GSFC-RCRA AND ICP ANNUAL TRAINING (WFF) PART 2
INTEGRATED CONTINGENCY PLAN (ICP) AND STORMWATER POLLUTION PREVENTION PLAN TRAINING

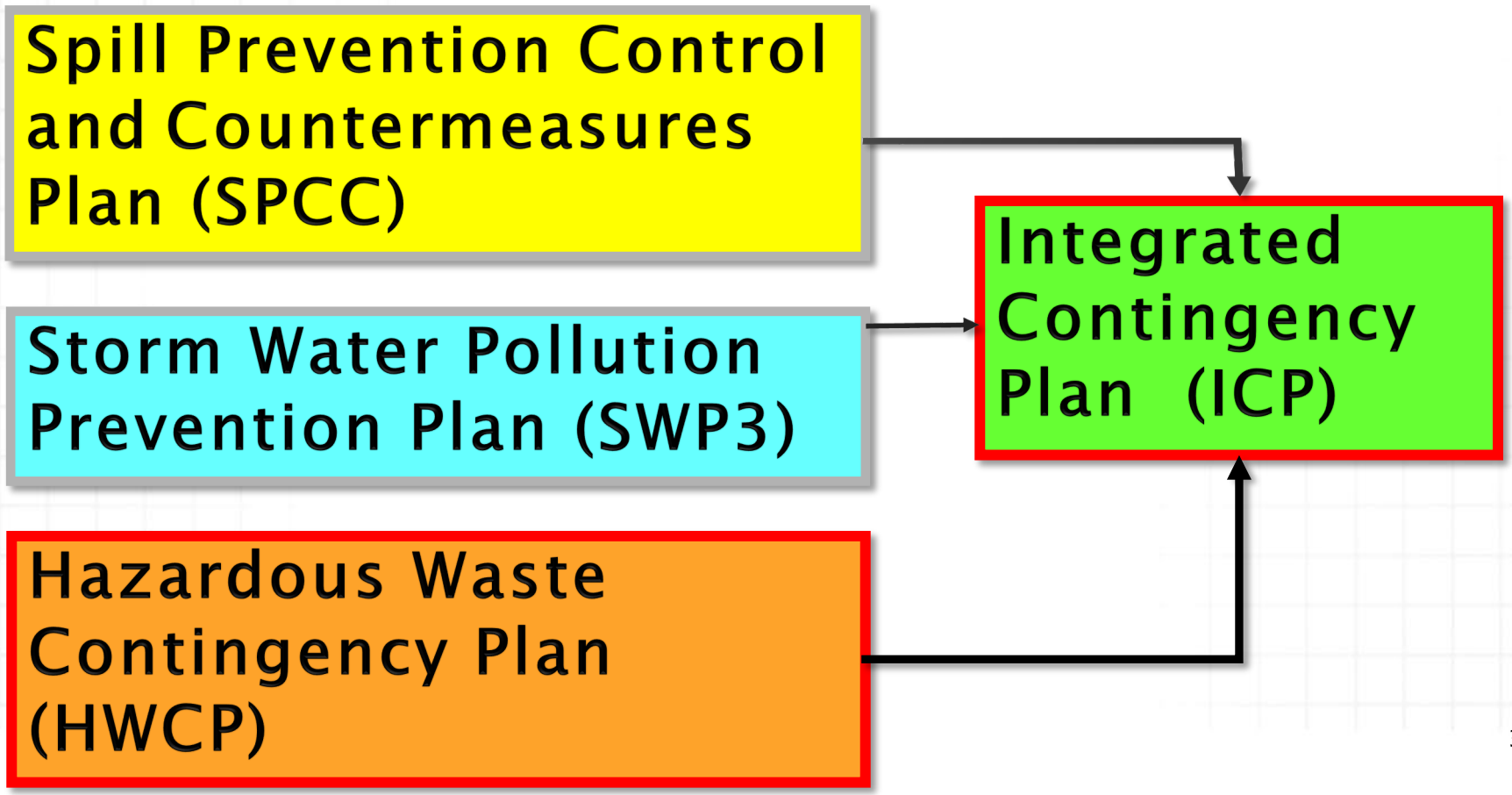
Training Topics

This training will include:

- The Why and How of the WFF Integrated Contingency Plan
- Best Practices Described in the WFF Stormwater Pollution Prevention Plan
- Water Conservation Practices
- Select topics from the WFF Environmental Management System

ICP Overview

The ICP combines or integrates 3 documents into one document. Highlights of each document will be discussed in this training.



Laws and Regulations

The requirement to develop a SPCC begins with federal law.

- The River and Harbors Act (1899) led to the Federal Water Control Act (1948) which was amended to become the Clean Water Act (1972). In 1972, two-thirds of the country's lakes, rivers, and coastal waters had become unsafe for fishing or swimming. Untreated sewage was being dumped into open water.
- Following the Exxon Valdez spill (1989) which released nearly 11 million gallons of crude oil into the Alaskan waters, the Oil Pollution Act (1990) was created.

Virginia requires an oil discharge contingency plan (ODCP) for aboveground storage tank (AST) facilities similar to that required under the federal SPCC plan.

Laws and Regulations

The SWP3 is required by WFF's Virginia Pollutant Discharge Elimination System (VPDES) Permit. Virginia is authorized by the EPA to issue permits under the Clean Water Act.

The Hazardous Waste Contingency Plan traces it's history back to the Solid Waste Disposal Act (1965) which was amended to become the Resource Conservation and Recovery Act (1972). Following the incidents at Love Canal and Times Beach, the act was further amended to The Hazardous and Solid Waste Amendments Act (1984). Most recently, the additional updates were made entitled the Hazardous Waste Generator Improvement Rule (2016).

ICP Requirement

Why does Wallops have an Integrated Contingency Plan?

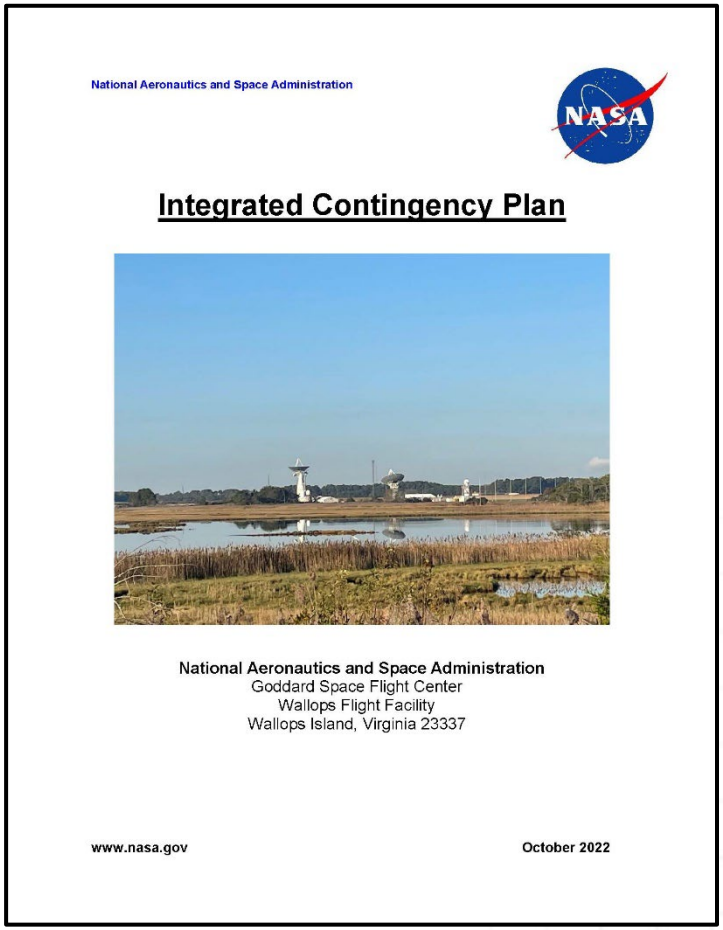
- WFF is required to have an ICP because greater than 1,320 gallons of oil is stored in aboveground tanks.
- WFF has over 200,000 gallons of fuel in aboveground storage and over 300,000 gallons total for all petroleum products.

