ☐ Facilities Unit ☐ Ground Support Unit ☐ Security Manager	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.

Block Number	Block Title	Instructions
6 (continued)	**Finance/Administration Section** ☐ Time Unit	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
	Other Section/Staff ☐	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
	Planning Section ☐ Documentation Leader ☐ Demobilization Leader	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
7	**Remarks**	Enter any additional information pertaining to demobilization or release (e.g., transportation needed, destination, etc.). This section may also be used to indicate if a performance rating has been completed as required by the discipline or jurisdiction.
8	**Travel Information**	Enter the following travel information:
	Room Overnight	Use this section to enter whether or not the resource or personnel will be staying in a hotel overnight prior to returning home base and/or unit.
	Estimated Time of Departure	Use this section to enter the resource's or personnel's estimated time of departure (using the 24-hour clock).
	Actual Release Date/Time	Use this section to enter the resource's or personnel's actual release date (month/day/year) and time (using the 24-hour clock).
	Destination	Use this section to enter the resource's or personnel's destination.
	Estimated Time of Arrival	Use this section to enter the resource's or personnel's estimated time of arrival (using the 24-hour clock) at the destination.
	Travel Method	Use this section to enter the resource's or personnel's travel method (e.g., POV, air, etc.).
	Contact Information While Traveling	Use this section to enter the resource's or personnel's contact information while traveling (e.g., cell phone, radio frequency, etc.).
	Manifest ☐ Yes ☐ No Number	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
	Area/Agency/Region Notified	Use this section to enter the area, agency, and/or region that was notified of the resource's travel. List the name (first initial and last name) of the individual notified and the date (month/day/year) he or she was notified.
9	**Reassignment Information** ☐ Yes ☐ No	Enter whether or not the resource or personnel was reassigned to another incident. If the resource or personnel was reassigned, complete the section below.
	Incident Name	Use this section to enter the name of the new incident to which the resource was reassigned.
	Incident Number	Use this section to enter the number of the new incident to which the resource was reassigned.
	Location	Use this section to enter the location (city and State) of the new incident to which the resource was reassigned.
	Order Request Number	Use this section to enter the new order request number assigned to the resource or personnel.

Block Number	Block Title	Instructions
10	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (using the 24-hour clock).

INCIDENT PERSONNEL PERFORMANCE RATING (ICS 225)

THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE ON AN INCIDENT/EVENT

1. Name:	2. Incident Name:	3. Incident Number:
4. Home Unit Name and Address:	**5. Incident Agency and Address:**	
6. Position Held on Incident:	**7. Date(s) of Assignment:** From: Date To: Date	**8. Incident Complexity Level:** ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 / **9. Incident Definition:**

10. Evaluation

Rating Factors	N/A	1 – Unacceptable	2	3 – Met Standards	4	5 – Exceeded Expectations
11. Knowledge of the Job/ Professional Competence: Ability to acquire, apply, and share technical and administrative knowledge and skills associated with description of duties. (Includes operational aspects such as marine safety, seamanship, airmanship, SAR, etc., as appropriate.)	☐	Questionable competence and credibility. Operational or specialty expertise inadequate or lacking in key areas. Made little effort to grow professionally. Used knowledge as power against others or bluffed rather than acknowledging ignorance. Effectiveness reduced due to limited knowledge of own organizational role and customer needs. ☐	☐	Competent and credible authority on specialty or operational issues. Acquired and applied excellent operational or specialty expertise for assigned duties. Showed professional growth through education, training, and professional reading. Shared knowledge and information with others clearly and simply. Understood own organizational role and customer needs. ☐	☐	Superior expertise; advice and actions showed great breadth and depth of knowledge. Remarkable grasp of complex issues, concepts, and situations. Rapidly developed professional growth beyond expectations. Vigorously conveyed knowledge, directly resulting in increased workplace productivity. Insightful knowledge of own role, customer needs, and value of work. ☐
12. Ability To Obtain Performance/Results: Quality, quantity, timeliness, and impact of work.	☐	Routine tasks accomplished with difficulty. Results often late or of poor quality. Work had a negative impact on department or unit. Maintained the status quo despite opportunities to improve. ☐	☐	Got the job done in all routine situations and in many unusual ones. Work was timely and of high quality; required same of subordinates. Results had a positive impact on IMT. Continuously improved services and organizational effectiveness. ☐	☐	Maintained optimal balance among quality, quantity, and timeliness of work. Quality of own and subordinates' work surpassed expectations. Results had a significant positive impact on the IMT. Established clearly effective systems of continuous improvement. ☐
13. Planning/ Preparedness: Ability to anticipate, determine goals, identify relevant information, set priorities and deadlines, and create a shared vision of the Incident Management Team (IMT).	☐	Got caught by the unexpected; appeared to be controlled by events. Set vague or unrealistic goals. Used unreasonable criteria to set priorities and deadlines. Rarely had plan of action. Failed to focus on relevant information. ☐	☐	Consistently prepared. Set high but realistic goals. Used sound criteria to set priorities and deadlines. Used quality tools and processes to develop action plans. Identified key information. Kept supervisors and stakeholders informed. ☐	☐	Exceptional preparation. Always looked beyond immediate events or problems. Skillfully balanced competing demands. Developed strategies with contingency plans. Assessed all aspects of problems, including underlying issues and impact. ☐
14. Using Resources: Ability to manage time, materials, information, money, and people (i.e., all IMT components as well as external publics).	☐	Concentrated on unproductive activities or often overlooked critical demands. Failed to use people productively. Did not follow up. Mismanaged information, money, or time. Used ineffective tools or left subordinates without means to accomplish tasks. Employed wasteful methods. ☐	☐	Effectively managed a variety of activities with available resources. Delegated, empowered, and followed up. Skilled time manager, budgeted own and subordinates' time productively. Ensured subordinates had adequate tools, materials, time, and direction. Cost conscious, sought ways to cut waste. ☐	☐	Unusually skilled at bringing scarce resources to bear on the most critical of competing demands. Optimized productivity through effective delegation, empowerment, and follow-up control. Found ways to systematically reduce cost, eliminate waste, and improve efficiency. ☐
15. Adaptability/Attitude: Ability to maintain a positive attitude and modify work methods and priorities in response to new information, changing conditions, political realities, or unexpected obstacles.	☐	Unable to gauge effectiveness of work, recognize political realities, or make adjustments when needed. Maintained a poor outlook. Overlooked or screened out new information. Ineffective in ambiguous, complex, or pressured situations. ☐	☐	Receptive to change, new information, and technology. Effectively used benchmarks to improve performance and service. Monitored progress and changed course as required. Maintained a positive approach. Effectively dealt with pressure and ambiguity. Facilitated smooth transitions. Adjusted direction to accommodate political realities. ☐	☐	Rapidly assessed and confidently adjusted to changing conditions, political realities, new information, and technology. Very skilled at using and responding to measurement indicators. Championed organizational improvements. Effectively dealt with extremely complex situations. Turned pressure and ambiguity into constructive forces for change. ☐
16. Communication Skills: Ability to speak effectively and listen to understand. Ability to express facts and ideas clearly and convincingly.	☐	Unable to effectively articulate ideas and facts; lacked preparation, confidence, or logic. Used inappropriate language or rambled. Nervous or distracting mannerisms detracted from message. Failed to listen carefully or was too argumentative. Written material frequently unclear, verbose, or poorly organized. Seldom proofread. ☐	☐	Effectively expressed ideas and facts in individual and group situations; nonverbal actions consistent with spoken message. Communicated to people at all levels to ensure understanding. Listened carefully for intended message as well as spoken words. Written material clear, concise, and logically organized. Proofread conscientiously. ☐	☐	Clearly articulated and promoted ideas before a wide range of audiences; accomplished speaker in both formal and extemporaneous situations. Adept at presenting complex or sensitive issues. Active listener; remarkable ability to listen with open mind and identify key issues. Clearly and persuasively expressed complex or controversial material, directly contributing to stated objectives. ☐

INCIDENT PERSONNEL PERFORMANCE RATING (ICS 225)

1. Name:	2. Incident Name:	3. Incident Number:

10. Evaluation

Rating Factors	N/A	1 – Unacceptable	2	3 – Met Standards	4	5 – Exceeded Expectations
17. Ability To Work on a Team: Ability to manage, lead and participate in teams, encourage cooperation, and develop esprit de corps.	☐	Used teams ineffectively or at wrong times. Conflicts mismanaged or often left unresolved, resulting in decreased team effectiveness. Excluded team members from vital information. Stifled group discussions or did not contribute productively. Inhibited cross functional cooperation to the detriment of unit or service goals. ☐	☐	Skillfully used teams to increase unit effectiveness, quality, and service. Resolved or managed group conflict, enhanced cooperation, and involved team members in decision process. Valued team participation. Effectively negotiated work across functional boundaries to enhance support of broader mutual goals. ☐	☐	Insightful use of teams raised unit productivity beyond expectations. Inspired high level of esprit de corps, even in difficult situations. Major contributor to team effort. Established relationships and networks across a broad range of people and groups, raising accomplishments of mutual goals to a remarkable level. ☐
18. Consideration for Personnel/Team Welfare: Ability to consider and respond to others' personal needs, capabilities, and achievements; support for and application of worklife concepts and skills.	☐	Seldom recognized or responded to needs of people; left outside resources untapped despite apparent need. Ignorance of individuals' capabilities increased chance of failure. Seldom recognized or rewarded deserving subordinates or other IMT members. ☐	☐	Cared for people. Recognized and responded to their needs; referred to outside resources as appropriate. Considered individuals' capabilities to maximize opportunities for success. Consistently recognized and rewarded deserving subordinates or other IMT members. ☐	☐	Always accessible. Enhanced overall quality of life. Actively contributed to achieving balance among IMT requirements and professional and personal responsibilities. Strong advocate for subordinates; ensured appropriate and timely recognition, both formal and informal. ☐
19. Directing Others: Ability to influence or direct others in accomplishing tasks or missions.	☐	Showed difficulty in directing or influencing others. Low or unclear work standards reduced productivity. Failed to hold subordinates accountable for shoddy work or irresponsible actions. Unwilling to delegate authority to increase efficiency of task accomplishment. ☐	☐	A leader who earned others' support and commitment. Set high work standards; clearly articulated job requirements, expectations, and measurement criteria; held subordinates accountable. When appropriate, delegated authority to those directly responsible for the task. ☐	☐	An inspirational leader who motivated others to achieve results not normally attainable. Won people over rather than imposing will. Clearly articulated vision; empowered subordinates to set goals and objectives to accomplish tasks. Modified leadership style to best meet challenging situations. ☐
20. Judgment/Decisions Under Stress: Ability to make sound decisions and provide valid recommendations by using facts, experience, political acumen, common sense, risk assessment, and analytical thought.	☐	Decisions often displayed poor analysis. Failed to make necessary decisions, or jumped to conclusions without considering facts, alternatives, and impact. Did not effectively weigh risk, cost, and time considerations. Unconcerned with political drivers on organization. ☐	☐	Demonstrated analytical thought and common sense in making decisions. Used facts, data, and experience, and considered the impact of alternatives and political realities. Weighed risk, cost, and time considerations. Made sound decisions promptly with the best available information. ☐	☐	Combined keen analytical thought, an understanding of political processes, and insight to make appropriate decisions. Focused on the key issues and the most relevant information. Did the right thing at the right time. Actions indicated awareness of impact of decisions on others. Not afraid to take reasonable risks to achieve positive results. ☐
21. Initiative Ability to originate and act on new ideas, pursue opportunities to learn and develop, and seek responsibility without guidance and supervision.	☐	Postponed needed action. Implemented or supported improvements only when directed to do so. Showed little interest in career development. Feasible improvements in methods, services, or products went unexplored. ☐	☐	Championed improvement through new ideas, methods, and practices. Anticipated problems and took prompt action to avoid or resolve them. Pursued productivity gains and enhanced mission performance by applying new ideas and methods. ☐	☐	Aggressively sought out additional responsibility. A self-learner. Made worthwhile ideas and practices work when others might have given up. Extremely innovative. Optimized use of new ideas and methods to improve work processes and decisionmaking. ☐
22. Physical Ability for the Job: Ability to invest in the IMT's future by caring for the physical health and emotional well-being of self and others.	☐	Failed to meet minimum standards of sobriety. Tolerated or condoned others' alcohol abuse. Seldom considered subordinates' health and well-being. Unwilling or unable to recognize and manage stress despite apparent need. ☐	☐	Committed to health and well-being of self and subordinates. Enhanced personal performance through activities supporting physical and emotional well-being. Recognized and managed stress effectively. ☐	☐	Remarkable vitality, enthusiasm, alertness, and energy. Consistently contributed at high levels of activity. Optimized personal performance through involvement in activities that supported physical and emotional well-being. Monitored and helped others deal with stress and enhance health and well-being. ☐
23. Adherence to Safety: Ability to invest in the IMT's future by caring for the safety of self and others.	☐	Failed to adequately identify and protect personnel from safety hazards. ☐	☐	Ensured that safe operating procedures were followed. ☐	☐	Demonstrated a significant commitment toward safety of personnel. ☐

24. Remarks:

25. Rated Individual (This rating has been discussed with me)**:**
Signature: _____ Date/Time: _____

26. Rated by: Name: _____ Signature: _____
Home Unit: _____ Position Held on This Incident: _____

ICS 225	Date/Time: Date

ICS 225
Incident Personnel Performance Rating

Purpose. The Incident Personnel Performance Rating (ICS 225) gives supervisors the opportunity to evaluate subordinates on incident assignments. THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE ON AN INCIDENT/EVENT.

Preparation. The ICS 225 is normally prepared by the supervisor for each subordinate, using the evaluation standard given in the form. The ICS 225 will be reviewed with the subordinate, who will sign at the bottom. It will be delivered to the Planning Section before the rater leaves the incident

Distribution. The ICS 225 is provided to the Planning Section Chief before the rater leaves the incident.

Notes:

- Use a blank ICS 225 for each individual.
- Additional pages can be added based on individual need.

Block Number	Block Title	Instructions
1	**Name**	Enter the name of the individual being rated.
2	**Incident Name**	Enter the name assigned to the incident.
3	**Incident Number**	Enter the number assigned to the incident.
4	**Home Unit Address**	Enter the physical address of the home unit for the individual being rated.
5	**Incident Agency and Address**	Enter the name and address of the authority having jurisdiction for the incident.
6	**Position Held on Incident**	Enter the position held (e.g., Resources Unit Leader, Safety Officer, etc.) by the individual being rated.
7	**Date(s) of Assignment** • From • To	Enter the date(s) (month/day/year) the individual was assigned to the incident.
8	**Incident Complexity Level** ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Indicate the level of complexity for the incident.
9	**Incident Definition**	Enter a general definition of the incident in this block. This may be a general incident category or kind description, such as "tornado," "wildfire,", "bridge collapse,", "civil unrest," "parade," "vehicle fire," "mass casualty," etc.
10	**Evaluation**	Enter "X" under the appropriate column indicating the individual's level of performance for each duty listed.
	N/A	The duty did not apply to this incident.
	1 – Unacceptable	Does not meet minimum requirements of the individual element. Deficiencies/Improvements needed must be identified in Remarks.
	2 – Needs Improvement	Meets some or most of the requirements of the individual element. IDENTIFY IMPROVEMENT NEEDED IN REMARKS.
	3 – Met Standards	Satisfactory. Employee meets all requirements of the individual element.
	4 – Fully Successful	Employee meets all requirements and exceeds one or several of the requirements of the individual element.
10	5 – Exceeded Expectations	Superior. Employee consistently exceeds the performance requirements.

Block Number	Block Title	Instructions
11	**Knowledge of the Job/ Professional Competence:**	Ability to acquire, apply, and share technical and administrative knowledge and skills associated with description of duties. (Includes operational aspects such as marine safety, seamanship, airmanship, SAR, etc., as appropriate.)
12	**Ability To Obtain Performance/Results:**	Quality, quantity, timeliness, and impact of work.
13	**Planning/Preparedness:**	Ability to anticipate, determine goals, identify relevant information, set priorities and deadlines, and create a shared vision of the Incident Management Team (IMT).
14	**Using Resources:**	Ability to manage time, materials, information, money, and people (i.e., all IMT components as well as external publics).
15	**Adaptability/Attitude:**	Ability to maintain a positive attitude and modify work methods and priorities in response to new information, changing conditions, political realities, or unexpected obstacles.
16	**Communication Skills:**	Ability to speak effectively and listen to understand. Ability to express facts and ideas clearly and convincingly.
17	**Ability To Work on a Team:**	Ability to manage, lead and participate in teams, encourage cooperation, and develop esprit de corps.
18	**Consideration for Personnel/Team Welfare:**	Ability to consider and respond to others' personal needs, capabilities, and achievements; support for and application of worklife concepts and skills.
19	**Directing Others:**	Ability to influence or direct others in accomplishing tasks or missions.
20	**Judgment/Decisions Under Stress:**	Ability to make sound decisions and provide valid recommendations by using facts, experience, political acumen, common sense, risk assessment, and analytical thought.
21	**Initiative**	Ability to originate and act on new ideas, pursue opportunities to learn and develop, and seek responsibility without guidance and supervision.
22	**Physical Ability for the Job:**	Ability to invest in the IMT's future by caring for the physical health and emotional well-being of self and others.
23	**Adherence to Safety:**	Ability to invest in the IMT's future by caring for the safety of self and others.
24	**Remarks**	Enter specific information on why the individual received performance levels.
25	**Rated Individual** (This rating has been discussed with me) • Signature • Date/Time	Enter the signature of the individual being rated. Enter the date (month/day/year) and the time (24-hour clock) signed.
26	**Rated by** • Name • Signature • Home Unit • Position Held on This Incident • Date/Time	Enter the name, signature, home unit, and position held on the incident of the person preparing the form and rating the individual. Enter the date (month/day/year) and the time (24-hour clock) prepared.

Appendix J
Blank Forms

FORM FRP 1.3.1.1
Emergency Notification Phone List Whom to Notify

Reporter's Name: **Facility Name:** **Owner Name:**	 NASCC U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
National Response Center (NRC)	800-424-8802 (24 hr)		
Facility Incident Commander (FIC): Commanding Officer (CO)	(361) 961-2332 (Day) (361) 961-2082 (24 hr)		
Alternate FIC: Executive Officer (XO)	(361) 961-2331 (Day) (361) 961-2082 (24 hr)		
Qualified Individual (QI): Public Works Officer (PWO)	(361) 961-3665 (Day) (361) 961-2082 (24 hr)		
Alternate QI Deputy PWO	(361) 961-3664 (Day) (361) 961-2082 (24 hr)		
Alternate QI F&ES Fire Chief	(361) 533-3074 (Day) (361) 961-2082 (24 hr)		
Alternate QI IEPD	(361) 961-5353 (Day) (361) 961-2082 (24 hr)		
Command Duty Officer (CDO)	(361) 533-7953 (24 hr)		
Regional Qualified Individual (Regional QI): FOSC-R	(904) 542-6981 (Direct) (904) 482-8397 (Mobile) (904) 542-3118 (24 hr)		
Company Response Team: NASCC Fire & Emergency Services	 911		
Federal On-Scene Coordinator (FOSC): USCG Sector Corpus Christi	 (361) 888-3162		
Oil Spill Response Organizations (OSROs): Tier 1: Miller Environmental Tier 2: ES&H Tier 3: United States Navy Supervisor of Salvage and Diving (SUPSALV) Note – additional OSROs are listed in Appendix B	 (361) 289-9800 (512) 904-0401 (202) 781-3889		
Local Response Teams: **Fire Departments:** NASCC Fire and Emergency Services City of Corpus Christi Fire Department **Local Emergency Planning Committee (LEPC):** Texas Division of Emergency Management: Region 3 Texas Department of Public Safety: District 20 Corpus Christi/Nueces County Emergency Management	 911 or (361) 961-1706 911 or (361) 826-3932 (361) 438-5388 (361) 698-5613 (361) 888-0513		
Local Police: City of Corpus Christi Police Department Nueces County Sherriff's Office	 911 or (361) 886-2600 911 or (361) 887-2222		
State Emergency Response Commission (SERC): Texas Commission on Environmental Quality (TCEQ)* *As part of the Texas SERC Notification of TCEQ counts as SERC notification	 (800) 832-8224		
State Police: Texas Highway Patrol	 911 or (512) 698-5500		

FORM FRP 1.3.1.1
Emergency Notification Phone List Whom to Notify

Reporter's Name: **Facility Name:** **Owner Name:**	 NASCC U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
Wildlife:			
TCEQ, Region 14	(361) 825-3100		
Texas Parks and Wildlife Department (TPWD), South Texas Plains Wildlife District Supervisor	(830) 569-7806		
National Oceanic and Atmospheric Administration (NOAA) Fisheries Service	(713) 861-9453 (800) 853-1964 (24 hr)		
United States Fish and Wildlife Service (USFWS), Region 2	(505) 248-6652 (505) 480-5368 (24 hr)		
USFWS Endangered Species Program	(703) 358-2171		
Water Utilities (waste/potable water)			
Corpus Christi Water Utilities	(361) 826-1800 (361) 826-1888 (24 hr)		
NASCC Wastewater Treatment Plant	(notification through Public Works)		
Weather Report:			
National Weather Service – Corpus Christi	(361) 289-0753		
Local Television/Radio Stations:			
Television			
KEDT	(361) 855-2213		
KIIITV	(361) 855-6397		
KORO	(361) 883-2823		
KRISTV	(361) 883-7070 or (361) 884-6666		
KZTV10	(361) 884-6666		
Radio	(361) 593-2137		
KEDT-FM	(361) 855-2213		
KZFM-FM	(361) 883-3516		
KPUS-FM	(361) 814-3800		
KBSO-FM	(361) 289-0999		
KFTX-FM	(361) 883-5987		
KKBA-FM	(361) 560-5927		
KLTG-FM	(361) 883-1600		
KKPN-FM	(361) 814-1023		
KLHB-FM	(361) 883-1600 or (361) 882-5483		
KAJE-FM	(361) 814-3800		
KKTX-AM	(361) 289-0111		
KEYS-AM	(361) 883-3516		
Print			
Corpus Christi Caller-Times	(361) 884-2011		
Texas A&M University – Corpus Christi – Island Waves Newspaper	(361) 825-5862		
The Public Affairs Office (PAO) maintains an exhaustive list of new resources outside of the planning distance.			
Hospitals and Clinics:			
Naval Health Clinic Corpus Christi	(361) 961-2668		
Corpus Christi Memorial Hospital	(361) 902-4000		
Corpus Christi Medical Center (all facilities)	(361) 761-1000		
Driscoll Children's Hospital	(361) 694-5000		
CHRISTUS Spohn Shoreline Hospital	(361) 881-3000		
CHRISTUS Spohn South Hospital	(361) 985-5000		
Chemical and Hazardous Material Technical Support:			
CHEMTREC	(800) 424-9300		

FORM FRP 1.3.1.1
Emergency Notification Phone List Whom to Notify

Reporter's Name: **Facility Name:** **Owner Name:**	 NASCC U.S. Navy		
Organization	**Phone No.***	**Notification**	
		Date	**Time**
Company Reporting: CNRSE ROC	 (904) 542-3118		
Federal Notifications: EPA, Region VI National Park Service, Intermountain Region NOAA Office of Ocean and Coastal Resource Management – Texas Program Padre Island National Seashore	 (800) 887-6063 (866) 372-7745 (303) 969-2500 (713) 702-0767 (361) 949-8068		
State and Local Notifications: Port of Corpus Christi - Harbormaster Corpus Christi Parks and Recreation Nueces County Parks and Recreation Corpus Christi Department of Consumer Health Protection Texas A&M University, Corpus Christi Flour Bluff School District Corpus Christi Area Oil Spill Control Association Nueces County Coastal Parks	 (361) 885-6152 (361) 826-3464 (361) 387-5904 (361) 826-4415 (361) 825-5700 (361) 694-9800 (361) 221-9317 (361) 949-8121		

* Unless otherwise noted, all numbers are 24-hour

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IMPORTANT: Call the NRC as soon as a reportable spill occurs. *Then* begin completing the form. This form can also be found as Form RED 2.1 and Form ERAP 1.1.3.1.

FORM FRP 1.3.1.2
Spill Response Notification Form
(Do NOT delay spill notification pending collection of all information)

Reporter Information	
Name (Last, First, MI)	
Position	
Daytime Phone	
Evening Phone	
Company	U.S. Navy
Organization Type	Military
Address	NASCC 11001 D Street, Suite 143 Corpus Christi, Texas 78419-5021
Were Materials Discharged?	☒ Yes ☐ No
Confidential?	☐ Yes ☒ No
Meeting Federal Obligations to Report?	☒ Yes ☐ No
Calling for Responsible Party?	☒ Yes ☐ No
Date Called	
Time Called (24-hour time)	
Incident Description	
Source and/or Cause of Incident	
Date of Incident	
Time of Incident (24-hour time)	
Incident Address/Location	
Nearest City	Corpus Christi
State	Texas
County	Nueces
Zip	78419
Distance from City (include units)	Located 8 miles from Corpus Christi, Texas.
Direction from City	Southeast
Section(s)	N/A
Township	N/A
Range	N/A
Borough	N/A
Container Type	
Tank Oil Storage Capacity (include units)	
Facility Oil Storage Capacity (include units)	
Facility Latitude	27° 42’ 30” N
Facility Longitude	97° 17’ 30” W

FORM FRP 1.3.1.2
Spill Response Notification Form
(Do NOT delay spill notification pending collection of all information)

Chemical Hazards Response Information System (CHRIS) Code	☐ GAS (Unleaded Gasoline) ☐ GAT (MOGAS) ☐ GAV (AVGAS) ☐ OHY (Hydraulic Oil) ☐ OMT (Motor Oil) ☐ OTF (Transformer Oil) ☐ OTW (Diesel No. 2 Fuel – F-76) ☐ OTB (Turbine Oil) ☐ ODS (Diesel) ☐ OON (Diesel No. 1 Fuel) ☐ OWA (Waste Oil) ☐ Other: _____
Discharged Quantity (include units)	
Material Discharged in Water?	☐ Yes ☐ No
Quantity Discharged in Water (include units)	
Response Actions	
Actions Taken to Correct, Control or Mitigate Incident	
Impact	
Number of Injuries	
Number of Deaths	
Were there Evacuations?	☐ Yes ☐ No
Number Evacuated	
Was there any Damage?	☐ Yes ☐ No
Damage in Dollars (approximate)	
Medium Affected	
Description	
More Information about the Medium	

FORM FRP 1.3.1.2
Spill Response Notification Form
(Do NOT delay spill notification pending collection of all information)

Additional Information		
Any information about the incident not reported elsewhere in the report		
Caller Notifications		
EPA?	☐ Yes	☐ No
USCG?	☐ Yes	☐ No
State?	☐ Yes	☐ No
Other?	☐ Yes Describe:	☐ No

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FORM FRP 1.8.1.2
Response Equipment Inspection Log

Inspector Name	Date Inspected	Comments

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FORM FRP 1.8.2.1
Notification Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
3. Vessel/Facility/Pipeline/Offshore Facility Initiating Exercise:	
4. Name of Person Notified:	
Is this person identified in your response plan as the qualified individual?	☐ Yes ☐ No
5. Time Initiated:	
Time in which Qualified Individual responded:	
6. Method Used to Contact:	☐ Telephone ☐ Pager ☐ Radio ☐ Other: _____
7. Description of Notification Procedure:	
8. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
Certifying Name:	
Certifying Signature:	
Date:	

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FORM FRP 1.8.2.2
Emergency Procedures Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Location:	
4. Vessel/Barge/Facility Name:	
5. Time Started:	
Time Completed:	
6. Sections of Vessel/Barge/Facility emergency procedures exercised (i.e. response to collision, response to oil spill on deck, response to vessel fire, etc.)?	
7. Description of exercise:	
8. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
9. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

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FORM FRP 1.8.2.3
Incident Management Team Tabletop Exercise Documentation Form

1. Date Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Location of Tabletop:	
4. Time Started:	
Time Completed:	
5. Response Plan Scenario Used:	☐ Average Most Probable Discharge ☐ Maximum Most Probable Discharge ☐ Worst Case Discharge
Size of Simulated Spill (bbls/gals):	_____

6. Describe how the following objectives were exercised:

a. IMT's knowledge of oil-spill response plan:

b. Proper notifications:

c. Communications system:

d. IMT's ability to access contracted oil spill removal organizations:

e. IMT's ability to coordinate spill response with On-Scene Coordinator, state and applicable agencies:

FORM FRP 1.8.2.3
Incident Management Team Tabletop Exercise Documentation Form

f. IMT's ability to access sensitive site and resource information in the ACP:	
7. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
8. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

FORM FRP 1.8.2.4
Equipment Deployment Exercise Documentation Form

1. Date(s) Performed:	
2. Exercise or Actual Response?	☐ Exercise ☐ Actual Response
a. If an exercise, Announced or Unannounced?	☐ Announced ☐ Unannounced
3. Deployment Location(s):	
4. Time Started:	
a. Time OSRO Called:	
b. Time On-Scene:	
c. Time Boom Deployed:	
d. Time Recovery Equipment Arrived On-Scene:	
e. Time Completed:	
5. Equipment deployed was:	☐ Facility-Owned ☐ OSRO-Owned If so, which OSRO: _____ ☐ Both
6. List type and amount of all equipment (for example, boom and skimmers) deployed and number of support personnel employed:	
7. Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested (attach a sketch of equipment deployments and booming strategies):	
8. For deployment of facility-owned equipment, was the amount of equipment deployed at least the amount necessary to respond to your facility's average most probable spill? a. Was the equipment deployed in its intended operating environment?	
9. For deployment of OSRO-owned equipment, was a representative sample (at least 1000 feet of each boom type and at least one of each skimmer type) deployed? a. Was the equipment deployed in its intended operating environment?	

FORM FRP 1.8.2.4
Equipment Deployment Exercise Documentation Form

10. Are all facility personnel that are responsible for response operations involved in a comprehensive training program, and all pollution response equipment involved in a comprehensive maintenance program? a. If so, describe the program? b. Date of last equipment inspection:	
11. Was the equipment deployed by personnel responsible for its deployment in the event of an actual spill?	
12. Was all deployed equipment operational? If not, why not?	
13. Identify which of the 15 core components of your response plan were exercised during this particular exercise:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
14. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

FORM FRP 1.8.2.5
Triennial Exercise Cycle Documentation Form

	Calendar Year												Core Components															
													Notifications	Staff Mobilization	Operate within Response Management System	Source Control	Assessment	Containment	Mitigation	Protection	Disposal	Communications	Transportation	Personnel Support	Equipment Maintenance and Support	Procurement	Documentation
	Quarters				Quarters				Quarters																			
Exercise	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**																
QI Notification																												
Emergency Procedures																												
IMT Exercise																												
Equipment Deployment																												
OSRO Equipment Deployment																												
Gov't-Initiated Unannounced																												
Area Exercise																												

For each quarter in which an exercise was completed, mark that with an "X" ("U" if unannounced) then mark each core component tested during an exercise.

For each year, record the calendar year above the calendar quarters.

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FORM FRP 1.8.3.1
Personnel Response Training Log

1. Date Performed:	
2. Location of Training:	
3. Time Started:	
4. Time Completed:	
5. Instructor(s):	
6. Subject(s) Covered:	
7. Employees in Attendance:	

FORM FRP 1.8.3.1
Personnel Response Training Log

8. Identify which of the 15 core components of your response plan were included in this particular training:	☐ Notifications ☐ Staff Mobilization ☐ Operate within Response Management System ☐ Source Control ☐ Assessment ☐ Containment ☐ Mitigation ☐ Protection ☐ Disposal ☐ Communications ☐ Transportation ☐ Personnel Support ☐ Equipment Maintenance and Support ☐ Procurement ☐ Documentation
9. Attach a description of lesson(s) learned, procedures and schedule for implementation, and person(s) responsible for follow up of corrective measures.	
Certifying Name:	
Certifying Signature:	
Date:	

Appendix K
Notification, Inspection, Drill, Exercise, and Meeting Records

TO BE INSERTED BY NASCC ENVIRONMENTAL

Appendix L
Hazardous Substances

General Discussion on Hazardous Substances handled, stored, and transported at Naval Air Station Corpus Christi (NASCC)

As a naval shore installation that maintains inventory of petroleum, oils, and lubricants (POLs) and hazardous substances, Navy Operations Manual (OPNAV M-) 5090.1D, Section 39-3.2.a(2) requires NASCC to prepare and implement a Spill Contingency Plan for Hazardous Substances. NASCC has implemented a Facility Response Plan/Discharge Prevention Plan (FRP/DPRP) to mitigate impacts from spills or discharges of both petroleum and non-petroleum hazardous substances. OPNAV M-5090.1D requirements and federal regulations (e.g., 40 Code of Federal Regulations [CFR] 112, Subpart D) are located in Sections 1.0 through 4.0 of the FRP/DPRP. Supplemental information for response to non-petroleum hazardous substances may be found in this appendix, as well as Appendices A through K. NASCC's FRP/DPRP contains procedures on responding to spills or discharges of POLs. This appendix contains general procedures for responding to spills or discharges of hazardous substances at the Air Station.

Similar to POL discharges, response to discharges of hazardous substances (i.e., non-POL) can be divided into four stages: discovery, initial response, sustained actions, and follow-up actions. Initial response will be conducted by the Air Station's Fire Department (i.e., the Facility Response Team) with follow-on support from the Incident Management Team and response contractors, if necessary. Overall control and coordination of the Air Station's response will be through the Emergency Operations Center if the event reaches water, requires a significant evacuation, if mutual aid is required, or if coordination is necessary with outside organizations. NASCC's response framework will follow the National Incident Management System Incident Command System described in the main text of the FRP/DPRP. Any response to oil or hazardous substance spills will be conducted in accordance with prescribed safety procedures in place at the Air Station as well as the Occupational Safety and Health Administration's Hazardous Waste Operations and Emergency Response standard.

Upon discovery, a hazardous substance spill will be reported to the Regional Dispatch Center (911). Cell phone callers must inform the dispatcher that they are located at NASCC. If the spill or discharge exceeds the Federal reportable quantity (RQ) described in Table L.2, the National Response Center must be notified at (800) 424-8802 or (202) 267-2675. The Texas Department of Public Safety (DPS) Emergency Oil Spill and Hazardous Substance Reporting Hotline must also be notified at (800) 832-8224. Once notification has been made to the hotline, DPS will determine which state agency has jurisdiction and relay the report. All necessary external notifications will be conducted by the NASCC Environmental Office. Unless otherwise noted below, the Spill Response Notification Form (Form ERAP 1.1.3.1, and Form FRP 1.3.1.2) will be used for reporting discharges of hazardous substances.

Note that any uncontrolled releases of aqueous film forming foam are required to be reported to the chain of command following the same processes as any hazardous substance spill. Refer to Appendix M for instruction on official Naval reporting of Hazardous Substance discharges.

Federal Reporting Procedures

40 CFR 302.6(a) mandates that all onshore facility spills of hazardous substances that equal or exceed the RQ determined in 40 CFR 302.4 (refer to Table L.2, below) in any 24-hour period be immediately reported by NASCC. Additional reporting procedures and exemptions are outlined in 40 CFR 302.6(b) through 40 CFR 302.6(e).

State of Texas and Nueces County Reporting Procedures

In accordance with Texas Water Code Section 26.039 and Subchapter G, Spill Prevention and Control notification must be conducted within 24 hours of release discovery for any release of a hazardous substance in quantity equal to or above the RQ in any 24-hour period. For spills onto land, the RQ aligns with 40 CFR 302.4. For spills into waters of the state, the RQ is equal to the RQs listed in 40 CFR 302.4 except where the RQ is greater than 100 pounds. In that case, the RQ will be will be 100 pounds. Additional written notification procedures are outlined in 30 TAC 327.4. Reporting requirements outlined in 30 TAC 334.75 are pertain to petroleum stored in aboveground storage tanks and is described in Sections 1.0 through 4.0 of the FRP/DPRP.

NASCC is located in Nueces County. Nueces County does not have any more stringent hazardous substance regulations than the State of Texas. The Local Emergency Planning Committee (LEPC) is administered by the City of Corpus Christi and Nueces County who would respond to discharges outside of the NASCC fenceline or if requested by the NASCC EOC. The LEPC may be contacted in the event of a spill at (361) 826-3960.

List of Locations at NASCC that Store Extremely Hazardous Substances (EHS) or Hazardous Substances

Table L.1, below, provides a listing of the facilities and work centers at NASCC that store either EHS or hazardous substances at or above the threshold planning quantity. This information has been gathered from the Calendar Year (CY) 2014 Emergency Planning and Community Right to Know Act, Section 311/312/313 reporting requirements. It should be noted that the inventories and locations described in Table L.1 may change from year-to-year and should be reviewed against source documentation during the annual FRP/DPRP review. The Corpus Christi Army Depot (CCAD) maintains a separate Industrial Solid Waste Management Plan that includes more specific information on the substances maintained at CCAD work centers.

TABLE L.1
Listing of Facilities Storing EHS or Hazardous Substances

Building Number	Substance Stored	Common or Other Name	CAS Number	Maximum Inventory Stored in CY 2014
Extremely Hazardous Substance (EHS)				
8, 9, 47, 49, 340	Nitric Acid	N/A	7697-37-2	19,524 lbs
1745, Flight Line	Halon 1211	N/A	353-59-3	18,450 lbs
8, 340	Sulfuric Acid	N/A	7664-93-9	7,930 lbs
340	Sodium Cyanide	N/A	143-33-9	2,659 lbs
Water Treatment	Chlorine	N/A	7782-50-5	1,800 lbs
27, 42, 50, 56, 57, 58, 82	Hydroxybenzene	Phenol	108-95-2	1,550 lbs
340	Cadmium Oxide	N/A	1306-19-0	1,433 lbs
27, 42, 50, 56, 57, 58	2-Methyl Phenol	O-Cresol	95-48-7	712 lbs
340	Potassium Cyanide	N/A	151-50-8	577 lbs
8, Water Treatment	Ammonia	N/A	7664-41-7	459 lbs
8, 27, 39, 42, 44, 45, 46, 47, 49, 50, 51, 55, 56, 57, 58, 245, 340, 1744, 1800, 1808	Formaldehyde	Formalin	50-00-0	295 lbs
27	Isophorone Diisocyanate	N/A	4098-71-9	142 lbs
Issue Point Code: HDSC15	Cyclohexylamine	N/A	108-91-8	99 lbs
8	Hydrofluoric Acid	N/A	7664-39-3	81 lbs
?	Phosphorous	Phosphorous	7723-14-0	80 lbs
27, 51	Hydrogen Peroxide (conc > 52%)	N/A	7722-84-1	20 lbs
27, 55	Isophorone Diisocyanate-Based Adduct	N/A	53880-05-0	19 lbs
8, 9, 340	Selenious Acid	N/A	7783-00-8	14 lbs
27, 55, 57	Hydrogen Sulfide	Sulfur dioxide	7783-06-4	5 lbs
?	1,4-Benzendiol	Hydroquinone	123-31-9	4 lbs
51, 58	Epichlorohydrin	N/A	106-89-8	1 lb

TABLE L.1
Listing of Facilities Storing EHS or Hazardous Substances

Building Number	Substance Stored	Common or Other Name	CAS Number	Maximum Inventory Stored in CY 2014
Hazardous Substance				
AFFF Systems	Diethylene Glycol Monobutyl Ether	Antifreeze	112-34-5	50,725 lbs
8, 44, 45, 46, 47, 49, 98, 206, 245, 340	Sodium Hydroxide	Caustic soda	1310-73-2	35,577 lbs
18, 27, 42, 50, 51, 55, 57, 255, 1217, 1281, 1744	Ethylbenzene	N/A	100-41-4	22,194 lbs
27, 50, 51, 57, 58	Sodium Nitrite	Chile saltpeter	7632-00-0	20,949 lbs
18, 27, 42, 50, 51, 55, 56, 57, 58, 255	Methyl Ethyl Ketone	M.E.K.	78-93-3	13,828 lbs
27, 50, 51, 58	Nickel	N/A	7440-02-0	13,377 lbs
Wastewater Treatment	Sodium Bisulfite	N/A	7631-90-5	12,773 lbs
18, 27, 42, 50, 51, 55, 56, 57, 58, 82, 255, 1744	Toluene	N/A	108-88-3	12,672 lbs
8, 44, 45, 46, 47, 48, 49, 89, 98, 206, 245, 340, 1700, 1808, 1880	Chromic Acid	N/A	7738-94-5	12,147 lbs
8, 340	Hydrochloric Acid	N/A	7647-01-0	9,017 lbs
N/A	Propylene Glycol Monomethyl Ether Acetate	Antifreeze	108-65-6	8,934 lbs
18, 27, 42, 50, 51, 55, 56, 57, 58, 82, 255, 1217, 1281, 1744	Acetone	N/A	67-64-1	7,000 lbs
18, 27, 42, 50, 51, 55, 56, 57, 58, 255, 1217, 1744, 1846	Butyl Acetate	N/A	123-86-4	6,614 lbs
18, 27, 42, 50, 51, 55, 56, 57, 58, 89, 1217, 1281, 1744	Xylene	N/A	1330-20-7	6,482 lbs
Wastewater Treatment	Sodium Hypochlorite	Bleach	7861-52-9	6,005 lbs
Chemical Plating Shop, 27, 50, 51, 57, 1744	Lead	N/A	7439-92-1	5,902 lbs
8, 27, 45, 50, 51	Copper	N/A	7440-50-8	5,225 lbs
Chemical Plating Shop	Nickel Chloride	N/A	7718-54-9	4,237 lbs
Engine Cleaning	Potassium Permanganate	Permanganate of potash	7722-64-7	3,753 lbs
8, 25, 43, 44, 46, 47, 89, 340, 1700, 1808, 1880	Chromic Acid	N/A	1333-82-0	2,977 lbs
27, 51, 57	Cadmium	N/A	7440-43-9	2,145 lbs
27, 50	Sodium Dichromate	N/A	10588-01-9	1,970 lbs
340	Ammonium Fluoride	N/A	1341-49-7	1,756 lbs
42	Aqua Ammonia	N/A	1336-21-6	1,687 lbs
27, 42, 50, 51, 55, 56, 57, 89	Glycol Butyl Ether	Antifreeze	111-76-2	1,298 lbs
50, 56, 58	Strontium Chromate	Strontium yellow	7789-06-2	915 lbs
27, 51, 56, 57	Propylene Glycol Monomethyl Ether	Antifreeze	107-98-2	850 lbs
27, 42, 58, 82	Diethylene Glycol BIS	Antifreeze	4246-51-9	491 lbs