Current ICP

Look for the current edition of the ICP at:

https://sites.wff.nasa.gov/code250/documents.html

For a hard copy version, please contact Doug Bruner at Douglass.w.bruner@nasa.gov


National Aeronautics and Space Administration

Integrated Contingency Plan

National Aeronautics and Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

www.nasa.gov

October 2022

CALL 911

The first page of the ICP is the most important page.

WFF Integrated Contingency Plan 37.01.01.16428

IN CASE OF A SPILL, FIRE, OR EXPLOSION AT THIS FACILITY
CALL 911 IF ON-SITE, OR
CALL 757-824-1333 IF OFF-SITE

EMERGENCY PHONE NUMBERS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
GODDARD SPACE FLIGHT CENTER (GSFC)
WALLOPS FLIGHT FACILITY (WFF)
34200 FULTON STREET, WALLOPS ISLAND, VIRGINIA 23337

The first page of the ICP reminds the user who to call in an emergency.

ICP Table of Contents

Each chapter in the ICP covers a specific topic.

1. Plan Administration
2. Facility Description & Bulk Storage Container Information
3. Discharge Prevention
4. Discharge Response Equipment and Training
5. Spill Countermeasures
6. Worst Case Scenerio
7. Facility Inspections, Tests, and Records
8. Integrated Contingency Plan Deviations

ICP Appendices

These are the additional resources included in the appendices of the ICP.

Appendix A	Certification of the Applicability of the Substantial Harm Criteria
Appendix B	Wallops Flight Facility Site Maps
Appendix C	Underground Storage Tanks and Oil Storage Summaries
Appendix D	Tank and Potential Discharge Data
Appendix E	Hazardous Waste Quick Reference Guide - Accumulation Areas and Evacuation Routes
Appendix F	Controlled Drainage Discharge Log
Appendix G	Inventory of Spill Response Supplies and Equipment
Appendix H	Incident Plan / Briefing Report
Appendix I	Incident Report Form and Follow-up Report Template
Appendix J	Decontamination of Emergency Equipment
Appendix K	Spill Response Contractors and Agreements
Appendix L	Site Inspection Checklists
Appendix M	Safety Data Sheets
Appendix N	Stormwater Pollution Prevention Plan
Appendix O	Storage Tank Piping Diagrams
Appendix P	WFF #2 Diesel Fuel Delivery Guidance

Oil Filled Containers

E-2

N-223

The ICP includes all containers which are capable of storing 55 gallons or more of oil.

This includes:

- Drums
- Tanks (aboveground and underground)
- Transformers
- Mobile Re-fuelers
- Other oil storing equipment

This also includes 55 gallon or larger containers that hold cooking oil.

Outdoor Storage Tanks

Aboveground fuel tanks at WFF come in a variety of types and sizes. Most tanks are located outdoors.

D-1

D-9A / D-9B

Rentals

D-50

F-26

Indoor Storage Tanks

Storage tanks can also be found inside buildings.

NOAA

Mobile Generator

V-3

Z-62

UST and Oil Filled Equipment

Although NASA no longer has underground storage tanks (UST), NOAA and Navy still use them on WFF property.

The transformers and lifts below are examples of oil filled equipment also covered by the ICP.

R-30

N-161

MARS Pad 0-A

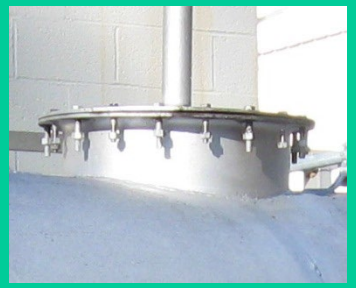
Storage Tank Requirements

Large Spill Kit
(95-gallon spill kit absorbs up to 63 gallons; neon green color for high visibility and a snap on lid for easy access)

Anti-Siphon Valve
(Prevents fuel from exiting tank if a line is broken or leaking)

Spill Basket
(Used to catch any fuel that spills during filling of the tank)

Long Bolts on Manway Opening
(The long bolts allow the manway cover to lift up and relieve pressure in the tank)



Tank Grounding System
(Used to discharge the tank in the event of a charge build up from lightning)

Adequate Lighting
(There should be adequate lighting 24 hours a day so that any individual can easily see if the tank is leaking or if a spill has occurred)

Neoprene Rubber Piping
(Needs to be replaced due to dry rotting and rubbing against objects)

Seal Concrete Dike
(Single walled tanks must have secondary containment. The concrete dike must be sealed liquid-tight to prevent any fuel contamination in the event of a leaking tank)

Each storage tank is required to have the above features.

Storage Tank Requirements

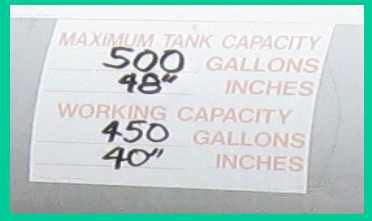
Replace Plastic Travel Cap with Painted Steel Cap
(Plastic will degrade in the presence of petroleum and needs to be replaced with steel cap)

Spill Basket Lock
(Placed on all tanks to prevent individuals from stealing or contaminating the fuel)

Driver Delivery Signs
(Present by all tanks and must be visible for the fuel delivery driver)

Proper Tank Identification
(Present on all tanks and must be visible for the fuel delivery driver; to verify proper tank identification please contact WFF Environmental Office)

Tank Capacity and Inches Signs
(Present on all tanks and must be visible for the fuel delivery driver; to verify proper capacity and inches please contact WFF Environmental Office)



No Smoking Signs
(Present on all tanks and must be visible for the fuel delivery driver)

Label Piping
(Helpful in the event of a leaking pipe or during pipe maintenance)

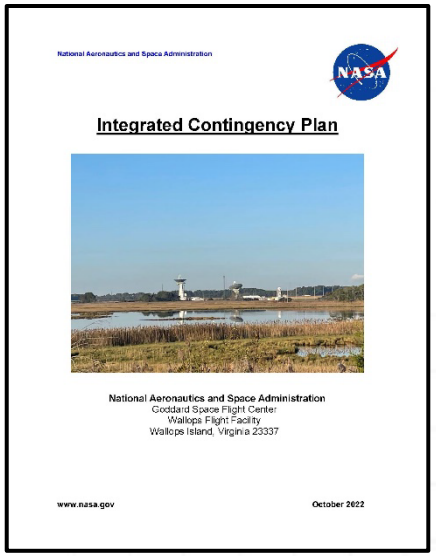
NFPA Label
(Present on all visible sides of the tank; color coded, numerical system for indicating the health(B), flammability(R), reactivity hazards(Y), and special precautions (W); 4 is extreme and 0 is minimal)

Each storage tank is required to have the above features. If you notice that any of these features or the features on past slide are absent, contact the Environmental Office.

Knowledge Check

Select the three plans that the Integrated Contingency Plan combines into one plan:

- ❑ A. Erosion and Sediment Control Plan.
- ❑ B. Hazardous Waste Contingency Plan
- ❑ C. Storm Water Pollution Prevention Plan
- ❑ D. Spill Prevention Control and Countermeasures Plan



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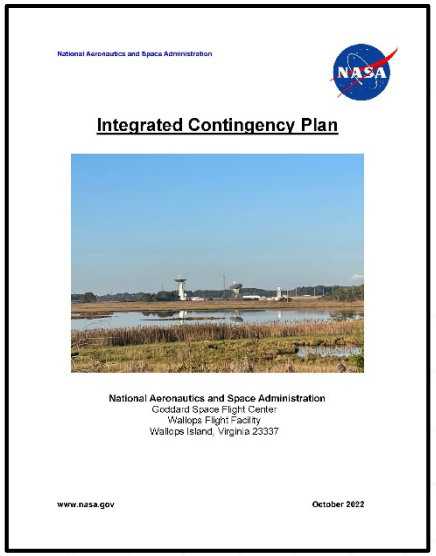
National Aeronautics and Space Administration

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Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

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The correct answer is B, C, and D.