TABLE L.1
Listing of Facilities Storing EHS or Hazardous Substances

Building Number	Substance Stored	Common or Other Name	CAS Number	Maximum Inventory Stored in CY 2014
8, 49	1,2-Benzenedicarboxylic Acid, BIS(2-Ethylhexyl) Ester	N/A	117-81-7	410 lbs
27, 50, 51, 55	Hexamethylene-1,6-Diisocyanate	N/A	822-06-0	396 lbs
27, 51	Diethanolamine	N/A	111-42-2	258 lbs
27, 55	Propylene Glycol Methyl Ether Propionate	Antifreeze	148462-57-1	252 lbs
27	Polyoxypropylene Glycol	Antifreeze	25322-69-4	209 lbs
8, 49, 82	Propylene Glycol N-Propyl Ether	Antifreeze	1569-01-3	193 lbs
Chemical Plating Shop	Copper Cyanide	N/A	544-92-3	188 lbs
27, 51, 255, 1721, 1744	Ethylene Glycol	Antifreeze	107-21-1	186 lbs
8, 27, 51, 340, 1808, 1880	Diethylene Glycol Monobutylether Acetate	Antifreeze	124-17-4	160 lbs
50, 1281	Ethylene Glycol Mono Propyl Ether	Antifreeze	2807-30-9	151 lbs
27, 42, 50, 51, 55, 89	Dipropylene Glycol Monomethyl Ether	Antifreeze	34590-94-8	143 lbs
Chemical Plating Shop	Silver Cyanide	N/A	506-64-9	97 lbs
27, 55	Ethylene Glycol Ethyl Ether Acetate	Antifreeze	111-15-9	54 lbs
8, 51	Diethylene Glycol Dibenzoate	Antifreeze	120-55-8	49 lbs
27, 58	Diethylene Glycol Butyl Ether	Antifreeze	112-84-5	40 lbs
27, 50, 58	Calcium Chromate	N/A	13765-19-0	37 lbs
8, 45, 46, 47, 48, 49, 206, 245	1,2-Benzenedicarboxylic Acid, Dibutyl Ester	N/A	84742	26 lbs
27, 42, 50, 51, 58, 82, 1744	Hydroperoxide, 1-Methyl-1-Phenylethyl	N/A	80-15-9	20 lbs
8, 44, 45, 46, 47, 49, 89, 1700, 1808, 1880	N-Butyl Glycidyl Ether	Antifreeze	68609-97-2	19 lbs
340	2-Imidazolidinethione	Ethylenethiourea	96-45-7	19 lbs
27	Tetraethylana Glycol Monobutyl Ether	Antifreeze	1559-34-8	2 lbs
27	Tetraethylene Glycol	Antifreeze	112-60-7	1 lb

List of Federal and State of Texas Hazardous Substances and RQs

Table L.2 is reproduced from Table 302.4 – List of Hazardous Substances and Reportable Quantities from 40 CFR 302.4. This table includes materials that are designated as a hazardous substance under Section 102(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. This list shall be used by the Air Station to determine if a release of hazardous substance has exceeded the RQ for Federal, state, and local reporting. Additional information contained in 40 CFR 302.4, but not reproduced in this appendix, include the Chemical Abstracts Service (CAS) Registry Number, statutory code, and Resource Conservation and Recovery Act waste number. Texas' hazardous substance and RQ list duplicates that found in 40 CFR 302.4 except for a spill onto water in the state with an RQ above 100 pounds. In that situation, the RQ will be 100 pounds. If the Federal RQ is below 100 pounds, then the Texas RQ is the same as the Federal RQ.

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
A2213	30558-43-1	5000 (2270)
Acenaphthene	83-32-9	100 (45.4)
Acenaphthylene	208-96-8	5000 (2270)
Acetaldehyde	75-07-0	1000 (454)
Acetaldehyde, chloro-	107-20-0	1000 (454)
Acetaldehyde, trichloro-	75-87-6	5000 (2270)
Acetamide	60-35-5	100 (45.4)
Acetamide, N-(aminothioxomethyl)-	591-08-2	1000 (454)
Acetamide, N-(4-ethoxyphenyl)-	62-44-2	100 (45.4)
Acetamide, N-9H-fluoren-2-yl-	53-96-3	1 (0.454)
Acetamide, 2-fluoro-	640-19-7	100 (45.4)
Acetic acid	64-19-7	5000 (2270)
Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	94-75-7	100 (45.4)
Acetic acid, ethyl ester	141-78-6	5000 (2270)
Acetic acid, fluoro-, sodium salt	62-74-8	10 (4.54)
Acetic acid, lead(2+) salt	301-04-2	10 (4.54)
Acetic acid, thallium(1+) salt	563-68-8	100 (45.4)
Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	1000 (454)
Acetic anhydride	108-24-7	5000 (2270)
Acetone	67-64-1	5000 (2270)
Acetone cyanohydrin	75-86-5	10 (4.54)
Acetonitrile	75-05-8	5000 (2270)
Acetophenone	98-86-2	5000 (2270)
2-Acetylaminofluorene	53-96-3	1 (0.454)
Acetyl bromide	506-96-7	5000 (2270)
Acetyl chloride	75-36-5	5000 (2270)
1-Acetyl-2-thiourea	591-08-2	1000 (454)
Acrolein	107-02-8	1 (0.454)
Acrylamide	79-06-1	5000 (2270)
Acrylic acid	79-10-7	5000 (2270)
Acrylonitrile	107-13-1	100 (45.4)
Adipic acid	124-04-9	5000 (2270)
Aldicarb	116-06-3	1 (0.454)
Aldicarb sulfone	1646-88-4	100 (45.4)
Aldrin	309-00-2	1 (0.454)
Allyl alcohol	107-18-6	100 (45.4)
Allyl chloride	107-05-1	1000 (454)
Aluminum phosphide	20859-73-8	100 (45.4)
Aluminum sulfate	10043-01-3	5000 (2270)
4-Aminobiphenyl	92-67-1	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
5-(Aminomethyl)-3-isoxazolol	2763-96-4	1000 (454)
4-Aminopyridine	504-24-5	1000 (454)
Amitrole	61-82-5	10 (4.54)
Ammonia	7664-41-7	100 (45.4)
Ammonium acetate	631-61-8	5000 (2270)
Ammonium benzoate	1863-63-4	5000 (2270)
Ammonium bicarbonate	1066-33-7	5000 (2270)
Ammonium bichromate	7789-09-5	10 (4.54)
Ammonium bifluoride	1341-49-7	100 (45.4)
Ammonium bisulfilte	10192-30-0	5000 (2270)
Ammonium carbamate	1111-78-0	5000 (2270)
Ammonium carbonate	506-87-6	5000 (2270)
Ammonium chloride	12125-02-9	5000 (2270)
Ammonium chromate	7788-98-9	10 (4.54)
Ammonium citrate, dibasic	3012-65-5	5000 (2270)
Ammonium fluoborate	13826-83-0	5000 (2270)
Ammonium fluoride	12125-01-8	100 (45.4)
Ammonium hydroxide	1336-21-6	1000 (454)
Ammonium oxalate	6009-70-7 5972-73-6 14258-49-2	5000 (2270)
Ammonium picrate	131-74-8	10 (4.54)
Ammonium silicofluoride	16919-19-0	1000 (454)
Ammonium sulfamate	7773-06-0	5000 (2270)
Ammonium sulfide	12135-76-1	100 (45.4)
Ammonium sulfite	10196-04-0	5000 (2270)
Ammonium tartrate	14307-43-8 3164-29-2	5000 (2270)
Ammonium thiocyanate	1762-95-4	5000 (2270)
Ammonium vanadate	7803-55-6	1000 (454)
Amyl acetate	628-63-7	5000 (2270)
iso-Amyl acetate	123-92-2	
sec-Amyl acetate	626-38-0	
tert-Amyl acetate	625-16-1	
Aniline	62-53-3	5000 (2270)
o-Anisidine	90-04-0	100 (45.4)
Anthracene	120-12-7	5000 (2270)
Antimony††	7440-36-0	5000 (2270)
ANTIMONY AND COMPOUNDS	N/A	**
Antimony Compounds	N/A	**
Antimony pentachloride	7647-18-9	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Antimony potassium tartrate	28300-74-5	100 (45.4)
Antimony tribromide	7789-61-9	1000 (454)
Antimony trichloride	10025-91-9	1000 (454)
Antimony trifluoride	7783-56-4	1000 (454)
Antimony trioxide	1309-64-4	1000 (454)
Argentate(1-), bis(cyano-C)-, potassium	506-61-6	1 (0.454)
Aroclor 1016	12674-11-2	1 (0.454)
Aroclor 1221	11104-28-2	1 (0.454)
Aroclor 1232	11141-16-5	1 (0.454)
Aroclor 1242	53469-21-9	1 (0.454)
Aroclor 1248	12672-29-6	1 (0.454)
Aroclor 1254	11097-69-1	1 (0.454)
Aroclor 1260	11096-82-5	1 (0.454)
Aroclors	1336-36-3	1 (0.454)
Arsenic††	7440-38-2	1 (0.454)
Arsenic acid H3AsO4	7778-39-4	1 (0.454)
ARSENIC AND COMPOUNDS	N/A	**
Arsenic Compounds (inorganic including arsine)	N/A	**
Arsenic disulfide	1303-32-8	1 (0.454)
Arsenic oxide As2O3	1327-53-3	1 (0.454)
Arsenic oxide As2O5	1303-28-2	1 (0.454)
Arsenic pentoxide	1303-28-2	1 (0.454)
Arsenic trichloride	7784-34-1	1 (0.454)
Arsenic trioxide	1327-53-3	1 (0.454)
Arsenic trisulfide	1303-33-9	1 (0.454)
Arsine, diethyl-	692-42-2	1 (0.454)
Arsinic acid, dimethyl-	75-60-5	1 (0.454)
Arsonous dichloride, phenyl-	696-28-6	1 (0.454)
Asbestos†††	1332-21-4	1 (0.454)
Auramine	492-80-8	100 (45.4)
Azaserine	115-02-6	1 (0.454)
Aziridine	151-56-4	1 (0.454)
Aziridine, 2-methyl-	75-55-8	1 (0.454)
Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b- hexahydro-8a-methoxy-5- methyl-,[1aS- (1aalpha,8beta,8aalpha, 8balpha)]-	50-07-7	10 (4.54)
Barban	101-27-9	10 (4.54)
Barium cyanide	542-62-1	10 (4.54)
Bendiocarb	22781-23-3	100 (45.4)
Bendiocarb phenol	22961-82-6	1000 (454)
Benomyl	17804-35-2	10 (4.54)
Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5	10 (4.54)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Benz[c]acridine	225-51-4	100 (45.4)
Benzal chloride	98-87-3	5000 (2270)
Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2propynyl)-	23950-58-5	5000 (2270)
Benz[a]anthracene	56-55-3	10 (4.54)
1,2-Benzanthracene	56-55-3	10 (4.54)
Benz[a]anthracene, 7,12-dimethyl-	57-97-6	1 (0.454)
Benzenamine	62-53-3	5000 (2270)
Benzenamine, 4,4'-carbonimidoylbis (N,N dimethyl-	492-80-8	100 (45.4)
Benzenamine, 4-chloro-	106-47-8	1000 (454)
Benzenamine, 4-chloro-2-methyl-, hydrochloride	3165-93-3	100 (45.4)
Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7	10 (4.54)
Benzenamine, 2-methyl-	95-53-4	100 (45.4)
Benzenamine, 4-methyl-	106-49-0	100 (45.4)
Benzenamine, 4,4'-methylenebis [2-chloro-	101-14-4	10 (4.54)
Benzenamine, 2-methyl-,hydrochloride	636-21-5	100 (45.4)
Benzenamine, 2-methyl-5-nitro-	99-55-8	100 (45.4)
Benzenamine, 4-nitro-	100-01-6	5000 (2270)
Benzene [a]	71-43-2	10 (4.54)
Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-, ethyl ester	510-15-6	10 (4.54)
Benzene, 1-bromo-4-phenoxy-	101-55-3	100 (45.4)
Benzenebutanoic acid, 4-[bis(2- chloroethyl)amino]-	305-03-3	10 (4.54)
Benzene, chloro-	108-90-7	100 (45.4)
Benzene, (chloromethyl)-	100-44-7	100 (45.4)
Benzenediamine, ar-methyl-	95-80-7 496-72-0 823-40-5 25376-45-8	10 (4.54)
1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7	100 (45.4)
1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	10 (4.54)
1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	1000 (454)
1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3	5000 (2270)
1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0	5000 (2270)
Benzene, 1,2-dichloro-	95-50-1	100 (45.4)
Benzene, 1,3-dichloro-	541-73-1	100 (45.4)
Benzene, 1,4-dichloro-	106-46-7	100 (45.4)
Benzene, 1,1'-(2,2-dichloroethylidene) bis[4-chloro-	72-54-8	1 (0.454)
Benzene, (dichloromethyl)-	98-87-3	5000 (2270)
Benzene, 1,3-diisocyanatomethyl-	91-08-7 584-84-9 26471-62-5	100 (45.4)
Benzene, dimethyl-	1330-20-7	100 (45.4)
1,3-Benzenediol	108-46-3	5000 (2270)
1,2-Benzenediol,4-[1-hydroxy-2-(methyl amino)ethyl]-	51-43-4	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8	5000 (2270)
Benzene, hexachloro-	118-74-1	10 (4.54)
Benzene, hexahydro-	110-82-7	1000 (454)
Benzene, methyl-	108-88-3	1000 (454)
Benzene, 1-methyl-2,4-dinitro-	121-14-2	10 (4.54)
Benzene, 2-methyl-1,3-dinitro-	606-20-2	100 (45.4)
Benzene, (1-methylethyl)-	98-82-8	5000 (2270)
Benzene, nitro-	98-95-3	1000 (454)
Benzene, pentachloro-	608-93-5	10 (4.54)
Benzene, pentachloronitro-	82-68-8	100 (45.4)
Benzenesulfonic acid chloride	98-09-9	100 (45.4)
Benzenesulfonyl chloride	98-09-9	100 (45.4)
Benzene,1,2,4,5-tetrachloro-	95-94-3	5000 (2270)
Benzenethiol	108-98-5	100 (45.4)
Benzene,1,1'-(2,2,2-trichloroethylidene) bis[4-chloro-	50-29-3	1 (0.454)
Benzene,1,1'-(2,2,2-trichloroethylidene) bis[4-methoxy-	72-43-5	1 (0.454)
Benzene, (trichloromethyl)-	98-07-7	10 (4.54)
Benzene, 1,3,5-trinitro-	99-35-4	10 (4.54)
Benzidine	92-87-5	1 (0.454)
Benzo[a]anthracene	56-55-3	10 (4.54)
1,3-Benzodioxole, 5-(1-propenyl)-1	120-58-1	100 (45.4)
1,3-Benzodioxole, 5-(2-propenyl)-	94-59-7	100 (45.4)
1,3-Benzodioxole, 5-propyl-	94-58-6	10 (4.54)
1,3-Benzodioxol-4-ol, 2,2-dimethyl-	22961-82-6	1000 (454)
1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3	100 (45.4)
Benzo[b]fluoranthene	205-99-2	1 (0.454)
Benzo(k)fluoranthene	207-08-9	5000 (2270)
7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563-38-8	10 (4.54)
7-Benzofuranol, 2,3-dihydro-2,2- dimethyl-, methylcarbamate	1563-66-2	10 (4.54)
Benzoic acid	65-85-0	5000 (2270)
Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)	57-64-7	100 (45.4)
Benzonitrile	100-47-0	5000 (2270)
Benzo[rst]pentaphene	189-55-9	10 (4.54)
Benzo[ghi]perylene	191-24-2	5000 (2270)
2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts	81-81-2	100 (45.4)
Benzo[a]pyrene	50-32-8	1 (0.454)
3,4-Benzopyrene	50-32-8	1 (0.454)
ρ-Benzoquinone	106-51-4	10 (4.54)
Benzotrichloride	98-07-7	10 (4.54)
Benzoyl chloride	98-88-4	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Benzyl chloride	100-44-7	100 (45.4)
Beryllium ††	7440-41-7	10 (4.54)
BERYLLIUM AND COMPOUNDS	N/A	**
Beryllium chloride	7787-47-5	1 (0.454)
Beryllium compounds	N/A	**
Beryllium fluoride	7787-49-7	1 (0.454)
Beryllium nitrate	13597-99-4 7787-55-5	1 (0.454)
Beryllium powder ††	7440-41-7	10 (4.54)
alpha-BHC	319-84-6	10 (4.54)
beta-BHC	319-85-7	1 (0.454)
delta-BHC	319-86-8	1 (0.454)
gamma-BHC	58-89-9	1 (0.454)
2,2′-Bioxirane	1464-53-5	10 (4.54)
Biphenyl	92-52-4	100 (45.4)
[1,1′-Biphenyl]-4,4′-diamine	92-87-5	1 (0.454)
[1,1′-Biphenyl]-4,4′-diamine,3,3′-dichloro-	91-94-1	1 (0.454)
[1,1′-Biphenyl]-4,4′-diamine,3,3′-dimethoxy-	119-90-4	100 (45.4)
[1,1′-Biphenyl]-4,4′-diamine,3,3′-dimethyl-	119-93-7	10 (4.54)
Bis(2-chloroethoxy) methane	111-91-1	1000 (454)
Bis(2-chloroethyl) ether	111-44-4	10 (4.54)
Bis(chloromethyl) ether	542-88-1	10 (4.54)
Bis(2-ethylhexyl) phthalate	117-81-7	100 (45.4)
Bromoacetone	598-31-2	1000 (454)
Bromoform	75-25-2	100 (45.4)
Bromomethane	74-83-9	1000 (454)
4-Bromophenyl phenyl ether	101-55-3	100 (45.4)
Brucine	357-57-3	100 (45.4)
1,3-Butadiene	106-99-0	10 (4.54)
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3	1 (0.454)
1-Butanamine, N-butyl-N-nitroso-	924-16-3	10 (4.54)
1-Butanol	71-36-3	5000 (2270)
2-Butanone	78-93-3	5000 (2270)
2-Butanone, 3,3-dimethyl-1(methylthio)-, O-[(methylamino)carbonyl] oxime	39196-18-4	100 (45.4)
2-Butanone peroxide	1338-23-4	10 (4.54)
2-Butenal	123-73-9 4170-30-3	100 (45.4)
2-Butene, 1,4-dichloro-	764-41-0	1 (0.454)
2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3- methyl-1-oxobutoxy] methyl]-2,3, 5,7a-tetrahydro- 1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z), 7(2S*,3R*),7aalpha]]-	303-34-4	10 (4.54)
Butyl acetate	123-86-4	5000 (2270)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
iso-Butyl acetate	110-19-0	
sec-Butyl acetate	105-46-4	
tert-Butyl acetate	540-88-5	
n-Butyl alcohol	71-36-3	5000 (2270)
Butylamine	109-73-9	1000 (454)
iso-Butylamine	78-81-9	
sec-Butylamine	513-49-5 13952-84-6	
tert-Butylamine	75-64-9	
Butyl benzyl phthalate	85-68-7	100 (45.4)
n-Butyl phthalate	84-74-2	10 (4.54)
Butyric acid	107-92-6	5000 (2270)
iso-Butyric acid	79-31-2	
Cacodylic acid	75-60-5	1 (0.454)
Cadmium ††	7440-43-9	10 (4.54)
Cadmium acetate	543-90-8	10 (4.54)
CADMIUM AND COMPOUNDS	N/A	**
Cadmium bromide	7789-42-6	10 (4.54)
Cadmium chloride	10108-64-2	10 (4.54)
Cadmium compounds	N/A	**
Calcium arsenate	7778-44-1	1 (0.454)
Calcium arsenite	52740-16-6	1 (0.454)
Calcium carbide	75-20-7	10 (4.54)
Calcium chromate	13765-19-0	10 (4.54)
Calcium cyanamide	156-62-7	1000 (454)
Calcium cyanide Ca(CN)2	592-01-8	10 (4.54)
Calcium dodecylbenzenesulfonate	26264-06-2	1000 (454)
Calcium hypochlorite	7778-54-3	10 (4.54)
Captan	133-06-2	10 (4.54)
Carbamic acid, 1H-benzimidazol-2-yl, methyl ester	10605-21-7	10 (4.54)
Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-,methyl ester	17804-35-2	10 (4.54)
Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester	101-27-9	10 (4.54)
Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	55285-14-8	1000 (454)
Carbamic acid, dimethyl-,1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester	644-64-4	1 (0.454)
Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	119-38-0	100 (45.4)
Carbamic acid, ethyl ester	51-79-6	100 (45.4)
Carbamic acid, methyl-, 3-methylphenyl ester	1129-41-5	1000 (454)
Carbamic acid, methylnitroso-, ethyl ester	615-53-2	1 (0.454)
Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester	23564-05-8	10 (4.54)
Carbamic acid, phenyl-, 1-methylethyl ester	122-42-9	1000 (454)
Carbamic chloride, dimethyl-	79-44-7	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters	111-54-6	5000 (2270)
Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2- propenyl) ester	2303-16-4	100 (45.4)
Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5	100 (45.4)
Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-9	5000 (2270)
Carbaryl	63-25-2	100 (45.4)
Carbendazim	10605-21-7	10 (4.54)
Carbofuran	1563-66-2	10 (4.54)
Carbofuran phenol	1563-38-8	10 (4.54)
Carbon disulfide	75-15-0	100 (45.4)
Carbonic acid, dithallium(1+) salt	6533-73-9	100 (45.4)
Carbonic dichloride	75-44-5	10 (4.54)
Carbonic difluoride	353-50-4	1000 (454)
Carbonochloridic acid, methyl ester	79-22-1	1000 (454)
Carbon oxyfluoride	353-50-4	1000 (454)
Carbon tetrachloride	56-23-5	10 (4.54)
Carbonyl sulfide	463-58-1	100 (45.4)
Carbosulfan	55285-14-8	1000 (454)
Catechol	120-80-9	100 (45.4)
Chloral	75-87-6	5000 (2270)
Chloramben	133-90-4	100 (45.4)
Chlorambucil	305-03-3	10 (4.54)
Chlordane	57-74-9	1 (0.454)
Chlordane, alpha & gamma isomers	57-74-9	1 (0.454)
CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)	57-74-9	1 (0.454)
CHLORINATED BENZENES	N/A	**
Chlorinated camphene	8001-35-2	1 (0.454)
CHLORINATED ETHANES	N/A	**
CHLORINATED NAPHTHALENE	N/A	**
CHLORINATED PHENOLS	N/A	**
Chlorine	7782-50-5	10 (4.54)
Chlornaphazine	494-03-1	100 (45.4)
Chloroacetaldehyde	107-20-0	1000 (454)
Chloroacetic acid	79-11-8	100 (45.4)
2-Chloroacetophenone	532-27-4	100 (45.4)
CHLOROALKYL ETHERS	N/A	**
p-Chloroaniline	106-47-8	1000 (454)
Chlorobenzene	108-90-7	100 (45.4)
Chlorobenzilate	510-15-6	10 (4.54)
p-Chloro-m-cresol	59-50-7	5000 (2270)
Chlorodibromomethane	124-48-1	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
1-Chloro-2,3-epoxypropane	106-89-8	100 (45.4)
Chloroethane	75-00-3	100 (45.4)
2-Chloroethyl vinyl ether	110-75-8	1000 (454)
Chloroform	67-66-3	10 (4.54)
Chloromethane	74-87-3	100 (45.4)
Chloromethyl methyl ether	107-30-2	10 (4.54)
beta-Chloronaphthalene	91-58-7	5000 (2270)
2-Chloronaphthalene	91-58-7	5000 (2270)
2-Chlorophenol	95-57-8	100 (45.4)
o-Chlorophenol	95-57-8	100 (45.4)
4-Chlorophenyl phenyl ether	7005-72-3	5000 (2270)
1-(o-Chlorophenyl)thiourea	5344-82-1	100 (45.4)
Chloroprene	126-99-8	100 (45.4)
3-Chloropropionitrile	542-76-7	1000 (454)
Chlorosulfonic acid	7790-94-5	1000 (454)
4-Chloro-o-toluidine, hydrochloride	3165-93-3	100 (45.4)
Chlorpyrifos	2921-88-2	1 (0.454)
Chromic acetate	1066-30-4	1000 (454)
Chromic acid	11115-74-5 7738-94-5	10 (4.54)
Chromic acid H2CrO4, calcium salt	13765-19-0	10 (4.54)
Chromic sulfate	10101-53-8	1000 (454)
Chromium††	7440-47-3	5000 (2270)
CHROMIUM AND COMPOUNDS	N/A	**
Chromium Compounds	N/A	**
Chromous chloride	10049-05-5	1000 (454)
Chrysene	218-01-9	100 (45.4)
Cobalt Compounds	N/A	**
Cobaltous bromide	7789-43-7	1000 (454)
Cobaltous formate	544-18-3	1000 (454)
Cobaltous sulfamate	14017-41-5	1000 (454)
Coke Oven Emissions	N/A	1 (0.454)
Copper††	7440-50-8	5000 (2270)
COPPER AND COMPOUNDS	N/A	**
Copper cyanide Cu(CN)	544-92-3	10 (4.54)
Coumaphos	56-72-4	10 (4.54)
Creosote	N/A	1 (0.454)
Cresol (cresylic acid)	1319-77-3	100 (45.4)
m-Cresol	108-39-4	100 (45.4)
o-Cresol	95-48-7	100 (45.4)
p-Cresol	106-44-5	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Cresols (isomers and mixture)	1319-77-3	100 (45.4)
Cresylic acid (isomers and mixture)	1319-77-3	100 (45.4)
Crotonaldehyde	123-73-9 4170-30-3	100 (45.4)
Cumene	98-82-8	5000 (2270)
m-Cumenyl methylcarbamate	64-00-6	10 (4.54)
Cupric acetate	142-71-2	100 (45.4)
Cupric acetoarsenite	12002-03-8	1 (0.454)
Cupric chloride	7447-39-4	10 (4.54)
Cupric nitrate	3251-23-8	100 (45.4)
Cupric oxalate	5893-66-3	100 (45.4)
Cupric sulfate	7758-98-7	10 (4.54)
Cupric sulfate, ammoniated	10380-29-7	100 (45.4)
Cupric tartrate	815-82-7	100 (45.4)
Cyanide Compounds	N/A	**
CYANIDES	N/A	**
Cyanides (soluble salts and complexes) not otherwise specified	N/A	10 (4.54)
Cyanogen	460-19-5	100 (45.4)
Cyanogen bromide (CN)Br	506-68-3	1000 (454)
Cyanogen chloride (CN)Cl	506-77-4	10 (4.54)
2,5-Cyclohexadiene-1,4-dione	106-51-4	10 (4.54)
Cyclohexane	110-82-7	1000 (454)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α, 2α, 3β-, 4α, 5α, 6β)	58-89-9	1 (0.454)
Cyclohexanone	108-94-1	5000 (2270)
2-Cyclohexyl-4,6-dinitrophenol	131-89-5	100 (45.4)
1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4	10 (4.54)
Cyclophosphamide	50-18-0	10 (4.54)
2,4-D Acid	94-75-7	100 (45.4)
2,4-D Ester	94-11-1 94-79-1 94-80-4 1320-18-9 1928-38-7 1928-61-6 1929-73-3 2971-38-2 25168-26-7 53467-11-1	100 (45.4)
2,4-D, salts and esters	94-75-7	100 (45.4)
Daunomycin	20830-81-3	10 (4.54)
DDD	72-54-8	1 (0.454)
4,4'-DDD	72-54-8	1 (0.454)
DDE [b]	72-55-9	1 (0.454)
DDE [b]	3547-04-4	5000 (2270)
4,4'-DDE	72-55-9	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
DDT	50-29-3	1 (0.454)
4,4'-DDT	50-29-3	1 (0.454)
DDT AND METABOLITES	N/A	**
DEHP	117-81-7	100 (45.4)
Diallate	2303-16-4	100 (45.4)
Diazinon	333-41-5	1 (0.454)
Diazomethane	334-88-3	100 (45.4)
Dibenz[a,h]anthracene	53-70-3	1 (0.454)
1,2:5,6-Dibenzanthracene	53-70-3	1 (0.454)
Dibenzo[a,h]anthracene	53-70-3	1 (0.454)
Dibenzofuran	132-64-9	100 (45.4)
Dibenzo[a,i]pyrene	189-55-9	10 (4.54)
1,2-Dibromo-3-chloropropane	96-12-8	1 (0.454)
Dibromoethane	106-93-4	1 (0.454)
Dibutyl phthalate	84-74-2	10 (4.54)
Di-n-butyl phthalate	84-74-2	10 (4.54)
Dicamba	1918-00-9	1000 (454)
Dichlobenil	1194-65-6	100 (45.4)
Dichlone	117-80-6	1 (0.454)
Dichlorobenzene	25321-22-6	100 (45.4)
1,2-Dichlorobenzene	95-50-1	100 (45.4)
1,3-Dichlorobenzene	541-73-1	100 (45.4)
1,4-Dichlorobenzene	106-46-7	100 (45.4)
m-Dichlorobenzene	541-73-1	100 (45.4)
o-Dichlorobenzene	95-50-1	100 (45.4)
p-Dichlorobenzene	106-46-7	100 (45.4)
DICHLOROBENZIDINE	N/A	**
3,3'-Dichlorobenzidine	91-94-1	1 (0.454)
Dichlorobromomethane	75-27-4	5000 (2270)
1,4-Dichloro-2-butene	764-41-0	1 (0.454)
Dichlorodifluoromethane	75-71-8	5000 (2270)
1,1-Dichloroethane	75-34-3	1000 (454)
1,2-Dichloroethane	107-06-2	100 (45.4)
1,1-Dichloroethylene	75-35-4	100 (45.4)
1,2-Dichloroethylene	156-60-5	1000 (454)
Dichloroethyl ether	111-44-4	10 (4.54)
Dichloroisopropyl ether	108-60-1	1000 (454)
Dichloromethane	75-09-2	1000 (454)
Dichloromethoxyethane	111-91-1	1000 (454)
Dichloromethyl ether	542-88-1	10 (4.54)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
2,4-Dichlorophenol	120-83-2	100 (45.4)
2,6-Dichlorophenol	87-65-0	100 (45.4)
Dichlorophenylarsine	696-28-6	1 (0.454)
Dichloropropane	26638-19-7	1000 (454)
1,1-Dichloropropane	78-99-9	
1,3-Dichloropropane	142-28-9	
1,2-Dichloropropane	78-87-5	1000 (454)
Dichloropropane—Dichloropropene (mixture)	8003-19-8	100 (45.4)
Dichloropropene	26952-23-8	100 (45.4)
2,3-Dichloropropene	78-88-6	
1,3-Dichloropropene	542-75-6	100 (45.4)
2,2-Dichloropropionic acid	75-99-0	5000 (2270)
Dichlorvos	62-73-7	10 (4.54)
Dicofol	115-32-2	10 (4.54)
Dieldrin	60-57-1	1 (0.454)
1,2:3,4-Diepoxybutane	1464-53-5	10 (4.54)
Diethanolamine	111-42-2	100 (45.4)
Diethylamine	109-89-7	100 (45.4)
N,N-Diethylaniline	91-66-7	1000 (454)
Diethylarsine	692-42-2	1 (0.454)
1,4-Diethyleneoxide	123-91-1	100 (45.4)
Diethylene glycol, dicarbamate	5952-26-1	5000 (2270)
Diethylhexyl phthalate	117-81-7	100 (45.4)
N,N'-Diethylhydrazine	1615-80-1	10 (4.54)
O,O-Diethyl S-methyl dithiophosphate	3288-58-2	5000 (2270)
Diethyl-p-nitrophenyl phosphate	311-45-5	100 (45.4)
Diethyl phthalate	84-66-2	1000 (454)
O,O-Diethyl O-pyrazinyl phosphorothioate	297-97-2	100 (45.4)
Diethylstilbestrol	56-53-1	1 (0.454)
Diethyl sulfate	64-67-5	10 (4.54)
Dihydrosafrole	94-58-6	10 (4.54)
Diisopropylfluorophosphate (DFP)	55-91-4	100 (45.4)
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha, 8alpha,8abeta)-	309-00-2	1 (0.454)
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta, 5beta,8beta,8abeta)-	465-73-6	1 (0.454)
2,7:3,6-Dimethanonaphth[2,3- b]oxirene,3,4,5,6,9,9- hexachloro-1a,2,2a,3,6,6a,7,7a- octahydro-,(1aalpha,2beta, 2aalpha,3beta,6beta,6aalpha, 7beta,7aalpha)-	60-57-1	1 (0.454)
2,7:3,6-Dimethanonaphth[2, 3-b]oxirene,3,4,5,6,9,9- hexachloro-1a,2,2a,3,6,6a,7,7a- octahydro-,(1aalpha,2beta, 2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)-, & metabolites	72-20-8	1 (0.454)
Dimethoate	60-51-5	10 (4.54)
3,3'-Dimethoxybenzidine	119-90-4	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Dimethylamine	124-40-3	1000 (454)
Dimethyl aminoazobenzene	60-11-7	10 (4.54)
p-Dimethylaminoazobenzene	60-11-7	10 (4.54)
N,N-Dimethylaniline	121-69-7	100 (45.4)
7,12-Dimethylbenz[a]anthracene	57-97-6	1 (0.454)
3,3'-Dimethylbenzidine	119-93-7	10 (4.54)
alpha,alpha-Dimethylbenzylhydroperoxide	80-15-9	10 (4.54)
Dimethylcarbamoyl chloride	79-44-7	1 (0.454)
Dimethylformamide	68-12-2	100 (45.4)
1,1-Dimethylhydrazine	57-14-7	10 (4.54)
1,2-Dimethylhydrazine	540-73-8	1 (0.454)
alpha,alpha-Dimethylphenethylamine	122-09-8	5000 (2270)
2,4-Dimethylphenol	105-67-9	100 (45.4)
Dimethyl phthalate	131-11-3	5000 (2270)
Dimethyl sulfate	77-78-1	100 (45.4)
Dimetilan	644-64-4	1 (0.454)
Dinitrobenzene (mixed)	25154-54-5	100 (45.4)
m-Dinitrobenzene	99-65-0	
o-Dinitrobenzene	528-29-0	
p-Dinitrobenzene	100-25-4	
4,6-Dinitro-o-cresol, and salts	534-52-1	10 (4.54)
Dinitrophenol	25550-58-7	10 (4.54)
2,5-Dinitrophenol	329-71-5	
2,6-Dinitrophenol	573-56-8	
2,4-Dinitrophenol	51-28-5	10 (4.54)
Dinitrotoluene	25321-14-6	10 (4.54)
3,4-Dinitrotoluene	610-39-9	
2,4-Dinitrotoluene	121-14-2	10 (4.54)
2,6-Dinitrotoluene	606-20-2	100 (45.4)
Dinoseb	88-85-7	1000 (454)
Di-n-octyl phthalate	117-84-0	5000 (2270)
1,4-Dioxane	123-91-1	100 (45.4)
DIPHENYLHYDRAZINE	N/A	**
1,2-Diphenylhydrazine	122-66-7	10 (4.54)
Diphosphoramide, octamethyl-	152-16-9	100 (45.4)
Diphosphoric acid, tetraethyl ester	107-49-3	10 (4.54)
Dipropylamine	142-84-7	5000 (2270)
Di-n-propylnitrosamine	621-64-7	10 (4.54)
Diquat	85-00-7 2764-72-9	1000 (454)
Disulfoton	298-04-4	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Dithiobiuret	541-53-7	100 (45.4)
1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime	26419-73-8	100 (45.4)
Diuron	330-54-1	100 (45.4)
Dodecylbenzenesulfonic acid	27176-87-0	1000 (454)
Endosulfan	115-29-7	1 (0.454)
alpha-Endosulfan	959-98-8	1 (0.454)
beta-Endosulfan	33213-65-9	1 (0.454)
ENDOSULFAN AND METABOLITES	N/A	**
Endosulfan sulfate	1031-07-8	1 (0.454)
Endothall	145-73-3	1000 (454)
Endrin	72-20-8	1 (0.454)
Endrin aldehyde	7421-93-4	1 (0.454)
ENDRIN AND METABOLITES	N/A	**
Endrin, & metabolites	72-20-8	1 (0.454)
Epichlorohydrin	106-89-8	100 (45.4)
Epinephrine	51-43-4	1000 (454)
1,2-Epoxybutane	106-88-7	100 (45.4)
Ethanal	75-07-0	1000 (454)
Ethanamine, N,N-diethyl-	121-44-8	5000 (2270)
Ethanamine, N-ethyl-N-nitroso-	55-18-5	1 (0.454)
1,2-Ethanediamine, N,N-dimethyl-N’-2- pyridinyl-N’-(2- thienylmethyl)-	91-80-5	5000 (2270)
Ethane, 1,2-dibromo-	106-93-4	1 (0.454)
Ethane, 1,1-dichloro-	75-34-3	1000 (454)
Ethane, 1,2-dichloro-	107-06-2	100 (45.4)
Ethanedinitrile	460-19-5	100 (45.4)
Ethane, hexachloro-	67-72-1	100 (45.4)
Ethane, 1,1’-[methylenebis(oxy)]bis[2- chloro-	111-91-1	1000 (454)
Ethane, 1,1’-oxybis-	60-29-7	100 (45.4)
Ethane, 1,1’-oxybis[2-chloro-	111-44-4	10 (4.54)
Ethane, pentachloro-	76-01-7	10 (4.54)
Ethane, 1,1,1,2-tetrachloro-	630-20-6	100 (45.4)
Ethane, 1,1,2,2-tetrachloro-	79-34-5	100 (45.4)
Ethanethioamide	62-55-5	10 (4.54)
Ethane, 1,1,1-trichloro-	71-55-6	1000 (454)
Ethane, 1,1,2-trichloro-	79-00-5	100 (45.4)
Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558-43-1	5000 (2270)
Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester	23135-22-0	100 (45.4)
Ethanimidothioic acid, N-[[(methylamino) carbonyl]oxy]-, methyl ester	16752-77-5	100 (45.4)
Ethanimidothioic acid, N,N'- [thiobis[(methylimino) carbonyloxy]]bis-, dimethyl ester	59669-26-0	100 (45.4)
Ethanol, 2-ethoxy-	110-80-5	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Ethanol, 2,2’-(nitrosoimino)bis-	1116-54-7	1 (0.454)
Ethanol, 2,2'-oxybis-, dicarbamate	5952-26-1	5000 (2270)
Ethanone, 1-phenyl-	98-86-2	5000 (2270)
Ethene, chloro-	75-01-4	1 (0.454)
Ethene, (2-chloroethoxy)-	110-75-8	1000 (454)
Ethene, 1,1-dichloro-	75-35-4	100 (45.4)
Ethene, 1,2-dichloro-(E)	156-60-5	1000 (454)
Ethene, tetrachloro-	127-18-4	100 (45.4)
Ethene, trichloro-	79-01-6	100 (45.4)
Ethion	563-12-2	10 (4.54)
Ethyl acetate	141-78-6	5000 (2270)
Ethyl acrylate	140-88-5	1000 (454)
Ethylbenzene	100-41-4	1000 (454)
Ethyl carbamate	51-79-6	100 (45.4)
Ethyl chloride	75-00-3	100 (45.4)
Ethyl cyanide	107-12-0	10 (4.54)
Ethylenebisdithiocarbamic acid, salts & esters	111-54-6	5000 (2270)
Ethylenediamine	107-15-3	5000 (2270)
Ethylenediamine-tetraacetic acid (EDTA)	60-00-4	5000 (2270)
Ethylene dibromide	106-93-4	1 (0.454)
Ethylene dichloride	107-06-2	100 (45.4)
Ethylene glycol	107-21-1	5000 (2270)
Ethylene glycol monoethyl ether	110-80-5	1000 (454)
Ethylene oxide	75-21-8	10 (4.54)
Ethylenethiourea	96-45-7	10 (4.54)
Ethylenimine	151-56-4	1 (0.454)
Ethyl ether	60-29-7	100 (45.4)
Ethylidene dichloride	75-34-3	1000 (454)
Ethyl methacrylate	97-63-2	1000 (454)
Ethyl methanesulfonate	62-50-0	1 (0.454)
Famphur	52-85-7	1000 (454)
Ferric ammonium citrate	1185-57-5	1000 (454)
Ferric ammonium oxalate	2944-67-4 55488-87-4	1000 (454)
Ferric chloride	7705-08-0	1000 (454)
Ferric fluoride	7783-50-8	100 (45.4)
Ferric nitrate	10421-48-4	1000 (454)
Ferric sulfate	10028-22-5	1000 (454)
Ferrous ammonium sulfate	10045-89-3	1000 (454)
Ferrous chloride	7758-94-3	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Ferrous sulfate	7720-78-7 7782- 63-0	1000 (454)
Fine mineral fibers [c]	N/A	**
Fluoranthene	206-44-0	100 (45.4)
Fluorene	86-73-7	5000 (2270)
Fluorine	7782-41-4	10 (4.54)
Fluoroacetamide	640-19-7	100 (45.4)
Fluoroacetic acid, sodium salt	62-74-8	10 (4.54)
Formaldehyde	50-00-0	100 (45.4)
Formetanate hydrochloride	23422-53-9	100 (45.4)