Knowledge Check

Which of these should be found at all permanent storage tanks at WFF:

- ❑ A. Spill Kit
- ❑ B. Driver Warning Sign
- ❑ C. NFPA Label
- ❑ D. No Smoking Sign
- ❑ E. Tank Capacity and Inches Sign
- ❑ F. Proper Tank Identification
- ❑ G. Spill Basket Lock
- ❑ H. All of the Above

Knowledge Check

Which of these should be found at all permanent storage tanks at WFF:

- ❑ A. Spill Kit
- ❑ B. Driver Warning Sign
- ❑ C. NFPA Label
- ❑ D. No Smoking Sign
- ❑ E. Tank Capacity and Inches Sign
- ❑ F. Proper Tank Identification
- ❑ G. Spill Basket Lock
- ❑ H. All of the Above

The correct answer is H

Vehicle Fueling

Fueling a vehicle has the potential to lead to a spill or fire.

- Remember: Turn off the vehicle engine. Don't smoke.
- Focus on fueling while at the pump. Do not leave the pump unattended when in use. Leave electronic devices in the vehicle. Discharge static electricity before fueling.
- If a fire starts, use the emergency stop button (ESTOP) to stop pumping fuel.

Fuel Delivery Requirements

All fuel transfers must be performed by WFF badged personnel or performed by those escorted by WFF personnel. Escorts are responsible for making sure the following procedures are followed.

Follow these precautions to prevent a spill:

- Protect adjacent storm drains with a cover before fueling.
- Shut off engine unless used for transfer operation.
- Set brakes and chock the wheels prior to fuel transfers.
- Check sorbent material availability in the delivery truck.
- Perform bonding/grounding prior to fuel transfers, if necessary.
- Use drip pails below hose connections.
- Don't smoke during fuel transfers.

Fuel Delivery Requirements

Also be sure to:

- Confirm that the tank or vehicle being filled can accept delivered volume.
- Maintain an unobstructed view of cargo tank and hose at all times.
- Inspect delivery vehicle for leaks prior to loading and prior to vehicle departure.
- Verify a complete disconnect of hoses and bonding / grounding prior to removal of wheel chocks.

Lessons Learned

It is important to know the fuel transfer rate and tank capacity before fueling. Be aware of these values and observe gauges during fueling.

- As an example, the D-1 Jet fuel transfers fuel at over 2 gallons/second.
- Don't just rely on alarms. High level alarms can malfunction.

Fuel Delivery Precautions

REMEMBER THESE PRECAUTIONS

Locate a nearby spill kit

Cover the storm drain

Place drip pads under hose connections

Before Fueling

If a Discharge Occurs

If a discharge occurs:

- Immediately notify the WFF Fire Department. Pull a building fire alarm if available, or call 757-824-1333 (911 from a WFF phone).
- Spread the alarm verbally to others in the area.

Call 911

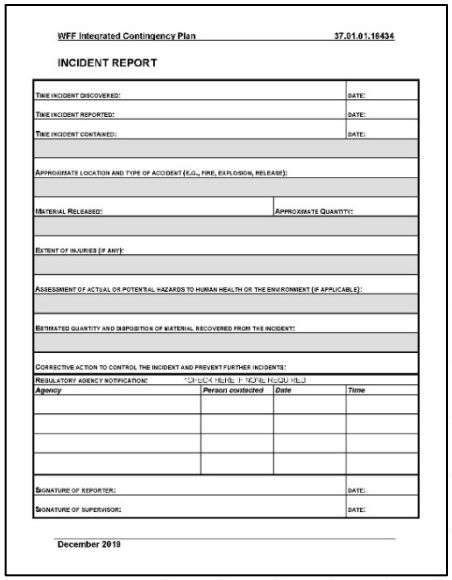
If it is safe to do so:

- Eliminate potential spark sources.
- Protect the storm drain.
- Stop the flow.
- Contain the liquid with sorbent booms, etc.

Reporting a Spill

When reporting a spill, provide as much information about the spill or discharge as possible :

- Time of spill
- Location of spill
- Type/name of material spilled
- Estimated quantity – *Best guess*
- Status of spill – *Has it stopped?*
- Cause of spill – *Leak, overturned container, etc*
- Name and code of reporting party
- Photos - *if safe to do so*



WFF Integrated Contingency Plan 37.01.01.16434

INCIDENT REPORT

TIME INCIDENT DISCOVERED:	DATE:
TIME INCIDENT REPORTED:	DATE:
TIME INCIDENT CONTAINED:	DATE:
APPROXIMATE LOCATION AND TYPE OF ACCIDENT (E.G., FIRE, EXPLOSION, RELEASE):	
MATERIAL RELEASED:	APPROXIMATE QUANTITY:
EXTENT OF INJURIES (IF ANY):	
ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT (IF APPLICABLE):	
ESTIMATED QUANTITY AND DISPOSITION OF MATERIAL RECOVERED FROM THE INCIDENT:	
CORRECTIVE ACTION TO CONTROL THE INCIDENT AND PREVENT FURTHER INCIDENTS:	
REGULATORY AGENCY NOTIFICATION: *CHECK HERE IF NOTIFICATION IS NOT REQUIRED	

Agency	Person contacted	Date	Time

SIGNATURE OF REPORTER:	DATE:
SIGNATURE OF SUPERVISOR:	DATE:

December 2018

After the Discharge

When the spill is contained:

- Containerize the cleanup material properly.
- Environmental Coordinator will make appropriate notifications if the spill:
  - Spreads beyond the immediate discharge area.
  - Enters water or has the potential to enter the water.
  - Spreads beyond WFF boundaries.
  - Requires special equipment or training to clean up.
  - Poses a hazard to human health or safety.
  - There is a fire or explosion or the danger that one may occur.

Waters of Virginia

"The discharged material enters water or has the potential to enter the water" applies to:

Surface Waters

Groundwater

Wetlands

Storm Sewer Systems

Knowledge Check

When delivering fuel or escorting someone who is delivering fuel, always cover adjacent storm drains, check the delivery truck for a spill kit or locate a nearby spill kit, use drip pads below the hose connection and:

- ❑ A. Confirm that the tank or vehicle being filled can accept delivered volume.
- ❑ B. Only leave the area for a brief amount of time.
- ❑ C. Do not smoke within 2 feet of the fuel delivery.
- ❑ D. Both C and B.

Knowledge Check

When delivering fuel or escorting someone who is delivering fuel, always cover adjacent storm drains, check the delivery truck for a spill kit or locate a nearby spill kit, use drip pads below the hose connection and:

- ❑ A. Confirm that the tank or vehicle being filled can accept delivered volume.
- ❑ B. Only leave the area for a brief amount of time.
- ❑ C. Do not smoke within 2 feet of the fuel delivery.
- ❑ D. Both C and B.

The correct answer is A

Knowledge Check

Which of the following statements accurately describe the steps in the order they should be preformed if a release occurs:

- ❑ A. Stop the flow if you are trained, protect nearby storm drains, and then call the Environmental Office.
- ❑ B. Notify the Fire Department (911 or x1333), tell others in the area, protect nearby storm drains, and stop the flow if you are trained.
- ❑ C. Stop the flow and then clean-up the spill by washing it down the nearest storm drain.
- ❑ D. Both C and B are true.

Knowledge Check

Which of the following statements accurately describe the steps in the order they should be preformed if a release occurs:

- A. Stop the flow if you are trained, protect nearby storm drains, and then call the Environmental Office.
- B. Notify the Fire Department (911 or x1333), tell others in the area, protect nearby storm drains, and stop the flow if you are trained.
- C. Stop the flow and then clean-up the spill by washing it down the nearest storm drain.
- D. Both C and B are true.

The correct answer is B

Countermeasures

Countermeasures to contain and divert spills from entering the waters of the Commonwealth of Virginia are described in Chapter 5 of the ICP and include the following:

- Elimination of the source of the spill (i.e., shutting valves, banding piping, plugging ruptured tanks, etc.);
- Strategic placement of sorbent materials around or on top of spilled material;
- Placement of booms around proximate storm drain inlets and sanitary sewer manholes; and
- Construction of earthen dikes in the immediate area or downstream of the spill.