Formic acid	64-18-6	5000 (2270)
Formparanate	17702-57-7	100 (45.4)
Fulminic acid, mercury(2+)salt	628-86-4	10 (4.54)
Fumaric acid	110-17-8	5000 (2270)
Furan	110-00-9	100 (45.4)
2-Furancarboxaldehyde	98-01-1	5000 (2270)
2,5-Furandione	108-31-6	5000 (2270)
Furan, tetrahydro-	109-99-9	1000 (454)
Furfural	98-01-1	5000 (2270)
Furfuran	110-00-9	100 (45.4)
Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-,D-	18883-66-4	1 (0.454)
D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-	18883-66-4	1 (0.454)
Glycidylaldehyde	765-34-4	10 (4.54)
Glycol ethers [d]	N/A	**
Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7	10 (4.54)
Guthion	86-50-0	1 (0.454)
HALOETHERS	N/A	**
HALOMETHANES	N/A	**
Heptachlor	76-44-8	1 (0.454)
HEPTACHLOR AND METABOLITES	N/A	**
Heptachlor epoxide	1024-57-3	1 (0.454)
Hexachlorobenzene	118-74-1	10 (4.54)
Hexachlorobutadiene	87-68-3	1 (0.454)
HEXACHLOROCYCLOHEXANE (all isomers)	608-73-1	**
Hexachlorocyclopentadiene	77-47-4	10 (4.54)
Hexachloroethane	67-72-1	100 (45.4)
Hexachlorophene	70-30-4	100 (45.4)
Hexachloropropene	1888-71-7	1000 (454)
Hexaethyl tetraphosphate	757-58-4	100 (45.4)
Hexamethylene-1,6-diisocyanate	822-06-0	100 (45.4)
Hexamethylphosphoramide	680-31-9	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Hexane	110-54-3	5000 (2270)
Hexone	108-10-1	5000 (2270)
Hydrazine	302-01-2	1 (0.454)
Hydrazinecarbothioamide	79-19-6	100 (45.4)
Hydrazine, 1,2-diethyl-	1615-80-1	10 (4.54)
Hydrazine, 1,1-dimethyl-	57-14-7	10 (4.54)
Hydrazine, 1,2-dimethyl-	540-73-8	1 (0.454)
Hydrazine, 1,2-diphenyl-	122-66-7	10 (4.54)
Hydrazine, methyl-	60-34-4	10 (4.54)
Hydrochloric acid	7647-01-0	5000 (2270)
Hydrocyanic acid	74-90-8	10 (4.54)
Hydrofluoric acid	7664-39-3	100 (45.4)
Hydrogen chloride	7647-01-0	5000 (2270)
Hydrogen cyanide	74-90-8	10 (4.54)
Hydrogen fluoride	7664-39-3	100 (45.4)
Hydrogen phosphide	7803-51-2	100 (45.4)
Hydrogen sulfide H2S	7783-06-4	100 (45.4)
Hydroperoxide, 1-methyl-1-phenylethyl-	80-15-9	10 (4.54)
Hydroquinone	123-31-9	100 (45.4)
2-Imidazolidinethione	96-45-7	10 (4.54)
Indeno(1,2,3-cd)pyrene	193-39-5	100 (45.4)
Iodomethane	74-88-4	100 (45.4)
1,3-Isobenzofurandione	85-44-9	5000 (2270)
Isobutyl alcohol	78-83-1	5000 (2270)
Isodrin	465-73-6	1 (0.454)
Isolan	119-38-0	100 (45.4)
Isophorone	78-59-1	5000 (2270)
Isoprene	78-79-5	100 (45.4)
Isopropanolamine dodecylbenzenesulfonate	42504-46-1	1000 (454)
3-Isopropylphenyl N-methylcarbamate	64-00-6	10 (4.54)
Isosafrole	120-58-1	100 (45.4)
3(2H)-Isoxazolone, 5-(aminomethyl)-	2763-96-4	1000 (454)
Kepone	143-50-0	1 (0.454)
Lasiocarpine	303-34-4	10 (4.54)
Lead††	7439-92-1	10 (4.54)
Lead acetate	301-04-2	10 (4.54)
LEAD AND COMPOUNDS	N/A	**
Lead arsenate	7784-40-9 7645-25-2 10102-48-4	1 (0.454)
Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6	10 (4.54)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Lead chloride	7758-95-4	10 (4.54)
Lead compounds	N/A	**
Lead fluoborate	13814-96-5	10 (4.54)
Lead fluoride	7783-46-2	10 (4.54)
Lead iodide	10101-63-0	10 (4.54)
Lead nitrate	10099-74-8	10 (4.54)
Lead phosphate	7446-27-7	10 (4.54)
Lead stearate	1072-35-1 7428-48-0 52652-59-2 56189-09-4	10 (4.54)
Lead subacetate	1335-32-6	10 (4.54)
Lead sulfate	7446-14-2 15739-80-7	10 (4.54)
Lead sulfide	1314-87-0	10 (4.54)
Lead thiocyanate	592-87-0	10 (4.54)
Lindane	58-89-9	1 (0.454)
Lindane (all isomers)	58-89-9	1 (0.454)
Lithium chromate	14307-35-8	10 (4.54)
Malathion	121-75-5	100 (45.4)
Maleic acid	110-16-7	5000 (2270)
Maleic anhydride	108-31-6	5000 (2270)
Maleic hydrazide	123-33-1	5000 (2270)
Malononitrile	109-77-3	1000 (454)
Manganese, bis (dimethylcarbamodithioato-S,S')-	15339-36-3	10 (4.54)
Manganese Compounds	N/A	**
Manganese dimethyldithiocarbamate	15339-36-3	10 (4.54)
MDI	101-68-8	5000 (2270)
MEK	78-93-3	5000 (2270)
Melphalan	148-82-3	1 (0.454)
Mercaptodimethur	2032-65-7	10 (4.54)
Mercuric cyanide	592-04-1	1(0.454)
Mercuric nitrate	10045-94-0	10 (4.54)
Mercuric sulfate	7783-35-9	10 (4.54)
Mercuric thiocyanate	592-85-8	10 (4.54)
Mercurous nitrate	10415-75-5	7782-86-7
Mercury	7439-97-6	1 (0.454)
MERCURY AND COMPOUNDS	N/A	**
Mercury, (acetato-O)phenyl-	62-38-4	100 (45.4)
Mercury Compounds	N/A	**
Mercury fulminate	628-86-4	10 (4.54)
Methacrylonitrile	126-98-7	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Methanamine, N-methyl-	124-40-3	1000 (454)
Methanamine, N-methyl-N-nitroso-	62-75-9	10 (4.54)
Methane, bromo-	74-83-9	1000 (454)
Methane, chloro-	74-87-3	100 (45.4)
Methane, chloromethoxy-	107-30-2	10 (4.54)
Methane, dibromo-	74-95-3	1000 (454)
Methane, dichloro-	75-09-2	1000 (454)
Methane, dichlorodifluoro-	75-71-8	5000 (2270)
Methane, iodo-	74-88-4	100 (45.4)
Methane, isocyanato-	624-83-9	10 (4.54)
Methane, oxybis(chloro-	542-88-1	10 (4.54)
Methanesulfenyl chloride, trichloro-	594-42-3	100 (45.4)
Methanesulfonic acid, ethyl ester	62-50-0	1 (0.454)
Methane, tetrachloro-	56-23-5	10 (4.54)
Methane, tetranitro-	509-14-8	10 (4.54)
Methanethiol	74-93-1	100 (45.4)
Methane, tribromo-	75-25-2	100 (45.4)
Methane, trichloro-	67-66-3	10 (4.54)
Methane, trichlorofluoro-	75-69-4	5000 (2270)
Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride	23422-53-9	100 (45.4)
Methanimidamide, N,N-dimethyl-N'-[2-methyl-4- [[(methylamino) carbonyl]oxy]phenyl]-	17702-57-7	100 (45.4)
6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	115-29-7	1 (0.454)
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8	1 (0.454)
4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-—	57-74-9	1 (0.454)
Methanol	67-56-1	5000 (2270)
Methapyrilene	91-80-5	5000 (2270)
1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	143-50-0	1 (0.454)
Methiocarb	2032-65-7	10 (4.54)
Methomyl	16752-77-5	100 (45.4)
Methoxychlor	72-43-5	1 (0.454)
Methyl alcohol	67-56-1	5000 (2270)
2-Methyl aziridine	75-55-8	1 (0.454)
Methyl bromide	74-83-9	1000 (454)
1-Methylbutadiene	504-60-9	100 (45.4)
Methyl chloride	74-87-3	100 (45.4)
Methyl chlorocarbonate	79-22-1	1000 (454)
Methyl chloroform	71-55-6	1000 (454)
3-Methylcholanthrene	56-49-5	10 (4.54)
4,4’-Methylenebis(2-chloroaniline)	101-14-4	10 (4.54)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Methylene bromide	74-95-3	1000 (454)
Methylene chloride	75-09-2	1000 (454)
4,4'-Methylenedianiline	101-77-9	10 (4.54)
Methylene diphenyl diisocyanate	101-68-8	5000 (2270)
Methyl ethyl ketone	78-93-3	5000 (2270)
Methyl ethyl ketone peroxide	1338-23-4	10 (4.54)
Methyl hydrazine	60-34-4	10 (4.54)
Methyl iodide	74-88-4	100 (45.4)
Methyl isobutyl ketone	108-10-1	5000 (2270)
Methyl isocyanate	624-83-9	10 (4.54)
2-Methyllactonitrile	75-86-5	10 (4.54)
Methyl mercaptan	74-93-1	100 (45.4)
Methyl methacrylate	80-62-6	1000 (454)
Methyl parathion	298-00-0	100 (45.4)
4-Methyl-2-pentanone	108-10-1	5000 (2270)
Methyl tert-butyl ether	1634-04-4	1000 (454)
Methylthiouracil	56-04-2	10 (4.54)
Metolcarb	1129-41-5	1000 (454)
Mevinphos	7786-34-7	10 (4.54)
Mexacarbate	315-18-4	1000 (454)
Mitomycin C	50-07-7	10 (4.54)
MNNG	70-25-7	10 (4.54)
Monoethylamine	75-04-7	100 (45.4)
Monomethylamine	74-89-5	100 (45.4)
Naled	300-76-5	10 (4.54)
5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	20830-81-3	10 (4.54)
1-Naphthalenamine	134-32-7	100 (45.4)
2-Naphthalenamine	91-59-8	10 (4.54)
Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1	100 (45.4)
Naphthalene	91-20-3	100 (45.4)
Naphthalene, 2-chloro-	91-58-7	5000 (2270)
1,4-Naphthalenedione	130-15-4	5000 (2270)
2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt	72-57-1	10 (4.54)
1-Naphthalenol, methylcarbamate	63-25-2	100 (45.4)
Naphthenic acid	1338-24-5	100 (45.4)
1,4-Naphthoquinone	130-15-4	5000 (2270)
alpha-Naphthylamine	134-32-7	100 (45.4)
beta-Naphthylamine	91-59-8	10 (4.54)
alpha-Naphthylthiourea	86-88-4	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Nickel††	7440-02-0	100 (45.4)
Nickel ammonium sulfate	15699-18-0	100 (45.4)
NICKEL AND COMPOUNDS	N/A	**
Nickel carbonyl Ni(CO)4, (T-4)-	13463-39-3	10 (4.54)
Nickel chloride	7718-54-9 37211-05-5	100 (45.4)
Nickel compounds	N/A	**
Nickel cyanide Ni(CN)2	557-19-7	10 (4.54)
Nickel hydroxide	12054-48-7	10 (4.54)
Nickel nitrate	14216-75-2	100 (45.4)
Nickel sulfate	7786-81-4	100 (45.4)
Nicotine, & salts	54-11-5	100 (45.4)
Nitric acid	7697-37-2	1000 (454)
Nitric acid, thallium (1+) salt	10102-45-1	100 (45.4)
Nitric oxide	10102-43-9	10 (4.54)
p-Nitroaniline	100-01-6	5000 (2270)
Nitrobenzene	98-95-3	1000 (454)
4-Nitrobiphenyl	92-93-3	10 (4.54)
Nitrogen dioxide	10102-44-0 10544-72-6	10 (4.54)
Nitrogen oxide NO	10102-43-9	10 (4.54)
Nitrogen oxide NO2	10102-44-0 10544-72-6	10 (4.54)
Nitroglycerine	55-63-0	10 (4.54)
Nitrophenol (mixed)	25154-55-6	100 (45.4)
m-Nitrophenol	554-84-7	
o-Nitrophenol	88-75-5	100 (45.4)
p-Nitrophenol	100-02-7	100 (45.4)
2-Nitrophenol	88-75-5	100 (45.4)
4-Nitrophenol	100-02-7	100 (45.4)
NITROPHENOLS	N/A	**
2-Nitropropane	79-46-9	10 (4.54)
NITROSAMINES	N/A	**
N-Nitrosodi-n-butylamine	924-16-3	10 (4.54)
N-Nitrosodiethanolamine	1116-54-7	1 (0.454)
N-Nitrosodiethylamine	55-18-5	1 (0.454)
N-Nitrosodimethylamine	62-75-9	10 (4.54)
N-Nitrosodiphenylamine	86-30-6	100 (45.4)
N-Nitroso-N-ethylurea	759-73-9	1 (0.454)
N-Nitroso-N-methylurea	684-93-5	1 (0.454)
N-Nitroso-N-methylurethane	615-53-2	1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
N-Nitrosomethylvinylamine	4549-40-0	10 (4.54)
N-Nitrosomorpholine	59-89-2	1 (0.454)
N-Nitrosopiperidine	100-75-4	10 (4.54)
N-Nitrosopyrrolidine	930-55-2	1 (0.454)
Nitrotoluene	1321-12-6	1000 (454)
m-Nitrotoluene	99-08-1	
o-Nitrotoluene	88-72-2	
p-Nitrotoluene	99-99-0	
5-Nitro-o-toluidine	99-55-8	100 (45.4)
Octamethylpyrophosphoramide	152-16-9	100 (45.4)
Osmium oxide OsO4, (T-4)-	20816-12-0	1000 (454)
Osmium tetroxide	20816-12-0	1000 (454)
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145-73-3	1000 (454)
Oxamyl	23135-22-0	100 (45.4)
1,2-Oxathiolane, 2,2-dioxide	1120-71-4	10 (4.54)
2H-1,3,2-Oxazaphosphorin-2-amine, N,N- bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0	10 (4.54)
Oxirane	75-21-8	10 (4.54)
Oxiranecarboxyaldehyde	765-34-4	10 (4.54)
Oxirane, (chloromethyl)-	106-89-8	100 (45.4)
Paraformaldehyde	30525-89-4	1000 (454)
Paraldehyde	123-63-7	1000 (454)
Parathion	56-38-2	10 (4.54)
PCBs	1336-36-3	1 (0.454)
PCNB	82-68-8	100 (45.4)
Pentachlorobenzene	608-93-5	10 (4.54)
Pentachloroethane	76-01-7	10 (4.54)
Pentachloronitrobenzene	82-68-8	100 (45.4)
Pentachlorophenol	87-86-5	10 (4.54)
1,3-Pentadiene	504-60-9	100 (45.4)
Perchloroethylene	127-18-4	100 (45.4)
Phenacetin	62-44-2	100 (45.4)
Phenanthrene	85-01-8	5000 (2270)
Phenol	108-95-2	1000 (454)
Phenol, 2-chloro-	95-57-8	100 (45.4)
Phenol, 4-chloro-3-methyl-	59-50-7	5000 (2270)
Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5	100 (45.4)
Phenol, 2,4-dichloro-	120-83-2	100 (45.4)
Phenol, 2,6-dichloro-	87-65-0	100 (45.4)
Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)	56-53-1	1 (0.454)
Phenol, 2,4-dimethyl-	105-67-9	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Phenol, 4-(dimethylamino)-3,5-dimethyl-, 4 methylcarbamate (ester)	315-18-4	1000 (454)
Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-65-7	10 (4.54)
Phenol, 2,4-dinitro-	51-28-5	10 (4.54)
Phenol, methyl-	1319-77-3	100 (45.4)
Phenol, 2-methyl-4,6-dinitro-, & salts	534-52-1	10 (4.54)
Phenol, 2,2'-methylenebis[3,4,6- trichloro-	70-30-4	100 (45.4)
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	100 (45.4)
Phenol, 3-(1-methylethyl)-, methyl carbamate	64-00-6	10 (4.54)
Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate	2631-37-0	1000 (454)
Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7	1000 (454)
Phenol, 4-nitro-	100-02-7	100 (45.4)
Phenol, pentachloro-	87-86-5	10 (4.54)
Phenol, 2,3,4,6-tetrachloro-	58-90-2	10 (4.54)
Phenol, 2,4,5-trichloro-	95-95-4	10 (4.54)
Phenol, 2,4,6-trichloro-	88-06-2	10 (4.54)
Phenol, 2,4,6-trinitro-, ammonium salt	131-74-8	10 (4.54)
L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-	148-82-3	1 (0.454)
p-Phenylenediamine	106-50-3	5000 (2270)
Phenylmercury acetate	62-38-4	100 (45.4)
Phenylthiourea	103-85-5	100 (45.4)
Phorate	298-02-2	10 (4.54)
Phosgene	75-44-5	10 (4.54)
Phosphine	7803-51-2	100 (45.4)
Phosphoric acid	7664-38-2	5000 (2270)
Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5	100 (45.4)
Phosphoric acid, lead(2+) salt (2:3)	7446-27-7	10 (4.54)
Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	298-04-4	1 (0.454)
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298-02-2	10 (4.54)
Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2	5000 (2270)
Phosphorodithioic acid, O,O-dimethyl S-[2(methylamino)-2-oxoethyl] ester	60-51-5	10 (4.54)
Phosphorofluoridic acid, bis(1-methylethyl) ester	55-91-4	100 (45.4)
Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	56-38-2	10 (4.54)
Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2	100 (45.4)
Phosphorothioic acid, O-[4-[(dimethylamino) sulfonyl]phenyl] O,O-dimethyl ester	52-85-7	1000 (454)
Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	298-00-0	100 (45.4)
Phosphorus	7723-14-0	1 (0.454)
Phosphorus oxychloride	10025-87-3	1000 (454)
Phosphorus pentasulfide	1314-80-3	100 (45.4)
Phosphorus sulfide	1314-80-3	100 (45.4)
Phosphorus trichloride	7719-12-2	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Physostigmine	57-47-6	100 (45.4)
Physostigmine salicylate	57-64-7	100 (45.4)
PHTHALATE ESTERS	N/A	**
Phthalic anhydride	85-44-9	5000 (2270)
2-Picoline	109-06-8	5000 (2270)
Piperidine, 1-nitroso-	100-75-4	10 (4.54)
Plumbane, tetraethyl-	78-00-2	10 (4.54)
POLYCHLORINATED BIPHENYLS	1336-36-3	1 (0.454)
Polycyclic Organic Matter [e]	N/A	**
POLYNUCLEAR AROMATIC HYDROCARBONS	N/A	**
Potassium arsenate	7784-41-0	1 (0.454)
Potassium arsenite	10124-50-2	1 (0.454)
Potassium bichromate	7778-50-9	10 (4.54)
Potassium chromate	7789-00-6	10 (4.54)
Potassium cyanide K(CN)	151-50-8	10 (4.54)
Potassium hydroxide	1310-58-3	1000 (454)
Potassium permanganate	7722-64-7	100 (45.4)
Potassium silver cyanide	506-61-6	1 (0.454)
Promecarb	2631-37-0	1000 (454)
Pronamide	23950-58-5	5000 (2270)
Propanal, 2-methyl-2-(methyl- sulfonyl)-, O-[(methylamino)carbonyl] oxime	1646-88-4	100 (45.4)
Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	116-06-3	1 (0.454)
1-Propanamine	107-10-8	5000 (2270)
1-Propanamine, N-propyl-	142-84-7	5000 (2270)
1-Propanamine, N-nitroso-N-propyl-	621-64-7	10 (4.54)
Propane, 1,2-dibromo-3-chloro-	96-12-8	1 (0.454)
Propane, 1,2-dichloro-	78-87-5	1000 (454)
Propanedinitrile	109-77-3	1000 (454)
Propanenitrile	107-12-0	10 (4.54)
Propanenitrile, 3-chloro-	542-76-7	1000 (454)
Propanenitrile, 2-hydroxy-2-methyl-	75-86-5	10 (4.54)
Propane, 2-nitro-	79-46-9	10 (4.54)
Propane, 2,2'-oxybis[2-chloro-	108-60-1	1000 (454)
1,3-Propane sultone	1120-71-4	10 (4.54)
1,2,3-Propanetriol, trinitrate	55-63-0	10 (4.54)
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1	100 (45.4)
1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	10 (4.54)
1-Propanol, 2-methyl-	78-83-1	5000 (2270)
2-Propanone	67-64-1	5000 (2270)
2-Propanone, 1-bromo-	598-31-2	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Propargite	2312-35-8	10 (4.54)
Propargyl alcohol	107-19-7	1000 (454)
2-Propenal	107-02-8	1 (0.454)
2-Propenamide	79-06-1	5000 (2270)
1-Propene, 1,3-dichloro-	542-75-6	100 (45.4)
1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7	1000 (454)
2-Propenenitrile	107-13-1	100 (45.4)
2-Propenenitrile, 2-methyl-	126-98-7	1000 (454)
2-Propenoic acid	79-10-7	5000 (2270)
2-Propenoic acid, ethyl ester	140-88-5	1000 (454)
2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	1000 (454)
2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	1000 (454)
2-Propen-1-ol	107-18-6	100 (45.4)
Propham	122-42-9	1000 (454)
beta-Propiolactone	57-57-8	10 (4.54)
Propionaldehyde	123-38-6	
Propionic acid	79-09-4	5000 (2270)
Propionic anhydride	123-62-6	5000 (2270)
Propoxur (Baygon)	114-26-1	100 (45.4)
n-Propylamine	107-10-8	5000 (2270)
Propylene dichloride	78-87-5	1000 (454)
Propylene oxide	75-56-9	100 (45.4)
1,2-Propylenimine	75-55-8	1 (0.454)
2-Propyn-1-ol	107-19-7	1000 (454)
Prosulfocarb	52888-80-9	5000 (2270)
Pyrene	129-00-0	5000 (2270)
Pyrethrins	121-29-9 121-21-1 8003-34-7	1 (0.454)
3,6-Pyridazinedione, 1,2-dihydro-	123-33-1	5000 (2270)
4-Pyridinamine	504-24-5	1000 (454)
Pyridine	110-86-1	1000 (454)
Pyridine, 2-methyl-	109-06-8	5000 (2270)
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts	54-11-5	100 (45.4)
2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]-	66-75-1	10 (4.54)
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56-04-2	10 (4.54)
Pyrrolidine, 1-nitroso-	930-55-2	1 (0.454)
Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a- hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6	100 (45.4)
Quinoline	91-22-5	5000 (2270)
Quinone	106-51-4	10 (4.54)
Quintobenzene	82-68-8	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Radionuclides (including radon)	N/A	§
Reserpine	50-55-5	5000 (2270)
Resorcinol	108-46-3	5000 (2270)
Safrole	94-59-7	100 (45.4)
Selenious acid	7783-00-8	10 (4.54)
Selenious acid, dithallium (1+) salt	12039-52-0	1000 (454)
Selenium††	7782-49-2	100 (45.4)
SELENIUM AND COMPOUNDS	N/A	**
Selenium Compounds	N/A	**
Selenium dioxide	7446-08-4	10 (4.54)
Selenium oxide	7446-08-4	10 (4.54)
Selenium sulfide SeS2	7488-56-4	10 (4.54)
Selenourea	630-10-4	1000 (454)
L-Serine, diazoacetate (ester)	115-02-6	1 (0.454)
Silver††	7440-22-4	1000 (454)
SILVER AND COMPOUNDS	N/A	**
Silver cyanide Ag(CN)	506-64-9	1 (0.454)
Silver nitrate	7761-88-8	1 (0.454)
Silvex (2,4,5-TP)	93-72-1	100 (45.4)
Sodium	7440-23-5	10 (4.54)
Sodium arsenate	7631-89-2	1 (0.454)
Sodium arsenite	7784-46-5	1 (0.454)
Sodium azide	26628-22-8	1000 (454)
Sodium bichromate	10588-01-9	10 (4.54)
Sodium bifluoride	1333-83-1	100 (45.4)
Sodium bisulfite	7631-90-5	5000 (2270)
Sodium chromate	7775-11-3	10 (4.54)
Sodium cyanide Na(CN)	143-33-9	10 (4.54)
Sodium dodecylbenzenesulfonate	25155-30-0	1000 (454)
Sodium fluoride	7681-49-4	1000 (454)
Sodium hydrosulfide	16721-80-5	5000 (2270)
Sodium hydroxide	1310-73-2	1000 (454)
Sodium hypochlorite	7681-52-9 10022-70-5	100 (45.4)
Sodium methylate	124-41-4	1000 (454)
Sodium nitrite	7632-00-0	100 (45.4)
Sodium phosphate, dibasic	7558-79-4 10039-32-4 10140-65-5	5000 (2270)
Sodium phosphate, tribasic	7601-54-9 10101-89-0 10361-89-4	5000 (2270)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Sodium selenite	7782-82-3 10102-18-8	100 (45.4)
Streptozotocin	18883-66-4	1 (0.454)
Strontium chromate	7789-06-2	10 (4.54)
Strychnidin-10-one, & salts	57-24-9	10 (4.54)
Strychnidin-10-one, 2,3-dimethoxy-	357-57-3	100 (45.4)
Strychnine, & salts	57-24-9	10 (4.54)
Styrene	100-42-5	1000 (454)
Styrene oxide	96-09-3	100 (45.4)
Sulfuric acid	7664-93-9 8014-95-7	1000 (454)
Sulfuric acid, dimethyl ester	77-78-1	100 (45.4)
Sulfuric acid, dithallium (1+) salt	7446-18-6 10031-59-1	100 (45.4)
Sulfur monochloride	12771-08-3	1000 (454)
Sulfur phosphide	1314-80-3	100 (45.4)
2,4,5-T	93-76-5	1000 (454)
2,4,5-T acid	93-76-5	1000 (454)
2,4,5-T amines	2008-46-0 1319-72-8 3813-14-7 6369-96-6 6369-97-7	5000 (2270)
2,4,5-T esters	93-79-8 1928-47-8 2545-59-7 25168-15-4 61792-07-2	1000 (454)
2,4,5-T salts	13560-99-1	1000 (454)
TCDD	1746-01-6	1 (0.454)
TDE	72-54-8	1 (0.454)
1,2,4,5-Tetrachlorobenzene	95-94-3	5000 (2270)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	1 (0.454)
1,1,1,2-Tetrachloroethane	630-20-6	100 (45.4)
1,1,2,2-Tetrachloroethane	79-34-5	100 (45.4)
Tetrachloroethylene	127-18-4	100 (45.4)
2,3,4,6-Tetrachlorophenol	58-90-2	10 (4.54)
Tetraethyl pyrophosphate	107-49-3	10 (4.54)
Tetraethyl lead	78-00-2	10 (4.54)
Tetraethyldithiopyrophosphate	3689-24-5	100 (45.4)
Tetrahydrofuran	109-99-9	1000 (454)
Tetranitromethane	509-14-8	10 (4.54)
Tetraphosphoric acid, hexaethyl ester	757-58-4	100 (45.4)
Thallic oxide	1314-32-5	100 (45.4)
Thallium††	7440-28-0	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
THALLIUM AND COMPOUNDS	N/A	**
Thallium (I) acetate	563-68-8	100 (45.4)
Thallium (I) carbonate	6533-73-9	100 (45.4)
Thallium chloride TlCl	7791-12-0	100 (45.4)
Thallium (I) nitrate	10102-45-1	100 (45.4)
Thallium oxide Tl2O3	1314-32-5	100 (45.4)
Thallium (I) selenite	12039-52-0	1000 (454)
Thallium (I) sulfate	7446-18-6 10031-59-1	100 (45.4)
Thioacetamide	62-55-5	10 (4.54)
Thiodicarb	59669-26-0	100 (45.4)
Thiodiphosphoric acid, tetraethyl ester	3689-24-5	100 (45.4)
Thiofanox	39196-18-4	100 (45.4)
Thioimidodicarbonic diamide [(H2N)C(S)] 2NH	541-53-7	100 (45.4)
Thiomethanol	74-93-1	100 (45.4)
Thioperoxydicarbonic diamide [(H2N)C(S)] 2S2, tetramethyl-	137-26-8	10 (4.54)
Thiophanate-methyl	23564-05-8	10 (4.54)
Thiophenol	108-98-5	100 (45.4)
Thiosemicarbazide	79-19-6	100 (45.4)
Thiourea	62-56-6	10 (4.54)
Thiourea, (2-chlorophenyl)-	5344-82-1	100 (45.4)
Thiourea, 1-naphthalenyl-	86-88-4	100 (45.4)
Thiourea, phenyl-	103-85-5	100 (45.4)
Thiram	137-26-8	10 (4.54)
Tirpate	26419-73-8	100 (45.4)
Titanium tetrachloride	7550-45-0	1,2,41000 (454)
Toluene	108-88-3	1000 (454)
Toluenediamine	95-80-7 496-72-0 823-40-5 25376-45-8	10 (4.54)
2,4-Toluene diamine	95-80-7 496-72-0 823-40-5 25376-45-8	10 (4.54)
Toluene diisocyanate	91-08-7 584-84-9 26471-62-5	100 (45.4)
2,4-Toluene diisocyanate	91-08-7 584-84-9 26471-62-5	100 (45.4)
o-Toluidine	95-53-4	100 (45.4)
p-Toluidine	106-49-0	100 (45.4)
o-Toluidine hydrochloride	636-21-5	100 (45.4)
Toxaphene	8001-35-2	1 (0.454)
2,4,5-TP acid	93-72-1	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
2,4,5-TP esters	32534-95-5	100 (45.4)
Triallate	2303-17-5	100 (45.4)
1H-1,2,4-Triazol-3-amine	61-82-5	10 (4.54)
Trichlorfon	52-68-6	100 (45.4)
1,2,4-Trichlorobenzene	120-82-1	100 (45.4)
1,1,1-Trichloroethane	71-55-6	1000 (454)
1,1,2-Trichloroethane	79-00-5	100 (45.4)
Trichloroethylene	79-01-6	100 (45.4)
Trichloromethanesulfenyl chloride	594-42-3	100 (45.4)
Trichloromonofluoromethane	75-69-4	5000 (2270)
Trichlorophenol	25167-82-2	10 (4.54)
2,3,4-Trichlorophenol	15950-66-0	
2,3,5-Trichlorophenol	933-78-8	
2,3,6-Trichlorophenol	933-75-5	
3,4,5-Trichlorophenol	609-19-8	
2,4,5-Trichlorophenol	95-95-4	10 (4.54)
2,4,6-Trichlorophenol	88-06-2	10 (4.54)
Triethanolamine dodecylbenzenesulfonate	27323-41-7	1000 (454)
Triethylamine	121-44-8	5000 (2270)
Trifluralin	1582-09-8	10 (4.54)
Trimethylamine	75-50-3	100 (45.4)
2,2,4-Trimethylpentane	540-84-1	1000 (454)
1,3,5-Trinitrobenzene	99-35-4	10 (4.54)
1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	1000 (454)
Tris(2,3-dibromopropyl) phosphate	126-72-7	10 (4.54)
Trypan blue	72-57-1	10 (4.54)
Unlisted Hazardous Wastes Characteristic of Corrosivity	N/A	100 (45.4)
Unlisted Hazardous Wastes Characteristic of Ignitability	N/A	100 (45.4)
Unlisted Hazardous Wastes Characteristic of Reactivity	N/A	100 (45.4)
Unlisted Hazardous Wastes Characteristic of Toxicity:	N/A	
Arsenic (D004)	N/A	1 (0.454)
Barium (D005)	N/A	1000 (454)
Benzene (D018)	N/A	10 (4.54)
Cadmium (D006)	N/A	10 (4.54)
Carbon tetrachloride (D019)	N/A	10 (4.54)
Chlordane (D020)	N/A	1 (0.454)
Chlorobenzene (D021)	N/A	100 (45.4)
Chloroform (D022)	N/A	10 (4.54)
Chromium (D007)	N/A	10 (4.54)
o-Cresol (D023)	N/A	100 (45.4)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
m-Cresol (D024)	N/A	100 (45.4)
p-Cresol (D025)	N/A	100 (45.4)
Cresol (D026)	N/A	100 (45.4)
2,4-D (D016)	N/A	100 (45.4)
1,4-Dichlorobenzene (D027)	N/A	100 (45.4)
1,2-Dichloroethane (D028)	N/A	100 (45.4)
1,1-Dichloroethylene (D029)	N/A	100 (45.4)
2,4-Dinitrotoluene (D030)	N/A	10 (4.54)
Endrin (D012)	N/A	1 (0.454)
Heptachlor (and epoxide) (D031)	N/A	1 (0.454)
Hexachlorobenzene (D032)	N/A	10 (4.54)
Hexachlorobutadiene (D033)	N/A	1 (0.454)
Hexachloroethane (D034)	N/A	100 (45.4)
Lead (D008)	N/A	10 (4.54)
Lindane (D013)	N/A	1 (0.454)
Mercury (D009)	N/A	1 (0.454)
Methoxychlor (D014)	N/A	1 (0.454)
Methyl ethyl ketone (D035)	N/A	5000 (2270)
Nitrobenzene (D036)	N/A	1000 (454)
Pentachlorophenol (D037)	N/A	10 (4.54)
Pyridine (D038)	N/A	1000 (454)
Selenium (D010)	N/A	10 (4.54)
Silver (D011)	N/A	1 (0.454)
Tetrachloroethylene (D039)	N/A	100 (45.4)
Toxaphene (D015)	N/A	1 (0.454)
Trichloroethylene (D040)	N/A	100 (45.4)
2,4,5-Trichlorophenol (D041)	N/A	10 (4.54)
2,4,6-Trichlorophenol (D042)	N/A	10 (4.54)
2,4,5-TP (D017)	N/A	100 (45.4)
Vinyl chloride (D043)	N/A	1 (0.454)
Uracil mustard	66-75-1	10 (4.54)
Uranyl acetate	541-09-3	100 (45.4)
Uranyl nitrate	10102-06-4 36478-76-9	100 (45.4)
Urea, N-ethyl-N-nitroso-	759-73-9	1 (0.454)
Urea, N-methyl-N-nitroso-	684-93-5	1 (0.454)
Urethane	51-79-6	100 (45.4)
Vanadic acid, ammonium salt	7803-55-6	1000 (454)
Vanadium oxide V2O5	1314-62-1	1000 (454)
Vanadium pentoxide	1314-62-1	1000 (454)
Vanadyl sulfate	27774-13-6	1000 (454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Vinyl acetate	108-05-4	5000 (2270)
Vinyl acetate monomer	108-05-4	5000 (2270)
Vinylamine, N-methyl-N-nitroso-	4549-40-0	10 (4.54)
Vinyl bromide	593-60-2	100 (45.4)
Vinyl chloride	75-01-4	1 (0.454)
Vinylidene chloride	75-35-4	100 (45.4)
Warfarin, & salts	81-81-2	100 (45.4)
Xylene	1330-20-7	100 (45.4)
m-Xylene	108-38-3	1000 (454)
o-Xylene	95-47-6	1000 (454)
p-Xylene	106-42-3	100 (45.4)
Xylene (mixed)	1330-20-7	100 (45.4)
Xylenes (isomers and mixture)	1330-20-7	100 (45.4)
Xylenol	1300-71-6	1000 (454)
Yohimban-16-carboxylic acid,11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester (3beta,16beta,17alpha, 18beta,20alpha)	50-55-54	5000 (2270)
Zinc††	7440-66-6	1000 (454)
ZINC AND COMPOUNDS	N/A	**
Zinc acetate	557-34-6	1000 (454)
Zinc ammonium chloride	52628-25-8 14639-97-5 14639-98-6	1000 (454)
Zinc, bis(dimethylcarbamodithioato-S,S')-	137-30-4	10 (4.54)
Zinc borate	1332-07-6	1000 (454)
Zinc bromide	7699-45-8	1000 (454)
Zinc carbonate	3486-35-9	1000 (454)
Zinc chloride	7646-85-7	1000 (454)
Zinc cyanide Zn(CN)2	557-21-1	10 (4.54)
Zinc fluoride	7783-49-5	1000 (454)
Zinc formate	557-41-5	1000 (454)
Zinc hydrosulfite	7779-86-4	1000 (454)
Zinc nitrate	7779-88-6	1000 (454)
Zinc phenolsulfonate	127-82-2	5000 (2270)
Zinc phosphide Zn3P2	1314-84-7	100 (45.4)
Zinc silicofluoride	16871-71-9	5000 (2270)
Zinc sulfate	7733-02-0	1000 (454)
Ziram	137-30-4	10 (4.54)
Zirconium nitrate	13746-89-9	5000 (2270)
Zirconium potassium fluoride	16923-95-8	1000 (454)
Zirconium sulfate	14644-61-2	5000 (2270)
Zirconium tetrachloride	10026-11-6	5000 (2270)