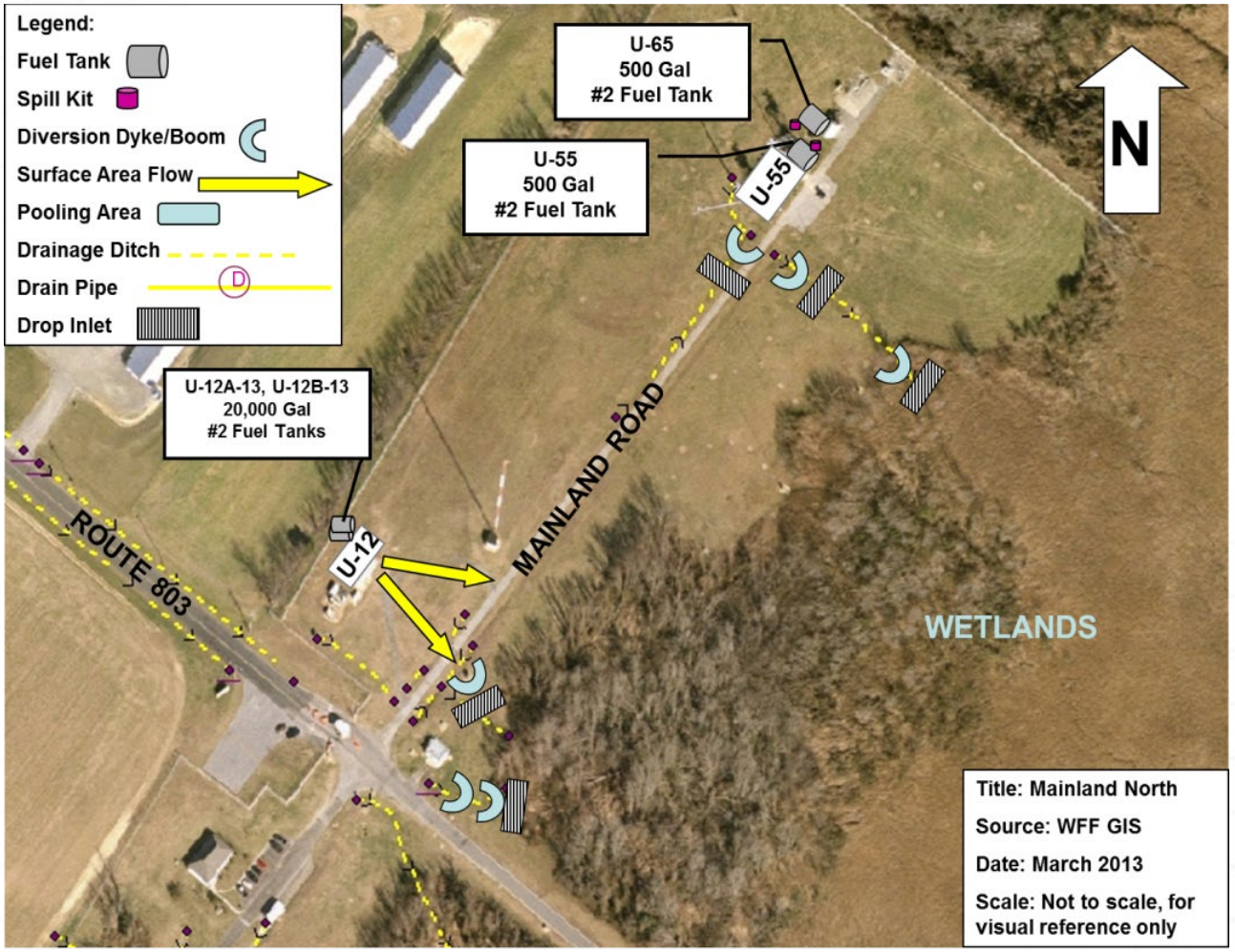
Worst Case Scenerio

Chapter 6 includes the results of calculated worst case scenarios and spill exercises.

The spill exercise in these pictures was conducted at Pad 0-A to simulate a release from the 30,000 gallon storage tank.

Incident Briefing Plans

Incident Briefing Plans (IBP) are another countermeasure used by the WFF Fire Department to quickly determine the best placement of booms and the location of spill kits when responding to a storage tank release. A sample is included in Appendix H.



Daily AST Inspection

Inspections are another countermeasure. Daily Inspections are required for storage tanks D-9A/B and MARS 33.

Inspectors receive on-the-job training and utilize the Daily Inspection Checklist to perform inspections.

Month:

Year :

Daily Inspection Checklist
Aboveground Storage Tanks D-9A, D-9B

Instructions:
- The person conducting the daily visual inspection must also complete this log.
- Check (√) box if ok. For problems, **X** box and explain on the reverse.
- Describe any event, (spills, cracked or compromised containment, non-functional safety equipment, etc.) and corrective actions on the reverse.
- Report spills or leaks to 1333 immediately.

Day	Inspector	Time	Walk-through of the facility indicated no hazardous conditions exist	Inspection of ground surface showed no signs of leakage, spillage, or discolored soils	Inspection of piping, valves, and flanges showed no signs of leakage	Inspection of exterior tank showed no signs of leakage	Containment checked for excessive accumulation of water or sheen; Controlled Drainage Discharge Log completed if drained	Comment: **X** box and explain on reverse.
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
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29								
30								
31								

Comments, Observations and Corrective Action Taken: Describe the actions taken to correct each deficiency noted above, and note date each action was taken.

Weekly AST Inspection

Weekly Inspection is required for the tanks below:

D-9A

D-9B

MARS 33

Inspection procedures are found in Chapter 7.

Inspection forms are found in the Appendix.

WEEKLY INSPECTION FORM
ABOVEGROUND STORAGE TANK SYSTEMS:

Facility: Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

Date: _____
Completed By: _____
Company: _____

SYMBOLS: Y – Yes N – No S – Satisfactory U – Unsatisfactory NA – Not Applicable
D – Diesel Oil J – Jet Fuel MO – Motor Oil UO – Used Oil

ITEM	CONDITIONS	COMMENTS(1)	REFERRED TO
TANK ID: _____			
Tank Condition			
Support Condition			
Staining on concrete or adjacent surfaces			
Tank area clear of debris			
Secondary containment free of oil, water and debris			
AST label appropriate and legible (not faded)			
Threaded fill caps kept closed when not in use			
Evidence of fuel spillage at remote fill and/or direct fill			
Fuel leaks visible on top of the tank or from piping			
Fuel gauge functioning properly			
All vent systems operational			
Status of spill kit supplies			
Is corrosion (rust) present on exterior surface of tanks, fittings or other equipment?			

(1) Provide comments below or attach additional sheets as necessary. Be sure to note the item you are commenting on.

_____
_____
_____

KEEP ON FILE FOR FIVE (5) YEARS.
MAKE AVAILABLE TO REGULATORY PERSONNEL UPON REQUEST.

Monthly AST Inspection

Monthly Inspection is required for all aboveground storage tanks.

MONTHLY ABOVEGROUND STORAGE SYSTEM INSPECTION CHECKLIST

Building Number	Tank Number	Facility Name/Address	Inspected By	Date

Were any issues found? Circle: YES or NO (Describe in detail on reverse side)

Was Task Order issued? Circle: YES or NO
Who was contacted?

AREA SURROUNDING TANK		Y, N, or N/A	COMMENTS
	Are the ground surface around tank, containment structures, and transfer areas free of leakage? (W6*)		
TANK COMPONENTS		**Y, N, or N/A**	**COMMENTS**
Condition of Tank and Saddles	Is the tank area free of hazardous conditions? (D1)		
	Is the tank shell, saddle, other components, including the welds, rivets, bolts, seams, and foundation free of leakage, damage, corrosion, and paint or other deterioration? (D6, W5)		
	Does tank have adequate vehicle protection?		
Tank Leaks	Is the tank area clean with no evidence of any leaks or spills? (Wipe areas clean.)		
	Inspection of ground surface area shows no signs of leakage, spillage, or stained soils? (D2)		
Overfill Prevention	Does the tank have an overfill alarm and is it working properly?		
	Is the tank equipped with a functioning overfill prevention valve?		
Tank Gauge	Is the tank gauge legible, accurate, and working properly? (W13)		
Tank Ladders Stairs	Is the tank ladder or stairway(s) in good condition?		
Secondary Containment Area	Is concrete pad or containment dike in good condition? (W1)		
	Is the secondary containment area dry? (Interstitial or Concrete Dike) (D3, W2)		
	Was the dike drained with no sheen present? (Also complete the Controlled Discharge Drainage Log) (D4, D5)		
	Is the berm, base, and drain holes free of excess standing water, sheen, debris, high grass, and weeds? (W4)		
	Are gate valves for emptying containment areas in good condition and secured? (D3, W3)		
Interstitial Leak Detection	Are the leak sensors in good condition and have they been physically activated/tested? (Remove leak sensor and physically raise the rod. Should perform once annually. Place date completed within comments.) (W7)		
Vent	Are the primary and emergency vents unrestricted and working properly?		
Separator/Drainage Tank/Draw-Offs	Is the separator or drainage tank in satisfactory condition? (W8)		
	Are the tank water bottom draw-offs secured? (W9)		
Signage	Does the tank have proper signage including NFPA Hazard Diamond, Product, Working and Design Capacity, Delivery Driver Instructions, and Tank Number?		
TANK FILL AREA		**Y, N, or N/A**	**COMMENTS**
Spill Containment Manhole/Bucket	Is the spill bucket secured and free of dirt, trash, water, or product?		
Fill Pipe	Is the fill cap/pipe in good condition, free of deterioration, seals tightly, and locked? (W10)		
Spill Kit	Is the spill kit in place and properly stocked?		
PIPING		**Y, N, or N/A**	**COMMENTS**
All piping	Is paint on all piping in good shape and no corrosion present?		
Support	Is the piping properly supported?		
Inlet and Outlet Piping/Valve Leaks/Flanges	Are there visible stains, leaks, or deterioration present? (All stains should be wiped clean.) (D7,W11, W12)		

*W or D refer to VDEQ daily and weekly requirements which must be completed monthly

Monthly Drum Inspection

Monthly inspection is required for all 55 gallon drums of new or used oil.

MONTHLY INSPECTION FORM
DRUM STORAGE AREA

Facility: Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia 23337

Date: _____
Completed By: _____
Company: _____

ITEM	CONDITIONS	COMMENTS(1)	REFERRED TO
DRUM STORAGE AREA _____			
Containment area conditions			
Labels appropriate and legible			
Staining on concrete floor – evidence of leaks/spills			
Adequate spill kit supplies			

(1) Provide comments below or attach additional sheets as necessary. Be sure to note the item you are commenting on.

_____
_____
_____
_____
_____
_____
_____
_____

KEEP ON FILE FOR FIVE (5) YEARS.
MAKE AVAILABLE TO REGULATORY PERSONNEL UPON REQUEST.

Quarterly Transformer Inspection

Quarterly inspection is required for all transformers, including those in storage.

WFF Integrated Contingency Plan **37.01.01.16428**

QUARTERLY INSPECTION FORM
FOR TRANSFORMER TANKS

Transformers to be inspected **every** quarter:
E-7-1, F-4 & F-5
F-3-1, F-11-1
F-10-4

Facility: **Goddard Space Fight Center**
Wallops Flight Facility
Wallops Island, Virginia 23337

Month:
Completed By:
Company: **LJT & ASSOCIATES**

PTI POINTS 40 OUTAGE
PTI POINTS 27 TANK INSP
MAINBASE CIRCUIT 1

SWITCH / XFMR #	OIL CAPACITY FROM NAME PLATE (GAL)	IS THERE ANY OIL LEAKING FROM TANK	EQUIP CONDITION / NEW / GOOD / NEEDS REPAIR / NEEDS TO BE REPLACE	HAS OIL SAMPLE BEEN TAKEN FROM XFMR	HAS PM BEEN PERFORMED ON XFMR/SWITCH	DID YOU PLACE RODENT CONTROL	NOTE ANY REPAIRS NEEDED
S/S 2C1							
S/S 1A1							
TR -N157 25 KVA TRANSFORMER	**130**						
TR-N159C 750 KVA TRANSFORMER	**448**						
TR-N159B 750 KVA **DRY** TRANSFORMER	**DRY**						
TR-D8 GEN ROOM 1500 KVA TRANSFORMER TR-D8-4	**139**						
S/S 1B1							
TR-N161C 500 KVA TRANSFORMER	**308**						
S/S 1B2							
TR-N165-1 75 KVA TRANSFORMER	**136**						
TR-N181-2 150 KVA TRANSFORMER	**120**						
TR-WEB1	**252**						
TR-WEB2	**252**						
S/S 1W1							
TR-E106-W 300 KVA TRANSFORMER	**175**						
TR-F2 112 KVA TRANSFORMER	**162**						
S/S 1W2							
TR-N159D 500 KVA TRANSFORMER	**342**						
300 KVAR CAPACITOR BANK							
S/S 1W3							
TR-N163A 45 KVA TRANSFORMER	**130**						
TR-N175 300 KVA **DRY** TRANSFORMER	**DRY**						
TR-N179 150 KVA TRANSFORMER	**143**						
S/S 1W4							
TR-N174 A&B 45 KVA TRANSFORMER	**101**						
S/S 1W5							
TR-N176-W 225 KVA TRANSFORMER	**290**						

Knowledge Check

Which statement is true:

- ❑ A. The containers in Inspection 1 are in compliance because from this vantage point, the containers are properly labeled.
- ❑ B. The storage tanks in Inspection 2 are out of compliance because a sheen is noticed in the secondary containment.
- ❑ C. The containers in Inspection 1 are in compliance because they are in good condition.
- ❑ D. Both A and C are true.

Inspection 1

Inspection 2

Knowledge Check

Which statement is true:

- ❑ A. The containers in Inspection 1 are in compliance because from this vantage point, the containers are properly labeled.
- ❑ B. The storage tanks in Inspection 2 are out of compliance because a sheen is noticed in the secondary containment.
- ❑ C. The containers in Inspection 1 are in compliance because they are in good condition.
- ❑ D. Both A and C are true.

The correct answer is B

Inspection 1

Inspection 2

Knowledge Check

Which statement is true:

- ❑ A. The storage tank in Inspection 3 is out of compliance because the storage tank has not been properly cleaned following an overfill.
- ❑ B. The storage tank in inspection 4 is in compliance as observed from this view.
- ❑ C. Neither A nor B are true.
- ❑ D. Both A and B are true.

Inspection 3

Inspection 4

Knowledge Check

Which statement is true:

- ❑ A. The storage tank in Inspection 3 is out of compliance because the storage tank has not been properly cleaned following an overfill.
- ❑ B. The storage tank in inspection 4 is in compliance as observed from this view.
- ❑ C. Neither A nor B are true.
- ❑ D. Both A and B are true.

The correct answer is A

Inspection 3

Inspection 4

Open Burn Area Contingency Plan

The Open Burn Area, located at the south end of Wallops Island, is a permitted treatment area for hazardous waste rocket motors. One requirement of the HWCP which has not yet been discussed is the requirement to identify all sources and activities at the site which could result in groundwater contamination. Those sources and the countermeasure are:

Activity	Possible Contamination	Countermeasure
Routine operations	Ejected propellant	Collect ejected propellant after each operation.
Traffic	Vehicle leak	Promptly report and clean up leaks.
Fire	Fire fighting water which could increase contamination leaching rate	Report impact on groundwater monitoring to VDEQ.
Groundwater monitoring	Spill into open well	Keep well head covered and locked.