TABLE L.2

Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
F001		10 (4.54)
The following spent halogenated solvents used in degreasing; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the halogenated solvents listed below or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.		
(a) Tetrachloroethylene	127-18-4	100 (45.4)
(b) Trichloroethylene	79-01-6	100 (45.4)
(c) Methylene chloride	75-09-2	1000 (454)
(d) 1,1,1-Trichloroethane	71-55-6	1000 (454)
(e) Carbon tetrachloride	56-23-5	10 (4.54)
(f) Chlorinated fluorocarbons	N/A	5000 (2270)
F002		10 (4.54)
The following spent halogenated solvents; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the halogenated solvents listed below or those solvents listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.		
(a) Tetrachloroethylene	127-18-4	100 (45.4)
(b) Methylene chloride	75-09-2	1000 (454)
(c) Trichloroethylene	79-01-6	100 (45.4)
(d) 1,1,1-Trichloroethane	71-55-6	1000 (454)
(e) Chlorobenzene	108-90-7	100 (45.4)
(f) 1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5000 (2270)
(g) o-Dichlorobenzene	95-50-1	100 (45.4)
(h) Trichlorofluoromethane	75-69-4	5000 (2270)
(i) 1,1,2-Trichloroethane	79-00-5	100 (45.4)
F003		100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents.		
(a) Xylene	1330-20-7	1000 (454)
(b) Acetone	67-64-1	5000 (2270)
(c) Ethyl acetate	141-78-6	5000 (2270)
(d) Ethylbenzene	100-41-4	1000 (454)
(e) Ethyl ether	60-29-7	100 (45.4)
(f) Methyl isobutyl ketone	108-10-1	5000 (2270)
(g) n-Butyl alcohol	71-36-3	5000 (2270)
(h) Cyclohexanone	108-94-1	5000 (2270)
(i) Methanol	67-56-1	5000 (2270)
F004		100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:		
(a) Cresols/Cresylic acid	1319-77-3	100 (45.4)
(b) Nitrobenzene	98-95-3	1000 (454)
F005		100 (45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:		
(a) Toluene	108-88-3	1000 (454)
(b) Methyl ethyl ketone	78-93-3	5000 (2270)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
(c) Carbon disulfide	75-15-0	100 (45.4)
(d) Isobutanol	78-83-1	5000 (2270)
(e) Pyridine	110-86-1	1000 (454)
F006		10 (4.54)
Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum, (2) tin plating on carbon steel, (3) zinc plating (segregated basis) on carbon steel, (4) aluminum or zinc-aluminum plating on carbon steel, (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel, and (6) chemical etching and milling of aluminum.		
F007		10 (4.54)
Spent cyanide plating bath solutions from electroplating operations.		
F008		10 (4.54)
Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.		
F009		10 (4.54)
Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.		
F010		10 (4.54)
Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.		
F011		10 (4.54)
Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.		
F012		10 (4.54)
Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.		
F019		10 (4.54)
Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in §258.40, §264.301 or §265.301. For the purposes of this listing, motor vehicle manufacturing is defined in §261.31(b)(4)(i) and §261.31(b)(4)(ii) describes the recordkeeping requirements for motor vehicle manufacturing facilities		
F020		1 (0.454)
Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.)		
F021		1 (0.454)
Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol or of intermediates used to produce its derivatives.		
F022		1 (0.454)
Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.		
F023		1 (0.454)
Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or a component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.)		
F024		1 (0.454)

TABLE L.2

Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in 40 CFR 261.31 or 261.32.)		
F025		1 (0.454)
Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.		
F026		1 (0.454)
Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.		
F027		1 (0.454)
Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5- trichlorophenol as the sole component.)		
F028		1 (0.454)
Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.		
F032		1 (0.454)
Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.		
F034		1 (0.454)
Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.		
F035		1 (0.454)
Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.		
F037		1 (0.454)
Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under §261.4(a)(12)(i), if those residuals are to be disposed of.		
F038		1 (0.454)
Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.		