In the event of an emergency at the Open Burn Area:

- Evacuate the area
- Spread the alarm verbally
- Call 911

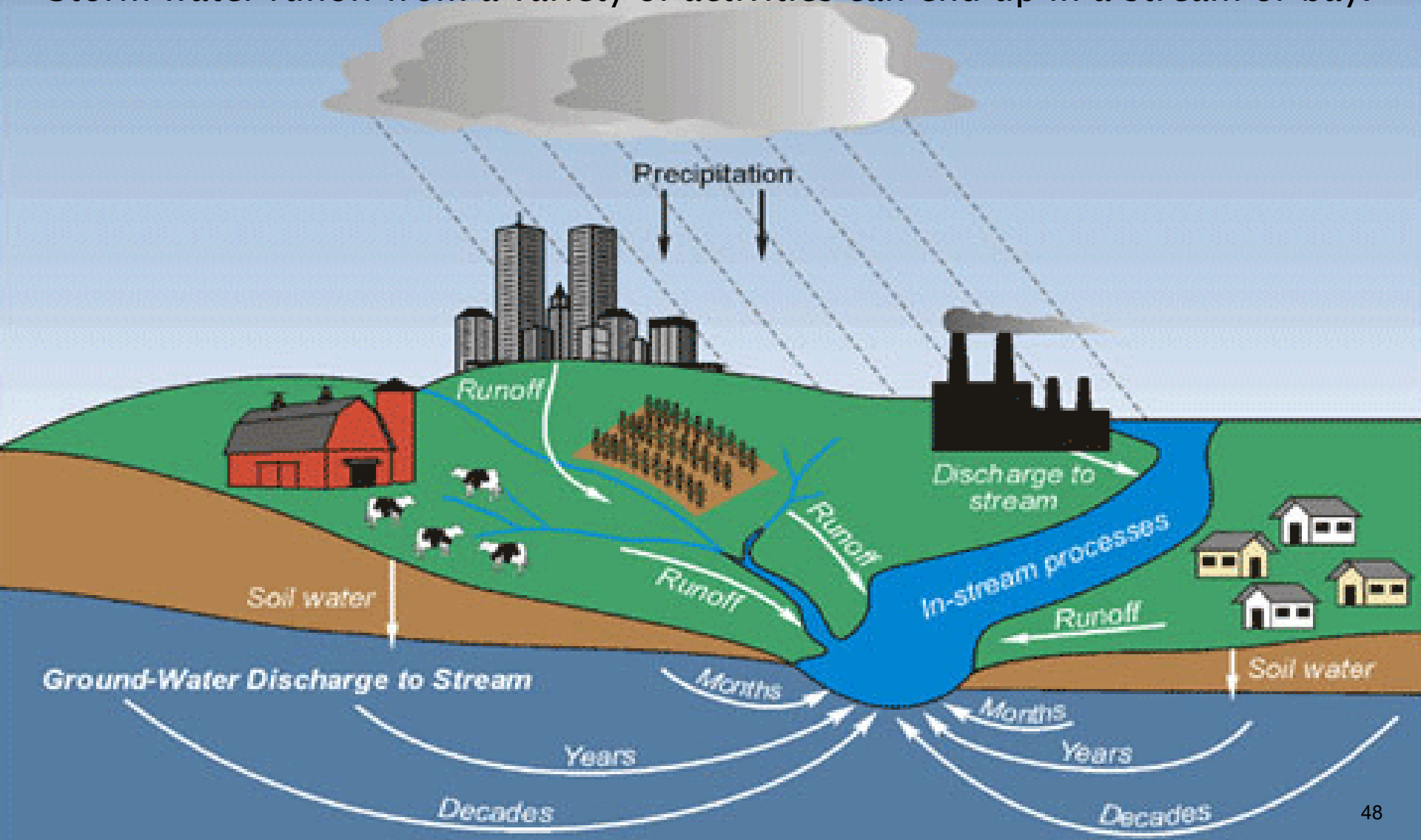
SWP3

The Stormwater Pollution Prevention Plan (SWP3):

- Is required by the Virginia Pollutant Discharge Elimination System (VPDES) permit
- Goal is to minimize the potential pollutants which could be carried away in stormwater discharge.

Sources of Pollutants

Storm water runoff from a variety of activities can end up in a stream or bay.



Main Base Drainage Features

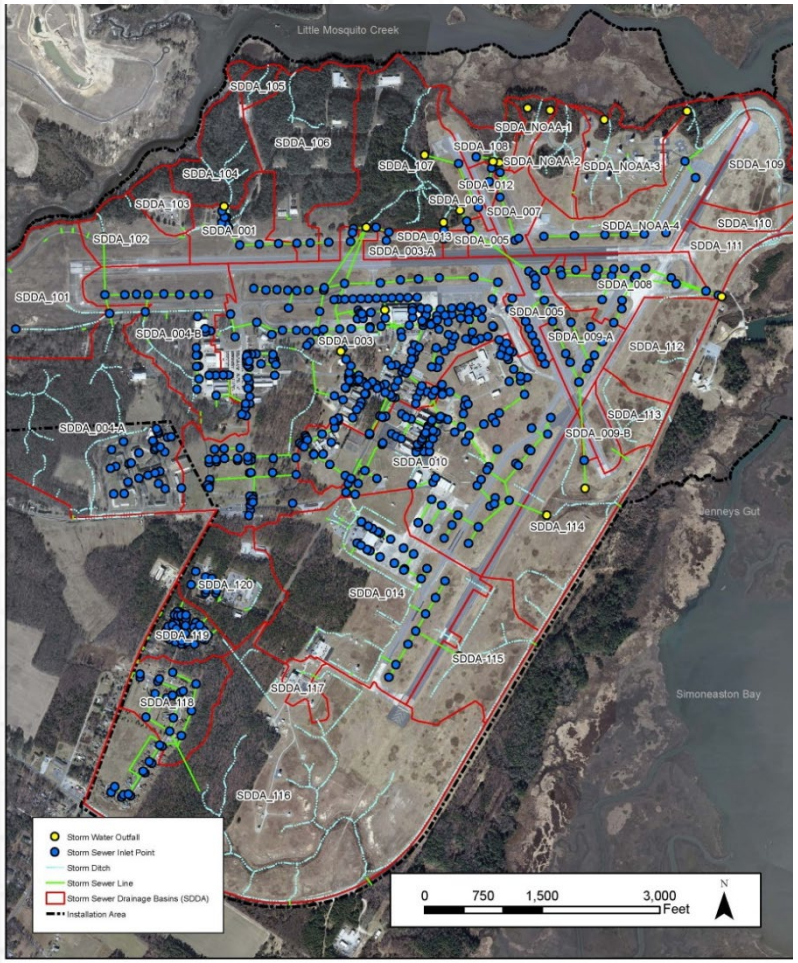


Figure B.3.1 WFF Main Base Drainage Features

The Main Base has a large number and a high density of storm drain inlets. Anything that enters one of these storm drain inlets eventually ends up in the water surrounding WFF. There is no treatment of water which enters the storm drain system.

Any work performed outside which uses hazardous materials or any vehicle or piece of equipment which uses fuels or hydraulics to operate could result in a spill which may end up in a storm drain.

It is important for everyone to do their part to protect the water surrounding WFF.

Mainland and Island Drainage Features

The Mainland and Island have fewer storm drain inlets, but each work location is closer to wetlands, bays, and the ocean.

Protecting these areas by using Best Management Practices is even more important on the Mainland and Island.

Potential Pollutant Sources

Each of the activities below are addressed in SWP3. The next few slides will discuss important Best Management Practices (BMP) to follow when engaging in one of these work activities.

- Petroleum Storage
- HW Accumulation Areas
- Outdoor Drum Storage Areas
- WFF Section 313 Water Priority Chemicals
- Vehicle and Equipment Maintenance Facilities
- Equipment Washing
- Airfield Runways
- Construction/Land Clearing
- Environmental Remediation of Areas of Concern
- Housekeeping
- Launch Pads

BMP HW and Petroleum

When working in a hazardous waste (HW) accumulation area (satellite accumulation area or a central accumulation area), a petroleum storage area, or a hazardous material storage area, be sure to:

- Store 55 gallon containers on secondary containment. Regularly empty and clean secondary containment to ensure its full capacity in the event of a spill.
- Attend this training annually.
- Complete monthly drum or HW inspections and correct issues found during the inspection.
- Limit outdoor storage of all containers and materials including materials such as scrap metal which may have residual oil.
- Use good housekeeping practices. Clean-up small spills, sweep-up and containerize spill material and metal shavings, and pick up trash.

BMP Water Priority Chemical

Lead is an Emergency Planning and Community Right to Know (EPCRA) Section 313 Water Priority Chemical which WFF reports on annually. WFF uses lead in the activities described below. Following the BMPs listed under each activity can keep lead out of WFF's stormwater.

- Lead sheet metal
  - Separately containerize scrap indoors.
  - Notify Environmental of machine and cutting fluid where lead was machined.
- Lead Solder
  - Keep solder scraps properly contained in provided container.
  - Call Environmental for disposal when the container is full.
- Rocket motor propellant
  - Containerize ejected propellant, label, and store in Satellite Accumulation Area.

BMP Vehicle Maintenance

Perform preventive maintenance on schedule.

Place sorbent pads under equipment while working.

Cover storm drains during outdoor repairs.

BMP Equipment Maintenance

- If an equipment maintenance activity would result in the discharge of water or chemicals to the sanitary sewer, stormwater inlet, or an outdoor surface, obtain approval **every time before each activity.** This includes routine and non routine emptying of dip tanks, cleaning of chillers/cooling towers, and other similar processes.

- Discharges from these processes may require permits, or may need to be timed to best match seasonal or site conditions.

BMP Equipment Washing

Wash oversize vehicles and equipment only at the D-1 Hangar wash rack. The wash rack drains to an oil water separator which prevents oil from reaching the storm water drains or waste water treatment plant.

BMP Airfield Runways

The WFF airfield has a large number of storm drains in the grass areas between the runways and taxiways. It is important to follow these BMPs to keep the storm drains oil and debris free.

- Adhere to the maintenance schedule for trucks used to fuel aircraft. Check these trucks prior to each fueling for signs of leaks.
- Follow the steps discussed earlier in the training which apply to all fuel deliveries, including covering storm drains when fueling.
- Sweep and vacuum runways to remove foreign object debris (FOD). This airfield safety requirement also keeps debris from reaching storm drains.
- Inspect storm drain inlets for damage. Maintaining grass buffers between runways and drop inlets prevents sediment from entering the stormwater system.

Stormwater and the Construction Industry

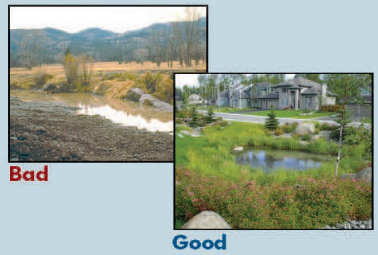
Protect Natural Features

- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wild woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

Construction Phasing

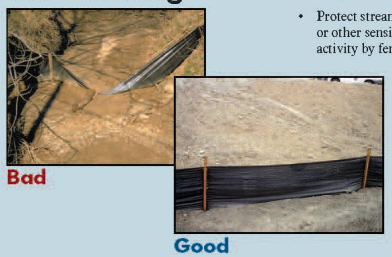
- Sequence construction activities so that the soil is not exposed for long periods of time.
- Schedule or limit grading to small areas.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as landscaping, to be completed immediately after the land has been graded to its final contour.

Vegetative Buffers



- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Maintain buffers by mowing or replanting periodically to ensure their effectiveness.

Silt Fencing



- Inspect and maintain silt fences after each rainstorm.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the stakes.
- Don't place silt fences in the middle of a waterway or use them as a check dam.
- Make sure stormwater is not flowing around the silt fence.

Maintain your BMPs!

www.epa.gov/npdes/menuofbmps

Site Stabilization

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.

Construction Entrances

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become buried in soil.

Slopes

- Rough grade or terrace slopes.
- Break up long slopes with sediment barriers, or under drain, or divert stormwater away from slopes.

Dirt Stockpiles

- Cover or seed all dirt stockpiles.

Storm Drain Inlet Protection

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.

BMP Construction and Remediation

Utilize the BMPs on the previous slide in all construction and remediation areas to prevent sediment from leaving the site and entering the stormwater system. This includes:

Hardening the entrance to the site.

Installing silt fencing.

BMP Housekeeping

- Wash mats or rugs in mop sinks not outdoors.
- Don't empty mop buckets outside.

BMP Facility-wide

Inspect storm drains annually to ensure that excess sediment is not entering the stormwater system.

Launch Pads

- Do not release water from deluge basins until tested by the Environmental Office.
- Retrieve ejected propellant or insulation after launch or static fire.

Knowledge Check

Which of the following is not a Best Management Practice which helps prevent stormwater pollution?

- ❑ A. Store 55 gallon containers on secondary containment.
- ❑ B. Inspect storm drain inlets for damage.
- ❑ C. Complete monthly drum and hazardous waste inspections and correct issues found during the inspection.
- ❑ D. Delay maintenance on equipment and vehicles for the first years of service.

Knowledge Check

Which of the following is not a Best Management Practice which helps prevent stormwater pollution?

- ❑ A. Store 55 gallon containers on secondary containment.
- ❑ B. Inspect storm drain inlets for damage.
- ❑ C. Complete monthly drum and hazardous waste inspections and correct issues found during the inspection.
- ❑ D. Delay maintenance on equipment and vehicles for the first years of service.

The correct answer is D

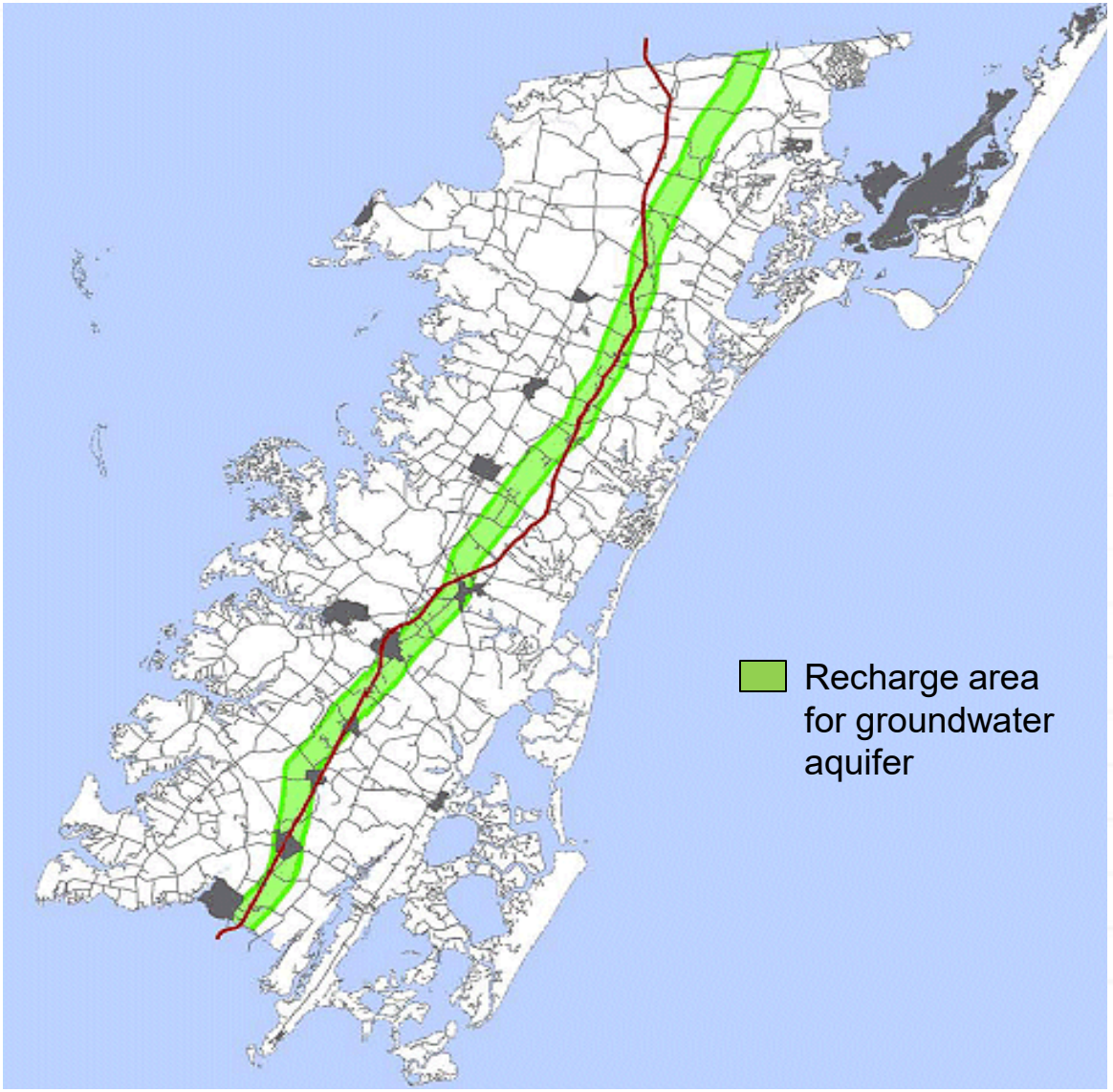
Sole Source Aquifer

The Eastern Shore of Virginia is an EPA designated Sole Source Aquifer.