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
F039		1 (0.454)
Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of 40 CFR part 261. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other hazardous wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.)		
K001		1 (0.454)
Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.		
K002		10 (4.54)
Wastewater treatment sludge from the production of chrome yellow and orange pigments.		
K003		10 (4.54)
Wastewater treatment sludge from the production of molybdate orange pigments.		
K004		10 (4.54)
Wastewater treatment sludge from the production of zinc yellow pigments.		
K005		10 (4.54)
Wastewater treatment sludge from the production of chrome green pigments.		
K006		10 (4.54)
Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).		
K007		10 (4.54)
Wastewater treatment sludge from the production of iron blue pigments.		
K008		10 (4.54)
Oven residue from the production of chrome oxide green pigments.		
K009		10 (4.54)
Distillation bottoms from the production of acetaldehyde from ethylene.		
K010		10 (4.54)
Distillation side cuts from the production of acetaldehyde from ethylene.		
K011		10 (4.54)
Bottom stream from the wastewater stripper in the production of acrylonitrile.		
K013		10 (4.54)
Bottom stream from the acetonitrile column in the production of acrylonitrile.		
K014		5000 (2270)
Bottoms from the acetonitrile purification column in the production of acrylonitrile.		
K015		10 (4.54)
Still bottoms from the distillation of benzyl chloride.		
K016		1 (0.454)
Heavy ends or distillation residues from the production of carbon tetrachloride.		
K017		10 (4.54)
Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.		
K018		1 (0.454)
Heavy ends from the fractionation column in ethyl chloride production.		
K019		1 (0.454)
Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.		

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
K020		1 (0.454)
Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.		
K021		10 (4.54)
Aqueous spent antimony catalyst waste from fluoromethanes production.		
K022		1 (0.454)
Distillation bottom tars from the production of phenol/acetone from cumene.		
K023		5000 (2270)
Distillation light ends from the production of phthalic anhydride from naphthalene.		
K024		5000 (2270)
Distillation bottoms from the production of phthalic anhydride from naphthalene.		
K025		10 (4.54)
Distillation bottoms from the production of nitrobenzene by the nitration of benzene.		
K026		1000 (454)
Stripping still tails from the production of methyl ethyl pyridines.		
K027		10 (4.54)
Centrifuge and distillation residues from toluene diisocyanate production.		
K028		1 (0.454)
Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.		
K029		1 (0.454)
Waste from the product steam stripper in the production of 1,1,1- trichloroethane.		
K030		1 (0.454)
Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.		
K031		1 (0.454)
By-product salts generated in the production of MSMA and cacodylic acid.		
K032		10 (4.54)
Wastewater treatment sludge from the production of chlordane.		
K033		10 (4.54)
Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.		
K034		10 (4.54)
Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.		
K035		1 (0.454)
Wastewater treatment sludges generated in the production of creosote.		
K036		1 (0.454)
Still bottoms from toluene reclamation distillation in the production of disulfoton.		
K037		1 (0.454)
Wastewater treatment sludges from the production of disulfoton.		
K038		10 (4.54)
Wastewater from the washing and stripping of phorate production.		
K039		10 (4.54)
Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.		

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
K040		10 (4.54)
Wastewater treatment sludge from the production of phorate.		
K041		1 (0.454)
Wastewater treatment sludge from the production of toxaphene.		
K042		10 (4.54)
Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.		
K043		10 (4.54)
2,6-Dichlorophenol waste from the production of 2,4-D.		
K044		10 (4.54)
Wastewater treatment sludges from the manufacturing and processing of explosives.		
K045		10 (4.54)
Spent carbon from the treatment of wastewater containing explosives.		
K046		10 (4.54)
Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.		
K047		10 (4.54)
Pink/red water from TNT operations.		
K048		10 (4.54)
Dissolved air flotation (DAF) float from the petroleum refining industry.		
K049		10 (4.54)
Slop oil emulsion solids from the petroleum refining industry.		
K050		10 (4.54)
Heat exchanger bundle cleaning sludge from the petroleum refining industry.		
K051		10 (4.54)
API separator sludge from the petroleum refining industry.		
K052		10 (4.54)
Tank bottoms (leaded) from the petroleum refining industry.		
K060		1 (0.454)
Ammonia still lime sludge from coking operations.		
K061		10 (4.54)
Emission control dust/sludge from the primary production of steel in electric furnaces.		
K062		10 (4.54)
Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).		
K064		10 (4.54)
Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.		
K065		10 (4.54)
Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.		
K066		10 (4.54)
Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.		
K069		10 (4.54)

TABLE L.2

Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting the stay, EPA will publish a notice of the action in the Federal Register.)		
K071		1 (0.454)
Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.		
K073		10 (4.54)
Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.		
K083		10 (4.54)
Distillation bottoms from aniline production.		
K084		1 (0.454)
Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.		
K085		10 (4.54)
Distillation or fractionation column bottoms from the production of chlorobenzenes.		
K086		10 (4.54)
Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.		
K087		100 (45.4)
Decanter tank tar sludge from coking operations.		
K088		10 (4.54)
Spent potliners from primary aluminum reduction.		
K090		10 (4.54)
Emission control dust or sludge from ferrochromiumsilicon production.		
K091		10 (4.54)
Emission control dust or sludge from ferrochromium production.		
K093		5000 (2270)
Distillation light ends from the production of phthalic anhydride from ortho-xylene.		
K094		5000 (2270)
Distillation bottoms from the production of phthalic anhydride from ortho-xylene.		
K095		100 (45.4)
Distillation bottoms from the production of 1,1,1-trichloroethane.		
K096		100 (45.4)
Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.		
K097		1 (0.454)
Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.		
K098		1 (0.454)
Untreated process wastewater from the production of toxaphene.		
K099		10 (4.54)
Untreated wastewater from the production of 2,4-D.		
K100		10 (4.54)
Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.		
K101		1 (0.454)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.		
K102		1 (0.454)
Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.		
K103		100 (45.4)
Process residues from aniline extraction from the production of aniline.		
K104		10 (4.54)
Combined wastewater streams generated from nitrobenzene/aniline production.		
K105		10 (4.54)
Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.		
K106		1 (0.454)
Wastewater treatment sludge from the mercury cell process in chlorine production.		
K107		10 (4.54)
Column bottoms from product separation from the production of 1,1- dimethylhydrazine (UDMH) from carboxylic acid hydrazines.		
K108		10 (4.54)
Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.		
K109		10 (4.54)
Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.		
K110		10 (4.54)
Condensed column overheads from intermediate separation from the production of 1,1- dimethylhydrazine (UDMH) from carboxylic acid hydrazides.		
K111		10 (4.54)
Product washwaters from the production of dinitrotoluene via nitration of toluene.		
K112		10 (4.54)
Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.		
K113		10 (4.54)
Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.		
K114		10 (4.54)
Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.		
K115		10 (4.54)
Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.		
K116		10 (4.54)
Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.		
K117		1 (0.454)
Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.		
K118		1 (0.454)
Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.		
K123		10 (4.54)
Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.		

TABLE L.2

Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
K124		10 (4.54)
Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.		
K125		10 (4.54)
Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.		
K126		10 (4.54)
Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.		
K131		100 (45.4)
Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.		
K132		1000 (454)
Spent absorbent and wastewater separator solids from the production of methyl bromide.		
K136		1 (0.454)
Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.		
K141		1 (0.454)
Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).		
K142		1 (0.454)
Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.		
K143		1 (0.454)
Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by- products produced from coal.		
K144		1 (0.454)
Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.		
K145		1 (0.454)
Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.		
K147		1 (0.454)
Tar storage tank residues from coal tar refining.		
K148		1 (0.454)
Residues from coal tar distillation, including, but not limited to, still bottoms.		
K149		10 (4.54)
Distillation bottoms from the production of alpha-(or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. [This waste does not include still bottoms from the distillation of benzyl chloride.]		
K150		10 (4.54)
Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.		
K151		10 (4.54)
Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of waste-waters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.		
K156		10 (4.54)

TABLE L.2
Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)
Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)		
K157		10 (4.54)
Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)		
K158		10 (4.54)
Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)		
K159		10 (4.54)
Organics from the treatment of thiocarbamate wastes.		
K161		1 (0.454)
Purification solids (including filtration, evaporation, and centrifugation solids), bag-house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126).		
K169 [f]		10 (4.54)
Crude oil storage tank sediment from petroleum refining operations.		
K170 [f]		1 (0.454)
Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations.		
K171 [f]		1 (0.454)
Spent hydrotreating catalyst from petroleum refining operations. (This listing does not include inert support media.)		
K172 [f]		1 (0.454)
Spent hydrorefining catalyst from petroleum refining operations. (This listing does not include inert support media.)		
K174 [f]		1 (0.454)
K175 [f]		1 (0.454)
K176		1 (0.454)
Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide)		
K177		5,000 (2270)
Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide)		
K178		1000 (454)
Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.		
K181		##
Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of section 261.32 that are equal to or greater than the corresponding paragraph (c) levels, as determined on a calendar year basis		

TABLE L.2

Federal and State List of Hazardous Substances and RQs

Hazardous Substance	CAS Number	Federal Final RQ pounds (Kg)

†† No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers (0.004 inches).

††† The RQ for asbestos is limited to friable forms only.

The Agency may adjust the statutory RQ for this hazardous substance in a future rulemaking; until then the statutory one-pound RQ applies.

**Indicates that no RQ is being assigned to the generic or broad class

§The adjusted RQs for radionuclides may be found in appendix B to 40 CFR 302.4

a. Benzene was already a CERCLA hazardous substance prior to the CAA Amendments of 1990 and received an adjusted 10-pound RQ based on potential carcinogenicity in an August 14, 1989, final rule (54 FR 33418). The CAA Amendments specify that "benzene (including benzene from gasoline)" is a hazardous air pollutant and, thus, a CERCLA hazardous substance.

b. The CAA Amendments of 1990 list DDE (3547-04-4) as a CAA hazardous air pollutant. The CAS number, 3547-04-4, is for the chemical, p,p'dichlorodiphenylethane. DDE or p,p'-dichlorodiphenyldichloroethylene, CAS number 72-55-9, is already listed in Table 302.4 with a final RQ of 1 pound. The substance identified by the CAS number 3547-04-4 has been evaluated and listed as DDE to be consistent with the CAA section 112 listing, as amended.

c. Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

d. Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR' where:

   n = 1, 2, or 3;

   R = alkyl C7 or less; or

   R = phenyl or alkyl substituted phenyl;

   R' = H or alkyl C7 or less; or

   OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

e. Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.

f. See 40 CFR 302.6(b)(1) for application of the mixture rule to this hazardous waste.

N/A Not applicable

Appendix M
Navy Messaging

Introduction to Navy Messaging

As a naval air station that maintains oils and hazardous substances (OHS), Naval Air Station Corpus Christi (NASCC) is required to submit internal Navy messaging that describes the fact and nature of a spill of OHS. Internal Navy messaging must be conducted for:

- Any OHS spill reported to the National Response Center, state, or local authorities;
- Any discharge of oil in quantities that may be harmful to the environment; defined by the Clean Water Act regulations as a discharge which causes a film or sheen upon, or discoloration of, the surface of the water or adjoining shorelines; or causes a sludge or emulsion to be deposited beneath the surface of navigable water or upon adjoining shorelines;
- Any OHS spills that may endanger critical water areas, have the potential to generate public concern, become the focus of an enforcement action, or pose a threat to public health or welfare that warrants an operations event and incident report as prescribed by Naval Operations Instruction F3100.6J.

No report is needed for discharges from properly functioning vessel engines, or discharges verified by monitoring equipment to contain less than 15 ppm oil, regardless of the presence of sheen. These discharges have been determined not to be harmful and therefore are exempted from the reporting requirements.

Federal and state reporting requirements for discharges of OHS are detailed in Section 1.0 of the Facility Response Plan (oil-related) and Appendix L (hazardous substance-related). Navy message formats differ for oils and hazardous substances and must follow the structure contained within this Appendix. This guidance has been replicated from Appendix C of the Naval Operations Manual (OPNAV M-)5090.1D. Refer to OPNAV M-5090.1D, Section 39-3.6 for full guidance on Navy messaging procedures and requirements.

As a sample, Attachment 1 provides a reference Navy Messaging Report for an imaginary discharge of diesel fuel at NASCC.

C-2 Hazardous Substance Release Report

C-2.1. Precedence (for messages only). Provided that prior voice reports have been made both to the U.S. Coast Guard (USCG) National Response Center (NRC) and the reporting command's chain of command, use "Routine" precedence for Hazardous Substance (HS) Release Report Messages not classified as an extremely hazardous substance (EHS). If either voice report has not been made, use "Priority" precedence. If EHS, always use "Priority" precedence.

C-2.2. Classification or Special Handling Marks. HS Release Report Messages are unclassified and do not warrant special handling marks unless classified or sensitive business information must be incorporated. Avoid inclusion of such information to the maximum extent possible to allow HS Release Report Messages to be handled on a solely unclassified basis.

C-2.3. Correcting HS Release Report Messages. HS Release Report Messages should be updated with a follow-up message as soon as the reporting activity becomes aware of new information concerning the origin, amount, nature of substance, type of operation at source or root cause, or lessons learned of

release. Similarly, if the final estimate of the amount released differs substantially from the amount initially reported, the reporting activity must send an update message to all action and info addresses on the original message.

C-2.4. Action and Info Addressees

FROM: Navy activity/ship responsible for or discovering spill

TO: Navy On-Scene Coordinator
Chain of Command

INFO: Area Environmental Coordinator
Host Activity
CNO WASHINGTON DC//N45//
CNIC WASHINGTON DC//N45//
CHINFO WASHINGTON DC//JJJ//
COMNAVSEASYSCOM WASHINGTON DC//00C//
NAVFAC EXWC PORT HUENEME CA//424//
NAVJAG WASHINGTON DC//11//
[Add NRC for releases into or upon the navigable waters of the United States, its contiguous zone (generally within 12 nautical miles (NM) of U.S. shores), and adjacent shorelines.]
COAST GUARD NATIONAL RESPONSE CENTER WASHINGTON DC//JJJ//

C-2.5. Body of Report. Use the following format for the body of all HS Release Report Messages. It is important for data management purposes that the format be followed.

UNCLAS//N05090//
SUBJ: HAZARDOUS SUBSTANCE RELEASE REPORT (MIN: CONSIDERED)
MSGID/GENADMIN/ORIGINATOR//
RMKS/

1. LOCAL TIME AND DATE RELEASE [OCCURRED/DISCOVERED].

2. [FACILITY/VESSEL] ORIGINATING RELEASE:

a. For Navy ships, list ship name and hull number.

b. For Navy shore facilities, list facility name.

c. For release occurring during transportation, list name of activity responsible for shipment.

d. For non-Navy spills, list name of the responsible party, if known.

e. For organizations under contract to Navy, list firm name and contracting Navy activity.

f. If the source is unknown at time of this report, list only "Unknown" until such time as definitively established.

3. RELEASE LOCATION:

a. For release at sea, list latitude, longitude, and distance to nearest land.

b. For release in port, list port name, host naval command (NAVSTA, Shipyard), and specific location.

c. For release ashore, list city, state, facility name, and specific location (building designation).

d. For release during transportation, give exact location (highway mile marker or street number and city).

4. AMOUNT RELEASED:

a. Use convenient units of weight or volume (e.g., kg, lb, gal, liters).

b. For continuous release, estimate rate of release and amount left in container.

c. Estimates should be made by examining loss at source (e.g., checking the sounding tank, calculating flow rate of spill).

d. Unreliable estimates of volume using visual observation of HS on water may not be reported here.

e. If amount unknown at time of this report, list only "Unknown" until such time as definitively established.

5. HAZARDOUS SUBSTANCE RELEASED:

a. If EHS, headline this paragraph "EXTREMELY HAZARDOUS SUBSTANCE RELEASED:" Refer to chapter 39 (Oil and Hazardous Substance Spill Preparedness and Response) section 39-3.6.a for additional notification requirements.

b. Consult container labels, user directions, reference books, and experts for advice.

c. Provide chemical and product names, formula, synonym, physical and chemical characteristics, and inherent hazards.

For example, "Container label identifies substance as acrylonitrile. Synonyms: cyansethylene, vintleyanide. Characteristics and hazards: poisonous liquid and vapor, skin irritant, highly reactive or flammable."

d. Describe appearance, physical and chemical characteristics, and actual or potential hazards observed. For example, "Substance released is colorless to light yellow unidentified liquid; highly irritating to eyes and nose; smells like kernels of peach pits; vaporizing quickly, posing ignition problem."

6. TYPE OF OPERATION AT SOURCE: Plating shop, painting shop, hazardous waste (HW) facility, truck, ship, pipeline, ship rebuilding, entomology shop, etc.

7. CAUSE OF RELEASE:

a. Provide narrative description of specific cause of release.

b. Account for personnel error, equipment failure, etc., directly contributing to release. For example: "Railing supporting 55-gal drums on a flatbed truck gave way because it was not securely fastened, causing seven drums to fall and rupture."

c. If cause unknown at time of this report, list only "Unknown" until such time as definitively established.

8. TYPE OF CONTAINER FROM WHICH SUBSTANCE ESCAPED:

a. 55-gal drums, 5-lb bags, tank truck, storage tank, can, etc.

b. Estimate number of containers damaged or dangerously exposed.

9. RELEASE ENVIRONMENT:

a. Describe scene of release.

b. Include information on physical characteristics, size and complexity of release, and weather conditions. For example: "Solvent released formed shallow pool covering area about 30 ft by 45 ft of bare concrete. Solvent slowly running into storm drain. Pool emitting highly toxic, flammable vapors. Dark clouds threatening rain. Light wind drifting vapors northbound to residential area about 30 ft above ground."

10. AREAS DAMAGED OR THREATENED:

a. Describe actual and potential danger or damage to surrounding environment.

b. Identify body of water, area, or resources threatened or affected.

c. Describe nature and extent of damage to property, wildlife, or other natural resources (if any).

11. NOTIFICATIONS MADE AND ASSISTANCE REQUESTED:

a. List all organizations informed of release within and beyond Navy jurisdiction. Include Navy, Federal, State, and local authorities, response teams, fire departments, hospitals, etc.

b. Specify type of assistance requested from these organizations.

c. If telephonic report to NRC made, list: Date, time, group of telephonic report; NRC report and case number; name of NRC official taking report; quantity of HS released; and Navy command making telephonic report.

12. FIELD TESTING: Indicate findings and conclusions as to concentration, pH, etc.

13. CONTROL AND CONTAINMENT ACTIONS [PLANNED/TAKEN]:

a. If none, explain why.

b. Specify method used to control and contain release. For example: "Gas barriers used to control and contain vapor emissions. Runoff contained by excavating ditch circumscribing affected area."

14. CLEAN-UP ACTIONS [PLANNED/TAKEN]:

a. If none, explain why.

b. Identify on-site or off-site treatment, method used, parties involved in clean-up and removal, and disposal area. For example: "No clean-up action taken. Toxic vapors present, potential danger to clean-up crew. Contaminated soil will be excavated and shipped by NAS personnel to Class I HW disposal site in Portstown, CA when conditions allow."

15. AMOUNT OF SUBSTANCE RECOVERED [VOLUME/WEIGHT] (Pure product):

16. PARTIES PERFORMING [CONTAINMENT/CLEAN-UP] ACTIVITIES:

a. Identify lead organization in charge (e.g., Navy command, USCG, EPA).

b. Identify all other parties involved: Commercial firms, supporting Navy activities, and state or local agencies.

17. FEDERAL, STATE, OR LOCAL REGULATORY ACTIVITY DURING THIS INCIDENT:

a. Identify by name and agency any regulatory official attending on-scene or making telephonic inquiry.

b. Note whether officials boarded vessel and include date, time, and spaces inspected.

18. ASSISTANCE REQUIRED/ADDITIONAL COMMENTS.

19. LESSONS LEARNED: How could this release have been avoided?

20. ACTIVITY CONTACT FOR ADDITIONAL INFORMATION: List name, rank and rate, command, code, DSN, e-mail address, and or commercial telephone numbers.//

C-3 Oil Spill Report

C-3.1. Precedence (for messages only). Provided that prior voice reports have been made both to the USCG NRC and the reporting command's chain of command, use "Routine" precedence for Oil Spill Report Messages. If either voice report has not been made, use "Priority" precedence.

C-3.2. Classification or Special Handling Marks. Oil Spill Report Messages are unclassified and do not warrant special handling marks unless classified or sensitive business information must be incorporated. Avoid inclusion of such information to the maximum extent possible to allow Oil Spill Report Messages to be handled on a solely unclassified basis.

C-3.3. Spill Volume Classification. To better advise the Navy on-scene coordinator and Navy leadership of the magnitude of each oil spill, the subject line of an Oil Spill Report Message should bear a volume estimate of the spill, if known, in the following format:

a. OIL SPILL REPORT, X GALLONS, [ACTIVITY NAME] (MINIMIZE CONSIDERED);

b. OIL SPILL REPORT, UNKNOWN VOLUME, [ACTIVITY NAME] (MINIMIZE CONSIDERED); or

c. OIL SPILL REPORT, SHEEN SIGHTING (MINIMIZE CONSIDERED).

C-3.4. Updating Oil Spill Report Messages. Oil Spill Report Messages shall be updated with a follow-up message as soon as the reporting activity becomes aware of new information concerning the origin, quantity, type, operation under way, root cause, or lessons learned of the spill. Similarly, if the final estimate of the amount spilled differs substantially from the amount initially reported, the reporting activity must send an update message to all action and information addresses on the original spill message.

C-3.5. Action and Information Addressees

FROM: Navy activity/ship responsible for or discovering spill

TO: Navy On-Scene Coordinator
Chain of Command

INFO: Area Environmental Coordinator
Host Activity
OPNAV WASHINGTON DC//N45//
CNIC WASHINGTON DC//N45//
CHINFO WASHINGTON DC//JJJ//
COMNAVSEASYSCOM WASHINGTON DC//00C//
NAVFAC EXWC PORT HUENEME CA//424//
NOLSC DC FT BELVOIR VA//JJJ//
NAVJAG WASHINGTON DC//11//
NAVSURFWARCENCARDIV PHILADELPHIA PA//923//
[Add NRC for spills into or upon the navigable waters of the United States, its contiguous zone (generally within 12 NM of U.S. shores) and adjacent shorelines.]
COAST GUARD NATIONAL RESPONSE CENTER WASHINGTON DC//JJJ//

C-3.6. Body of Report. Use the following format for the body of all Oil Spill Report Messages. It is important for data management purposes that this format be followed.

UNCLAS//NO5090//
SUBJ: OIL SPILL REPORT, X GALLONS, [ACTIVITY NAME] (MINIMIZE CONSIDERED) or OIL SPILL REPORT, UNKNOWN VOLUME, [ACTIVITY NAME] (MINIMIZE CONSIDERED) or OIL SPILL SHEEN SIGHTING, (MINIMIZE CONSIDERED)

MSGID/GENADMIN/ORIGINATOR//
RMKS/

1. LOCAL TIME AND DATE SPILL [OCCURRED/DISCOVERED]

2. [FACILITY/VESSEL] ORIGINATING SPILL:

a. For Navy ships, list ship name and hull number.

b. For Navy shore facilities, list facility name.

c. For non-Navy spills, list name of responsible party, if known.

d. For organizations under contract to Navy, list firm name and contracting Navy activity.

e. If the facility or vessel of spill is unknown at time of this report, list only "Unknown" until such time as definitively established.

3. SPILL LOCATION:

a. For spills at sea, list latitude, longitude, and distance to nearest land.

b. For spills in port, list port name, host naval command (NAVSTA, Shipyard), and specific location (pier or mooring designation).

c. For spills ashore, list city, state, facility name, and specific location (building designation).

4. VOLUME SPILLED IN GALLONS:

a. Estimates must be made by examining loss at source (e.g., checking the sounding tank, calculating flow rate of spill).

b. If amount is unknown at time of this report, list only "Unknown" until such time as definitively established.

c. Estimating volume by visual observation of oil on water can be very unreliable.

d. If volume estimate can only be made by visual observation of oil on water, do not report estimate here.

e. If oil and water mixture, indicate percent oil.

5. TYPE OF OIL SPILLED:

a. List whether marine gas oil, naval distillate (F-76), jet fuel (JP-4 or 5), aviation or automotive gasoline, automotive diesel, heating fuels (e.g., grade 1 or 2, kerosene), residual burner fuel (e.g., grade 4, 5, or 6), lubricating oil; hydraulic oil, oil/oil mixture (including slops and waste oil), or oil/water mixture (including bilge waste).

b. If type unknown at time of this report, list only "Unknown" until such time as definitively established.

6. OPERATION UNDER WAY WHEN SPILL [OCCURRED/DISCOVERED]:

a. If fueling or defueling, list whether underway or in port by pipeline, truck, or barge.

b. Specify whether conducting internal fuel oil transfer operations (including movement from one storage tank to another), pumping bilges, conducting salvage operations, aircraft operations, or "Other" (specify).

c. Include any evolution or operation that had been conducted within 4 hours of spill discovery that may have resulted in oil discharge.

d. If operation unknown or if no evolution can be attributable at time of this report, list only "Operation Not Known" or "To Be Determined" until such time as definitively established.

7. SPILL CAUSE:

a. Classify the spill cause by citing one or more of the following categories and then provide a narrative description of the specific spill cause: Structural; electrical; hose; valve or fitting; tank level indicator; oil and water and separator and oil content monitor; other equipment (specify component that failed); collision, grounding, or sinking; valve misalignment; monitoring error; procedural and communications error; chronic or recurring; or weather related. This information will be used by Commander, Naval Sea Systems Command for causal analysis and spill prevention.

b. If the spill resulted from a mechanical or equipment failure, identify failed equipment or suspected failed equipment by system, nomenclature, allowance part list, service, part number, and or location.

c. If cause unknown or undetermined at time of this report, list only "To Be Determined" or "Under Investigation" until such time as definitively established.

8. SLICK DESCRIPTION AND MOVEMENT:

a. Size: Length and width (yards or NM) and percentage of that area covered.

b. Color: Silver transparent, gray, rainbow, blue, dull brown, dark brown, black, brown-orange mousse.

c. Odor: Noxious, light, undetectable.

d. Slick movement: Set (degrees true toward) and drift (knots).

9. SPILL ENVIRONMENT:

a. Weather: Clear, overcast, partly-cloudy, rain, snow, etc.

b. Prevailing wind at scene: Direction (degrees true from), speed (knots), and fetch (yards or NM).

c. Air and water temperature: Indicate ice cover.

d. Sea state: Beaufort Force number.

e. Tide: High, low, ebb, flood, or slack or current: Set (degrees true toward) and drift (knots).

10. AREAS DAMAGED OR THREATENED:

a. Body of water, area, or resources threatened or affected.

b. Nature and extent of damage to property, wildlife, or other natural resources (if any).

11. TELEPHONIC REPORT TO NATIONAL RESPONSE CENTER [WAS/WAS NOT] MADE:

a. If made, list:

(1) Time and date of telephonic report.

(2) NRC report and case number.

(3) Name of NRC official taking report and quantity of oil reported.

b. If not made, provide reason why: Beyond 12 NM from U.S. shores, no threat to navigable water, etc.

c. Navy command making telephonic report.

12. SAMPLES [WERE/WERE NOT] TAKEN: If taken, identify location(s) from which taken (e.g., tanks, hoses, piping, slip, jetty, etc.) and collecting officer by name, rank, and agency.

13. CONTAINMENT METHOD [PLANNED/USED]:

a. If none, state reason.

b. Otherwise, indicate equipment utilized (e.g., boom, ship's hull, camel, water spray, chemical agent).

14. SPILL REMOVAL METHOD [PLANNED/USED]:

a. If none, state reason.

b. Equipment planned and used (e.g., Rapid Response Skimmer or Dip 3001 skimmer, portable skimmer, absorbent materials (oil absorbent pads, chips, etc.), dispersants, vacuum trucks or pumps, other (specify)).

15. VOLUME OF OIL RECOVERED IN GALLONS (Decanted pure product).

16. PARTIES PERFORMING SPILL REMOVAL:

a. Identify lead organization in charge (e.g., Navy command, USCG, EPA).

b. Identify all other parties involved (e.g., commercial firms, supporting Navy activities, state or local agencies).

17. FEDERAL, STATE, OR LOCAL REGULATORY ACTIVITY DURING THIS INCIDENT:

a. Identify by name and agency any official attending on-scene or making telephonic inquiry.

b. Note whether officials boarded vessel and include date, time, and spaces inspected.

18. ASSISTANCE REQUIRED OR ADDITIONAL COMMENTS

19. LESSONS LEARNED: How could this spill have been avoided?

20. COST OF RECOVERY: Probably not known for initial report. Include in follow up report to the extent known.

21. ACTIVITY CONTACT FOR ADDITIONAL INFORMATION: List name, rank and rate, command, code, e-mail address, and DSN and or commercial telephone numbers.//

Table C-1. Navy Root Cause Analysis Codes

Root Cause Code		International Organization for Standardization 14001:2004(E)
	PLAN (Environmental Policy/Planning)	
	Leadership/Policy/Organizational Management	**4.1 - 4.3**
LPM01	Leadership lacks commitment and or sufficient organizational framework, stature, independence, and authority.	4.1/4.2
LPM02	Formal policies are not appropriate to the nature, scale and environmental impacts of the activities, products, and services.	4.2
LPM03	Environmental requirements and significant aspects are not adequately considered.	4.3.1
LPM04	Procedure is not in place for updating applicable legal requirements.	4.3.2
	DO (Implementation)	
	Resources/Roles/Responsibility and Authority	**4.4.1**
RRA01	Programmatic roles, responsibilities, and authorities are not clearly defined, assigned, documented, and or communicated.	4.4.1
RRA02	Specific management representatives (e.g., line management supervisors, practice owners) do not show commitment and or responsibility for the performance of the environmental management system (EMS).	4.4.1
RRA03	Funds for program-related activities are not sufficient.	4.4.1
RRA04	Staffing levels are not sufficient to manage all program-related activities or requirements.	4.4.1

Root Cause Code		International Organization for Standardization 14001:2004(E)
RRA05	Resources for controlling or improving daily operations including the procurement of appropriate materials or equipment, technology, or services are absent or inadequate.	4.4.1
RRA06	Lack of proper or adequate materials, equipment, and or contract deliverables.	4.4.1
RRA07	Lack of adequate maintenance caused failure or discrepancy.	4.4.1
RRA08	Inadequate design of facility or selection of material or equipment caused failure or discrepancy.	4.4.1
	Competence/Training and Awareness	**4.4.2**
CTA01	No training is conducted.	4.4.2
CTA02	Training is inadequate or ineffective.	4.4.2
CTA03	Personnel do not perform duties as trained.	
	Communication	**4.4.3**
COM01	Internal communication is missing or ineffective.	4.4.3
COM02	External communication is missing or ineffective.	4.4.3
	Documentation/Control of Documents	**4.4.4/4.4.5**
DOC01	Necessary details within documents and records are absent or are inadequate.	4.4.4
DOC02	Procedure(s) to approve, review and update, and retain relevant versions of information is not established or is not adequately implemented.	4.4.5
	Operational Control/Emergency Preparedness and Response	**4.4.6/4.4.7**
OCP01	Documented plans or procedures are inadequate.	4.4.6
OCP02	Documented plans or procedures not properly implemented to control activities.	4.4.6
OCP03	Appropriate contingency planning for emergency preparedness and response is missing or ineffective.	4.4.7
	CHECK (Checking and Corrective Action)	
	Monitoring and Measurement/Evaluation of Compliance	**4.5.1/4.5.2**

Root Cause Code		International Organization for Standardization 14001:2004(E)
MMC01	Calibrated and verified monitoring or measurement equipment is not used or maintained.	4.5.1
MMC02	Internal compliance evaluation is not effective.	4.5.2
	Nonconformity, Corrective Action and Preventive Action/Control of Records/Internal Audit	**4.5.3/4.5.4/4.5.5**
NCA01	The corrective action and preventive action process is not effective.	4.5.3
NCA02	Control and tracking procedure(s) for documents and records is absent or is inadequate.	4.5.4
NCA03	Internal audit program is not implemented or is ineffective.	4.5.5
	IMPROVE (Management Review)	
	Management Review	**4.6**
MRV01	Documented procedure describing the management review process is inadequate.	4.6
MRV02	Roles, responsibilities and authorities are not clearly defined, documented, and or communicated.	4.6
MRV03	Management review process or procedure is **not** implemented effectively.	4.6
MRV04	Management review process is **insufficient to** create change, provide leadership, or effectively improve the EMS.	4.6

Attachment 1
Navy Messaging Example – Petroleum

-----Original Message-----
From: postmaster@oix.navy.mil (Contact)
Sent: Tuesday, November 05, 2013 1:47 PM
To: CNRSE.JAX.FL
Cc: COMNAVSEASYSCOM WASHINGTON DC; NAVFAC SE Naval Messages; NOLSC DC FT BELV VA; NAVY JAG WASHINGTON DC
Subject: R 051833Z NOV 13 NASCC TX SUBJ: OIL SPILL REPORT, FOUR GALLONS, NASCC (REPORT SYMBOL OPNAV 5090-2) (MIN: CONSIDERED)//
Importance: Low

UNCLASSIFIED//

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-----OFFICIAL INFORMATION DISPATCH FOLLOWS-----
RTTUZYUW RHOIAAA0001 3091846-UUUU--RHSSSUU.
ZNR UUUUU
R 051833Z NOV 13
FM NASCC TX
TO COMNAVREG SE JACKSONVILLE FL
COGARD NATIONAL RESPONSE CENTER WASHINGTON DC
INFO CNIC WASHINGTON DC
CNO WASHINGTON DC
CHINFO WASHINGTON DC
COMNAVSEASYSCOM WASHINGTON DC
NOLSC DC FT BELVOIR VA
NAVY JAG WASHINGTON DC
NAVFAC SOUTHEAST JACKSONVILLE FL
BT
UNCLAS
SUBJ/SUBJ: OIL SPILL REPORT, FOUR GALLONS, NASCC (REPORT SYMBOL OPNAV 5090-2) (MIN: CONSIDERED)//
MSGID/GENADMIN/NASCC/PRC4//
RMKS/
1. LOCAL TIME & DATE: 1315 1 NOV 13.
2. ORIGINATING SPILL: RESPOSIBLE PARTY, NASCC, TX.
3. SPILL LOCATION: GOV FUEL STATION.
4. VOLUME SPILLED: ESTIMATED FOUR GALLONS.
5. TYPE OF OIL SPILLED: DIESEL FUEL.
6. OPERATION UNDERWAY WHEN SPILL OCCURRED: REFUELING OF GOVERNMENT VEHICLE.
7. SPILL CAUSE: GAS CAP USED IN FUEL NOZZLE TO HOLD OPEN PUMP.
8. SLICK DESCRIPTION AND MOVEMENT: REDDISH BROWN 20 FEET BY 100 FEET LOCALIZED ON REFUELING PAD.
9. SPILL ENVIRONMENT: WEATHER: PARTLY CLOUDY, AIR TEMPERATURE: 60 DEGREES F, WIND: WEST 1 MPH.
10. AREAS DAMAGED OR THREATENED: NONE, SPILL WAS CONTAINED ON IMPERVIOUS CONCRETE PAD.
11. TELEPHONE REPORT TO NRC WAS MADE. SPILL REPORT NUMBER 9999999.

12. SAMPLES TAKEN: NO.
13. CONTAINMENT METHOD: ABSORBENT PADS AND BOOMS.
14. SPILL REMOVAL METHOD: SPILL PADS AND SHOVELS.
15. VOLUME OF OIL RECOVERED: ONE GALLON OF OIL AND SIX 55 GALLON DRUMS OF CONTAMINATED, ABSORBENT MATERIALS.
16. PARTIES PERFORMING SPILL CLEANUP: FIRE DEPARTMENT AND ENVIRONMENTAL PERSONNEL.
17. FEDERAL, STATE OR LOCAL REGULATORY TELEPHONIC INQUIRIES DURING INCIDENT: NOTIFIED NRC; TCEQ; CCLEPC; CNRSE ROC, NO SITE VISITS.
18. ASSISTANCE REQUIRED/ADDITIONAL COMMENTS: NONE.
19. LESSONS LEARNED: DON’T USE FILL CAPS TO OPEN FUEL PUMPS.
20. COST OF RECOVERY: $5000.
21. ACTIVITY CONTACT FOR ADDITIONAL INFORMATION: MS. BERNICE PEREZ-SNYDER, NASCC IEPD, CODE PRC4, DSN 861-5353 0R COMMERCIAL (361) 961-5353.//
BT
#0001
NNNN
<DmdsSubject>
SUBJ: OIL SPILL REPORT, FOUR GALLONS, NASCC (REPORT SYMBOL OPNAV 5090-2) (MIN: CONSIDERED)//
</DmdsSubject>
<DmdsSecurity>UNCLASSIFIED//</DmdsSecurity>
<DmdsPrimaryPrecedence>ROUTINE</DmdsPrimaryPrecedence>
<DmdsCopyPrecedence>ROUTINE</DmdsCopyPrecedence>
<DmdsReleaser>PERRY.SHAWN.MAURICE.1116994590</DmdsReleaser>

UNCLASSIFIED//

Attachment 2
Navy Messaging Example – Hazardous Substances

FROM: NASCC TX

TO: COMNAVREG SE JACKSONVILLE FL
COGARD NATIONAL RESPONSE CENTER WASHINGTON DC

INFO: NAVFAC SOUTHEAST JACKSONVILLE FL
CNO WASHINGTON DC//N45//
CNIC WASHINGTON DC//N45//
CHINFO WASHINGTON DC//JJJ//
COMNAVSEASYSCOM WASHINGTON DC//00C//
NAVFAC EXWC PORT HUENEME CA//424//
NAVJAG WASHINGTON DC//11//
COAST GUARD NATIONAL RESPONSE CENTER WASHINGTON DC//JJJ//

UNCLAS//N05090//
SUBJ: HAZARD SUBSTANCE RELEASE REPORT (MIN: CONSIDERED)
MSGID/GENADMIN/NASCC//
RMKS/

1. LOCAL TIME AND DATE RELEASE: 1315 16 MAY 17.
2. ORIGINATING RELEASE: NASCC, TX.
3. RELEASE LOCATION: CORPUS CHRISTI, TEXAS, NASCC, BUILDING 1880.
4. AMOUNT RELEASED: ELEVEN POUNDS.
5. HAZARDOUS SUBSTANCE RELEASED: CONTAINER LABEL IDENTIFIES SUBSTANCE AS CHROMIC ACID. SYNONYMS: CHROMIC(VI) ACID AND TETRAOXOCHROMIC ACID. CHARACTERISTICS AND HAZARDS: CORROSIVE, ACUTE TOXICITY, IRRITANT, HEALTH HAZARD, CARCINOGEN, MUTAGENICITY, REPRODUCTIVE TOXICITY, TARGET ORGAN TOXICITY, ASPIRATION HAZARD, ENVIRONMENT/AQUATIC TOXICITY. SUBSTANCE RELEASED IS ODOURLESS DARK RED DELIQUESCENT CRYSTALS, FLAKES OR GRANULAR POWDER."
6. TYPE OF OPERATION AT SOURCE: METAL PLATING.
7. CAUSE OF RELEASE: PERSONNEL KNOCKED OVER OPEN CONTAINER WHILE MOVING ITEMS IN A FORKLIFT.
8. TYPE OF CONTAINER FROM WHICH SUBSTANCE ESCAPED: FOUR LITER PLASTIC JUG. SOURCE CONTAINER CRUSHED BY FORKLIFT.
9. RELEASE ENVIRONMENT: SCENE OF RELEASE OCCURRED INSIDE AN INDUSTRIAL WAREHOUSE.
10. AREAS DAMAGED OR THREATENED: NONE, RELEASE OCCURRED INSIDE AN INDUSTRIAL WAREHOUSE.
11. NOTIFICATIONS MADE AND ASSISTANCE REQUESTED: REFER TO SPILL REPORT NUMBER 9999999. NO EXTERNAL ASSISTANCE REQUESTED. FIRE AND EMERGENCY SERVICES MITIGATED RELEASE.
12. FIELD TESTING: NO.
13. CONTROL AND CONTAINMENT ACTIONS: FIRE AND EMERGENCY SERVICES AND ENVIRONMENTAL RESPONDED WITH CHEMICAL RESPONSE EQUPMENT.
14. CLEAN-UP ACTIONS: CLEANED UP RELEASE IN ACCORDANCE WITH DIRECTIONS IN SAFETY DATA SHEET.
15. AMOUNT OF SUBSTANCE RECOVERED: NONE.
16. PARTIES PERFORMING CONTAINMENT/CLEANUP ACTIVITIES: FIRE AND EMERGENCY SERVICES, ENVIRONMENTAL, AND OSRO PERSONNEL.

17. FEDERAL, STATE OR LOCAL REGULATORY ACTIVITY DURING THIS INCIDENT: NONE.
18. ASSISTANCE REQUIRED/ADDITIONAL COMMENTS: NONE.
19. LESSONS LEARNED: CLOSE CAPS ON STORAGE CONTAINERS AND DO NOT PLACE STORAGE CONTAINERS ON THE FLOOR UNLESS SOME PROTECTION IS AVAILABLE.
20. ACTIVITY CONTACT FOR ADDITIONAL INFORMATION: MS. BERNICE PEREZ-SNYDER, NASCC IEPD, CODE PRC4, DSN 861-5353 0R COMMERCIAL (361) 961-5353.//