This means that there is only one source of drinking water on the Eastern Shore.

It is important to protect the groundwater from contamination by employing the same BMPs that protect the stormwater system.

It is also very important to conserve water.



Water Conservation

WFF is located in a sole source aquifer and is required by Executive Order to reduce potable water consumption by 20% from FY2007 baseline, and by 0.5% each year.

It is important to:

- Report leaks to the HELP Desk.
- Consider ways to reduce water use in your work.
- Consider low-flow water fixtures and water efficient equipment when making purchases or planning projects.
- Participate in Regional Groundwater Meetings.
- Plan to use the shallow aquifer for equipment water demands.

Environmental Management System

The core of GSFC's Environmental Management System (EMS) is the Environmental Policy (GPD 8500.1). Everyone should be able to restate it as: Consider the environment as I perform my job.

- The complete policy can be found in GDMS at https://gdms.gsfc.nasa.gov/

Goddard's updated EMS policy (GPD 8500.1E) was signed on May 11, 2022. The key points of the policy are:

- Comply with all applicable requirements.
- Incorporate environmental risk reduction and sustainable practices in programs, projects, and activities
- Consider environmental factors and impacts
- Pursue environmental initiatives and objectives
- Prevent pollution, reduce waste generation, and manage cultural and natural resources
- Ensure that environmental liabilities and compliance are addressed in agreements
- Implement cost effective solutions
- Develop collaborative partnerships
- Continue to improve our environmental performance

EMS training must be taken every 3 years in SATERN.

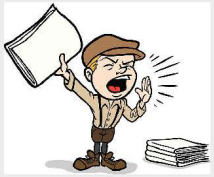
As a result of our dynamic mission, management annually focuses on the top environmental issues, which are identified by a team of employee representatives.

- Check the Code 250 website to view the current High Priorities:

https://code200-external.gsfc.nasa.gov/250-WFF/environmental-management-system

Environmental Management System

FY2023
Environmental Management System (EMS) High Priorities approved !



Each year, the environmental risk or opportunity of upcoming fiscal year (FY) projects and activities are scored. On September 12, 2022, Wallops Senior Management approved the EMS High Priorities for FY 2023.

The FY23 High Priorities are listed below with a snap shot of activities which are planned (P), needed (N), or will be a opportunity (O):

Natural and Cultural Resources

- Regulatory consultations to complete planning documents (P)
- Avian Monitoring at USAF tower (P)

- Funding studies and Cultural Sensitivity for Shoreline Resiliency Model (N)

Site Restoration

- PFAS monitoring and investigation activities (P)

- Construction Debris landfill removal (P)
- Viable, cost effective treatment technologies (N)

Water Quality

- Paint and repair MB water tower (P)
- Well 6 on-line (P)
- Renovate 3 more water tanks (N)

Sustainability

- 5 government electric charging stations (P)
- Leak detection survey (P)
- Energy savings from photovoltaic and HVAC projects (O)

Environmental Planning

- North American Balloon Program Office EA (P)
- Wallops Island Northern Development EA (P)
- New Business Growth (O)

Questions and Course Test

If you have questions on any of the items in this portion of the course, please contact:

Marianne Simko at marianne.f.simko@nasa.gov

Doug Bruner at douglas.w.bruner@nasa.gov

Julie Shane at julie.r.shane@nasa.gov

You have now finished both courses. Please take the course test.

You must achieve a passing score of 70% on the test to receive credit for both courses.

Course Test

Q1. In the event of a spill the emergency number that should be called at WFF is :

- A. 911 from a WFF phone.
- B. 757-824-1333
- C. 757-824-1718 (the Hazardous Waste Hotline)
- D. Both A and B

Course Test

Q2. All of the following are included in the ICP except:

- ❑ A. Safety Data Sheets
- ❑ B. Site Inspection Sheets
- ❑ C. Stormwater Pollution Prevention Plan
- ❑ D. Storage Tank Piping Diagrams
- ❑ E. FOM List
- ❑ F. Worst Case Scenarios

Course Test

Q3. The important topics to remember about are Wallops EMS are:

- ❑ A. Review the EMS High Priorities annually on the code 250 website.
- ❑ B. Consider the environment as you perform your job.
- ❑ C. Take WFF EMS training every 3 years in SATERN.
- ❑ D. All of the above

Course Test

Q4. Which of these should be found at all permanent storage tanks at WFF?

- ❑ A. Spill Kit
- ❑ B. Driver Warning Sign
- ❑ C. NFPA Label
- ❑ D. No Smoking Sign
- ❑ E. Tank Capacity and Inches Sign
- ❑ F. Proper Tank Identification
- ❑ G. Spill Basket Lock
- ❑ H. All of the Above

Course Test

Q5. When delivering fuel or escorting someone who is delivering fuel, always cover adjacent storm drains, check the delivery truck for a spill kit or locate a nearby spill kit, use drip pads below the hose connection and:

- ❑ A. Confirm that the tank or vehicle being filled can accept delivered volume.
- ❑ B. Only leave the area for a brief amount of time.
- ❑ C. Do not smoke within 2 feet of the fuel delivery.
- ❑ D. Both C and B.

Course Test

Q6. How frequently must 55-gallon drums of new or used oil and Hazardous Waste be inspected?

- ❑ A. Weekly
- ❑ B. Monthly
- ❑ C. Annually
- ❑ D. Never

Course Test

Q7. Which of the following is not a Best Management Practice to prevent stormwater pollution?

- A. Check outdoor secondary containment for sheen prior to emptying accumulated rainfall.
- B. Obtain approval from the Environmental Office prior to conducting an equipment maintenance activity which would result in the discharge of water or chemicals to the sanitary sewer, stormwater inlet, or an outdoor surface.
- C. Cover storm drains when fueling or performing other outdoor work.
- D. Empty mop buckets outdoors.

Course Test

Q8. What type of label should be applied to a container used to collect oil from vehicle or radar preventative maintenance?

- ❑ A. Hazardous Waste.
- ❑ B. Universal Waste.
- ❑ C. Used Oil.
- ❑ D. None of the Above.

Course Test

Q9. What items need to be included on a WFF SAA Hazardous Waste Label?

- A. Date, “Hazardous Waste”, Warning Words, Name of Chemical, and Waste Codes
- B. “Hazardous Waste”, Warning Words, Name of Chemical, and Waste Codes .
- C. Date and “Hazardous Waste”
- D. “Hazardous Waste”

Course Test

Q10. During a SAA inspection the drum below is observed. Do problems exist which should be noted and corrected?

- A. Yes; Determine if the rag on top of the drum is clean or used and store it in either a closed clean rag container or a closed and labeled HW container.
- B. Yes; Determine the contents of the container and remove one of the labels.
- C. Yes; If the contents are determined to be HW, then completely fill out the label.
- D. All of the above.

Course Test

Q11. During an inspection, the trash can below was discovered. Are there any problems to note and correct?

- ❑ A. No.
- ❑ B. Yes; Aerosol cans are never empty. All aerosol cans must be collected by the Environmental Office.
- ❑ C. Yes; The trash can should have a lid.
- ❑ D. Yes, Both B and C are correct.

Course Test

Q12. How should expired nickel cadmium batteries be stored in a SAA?

- ❑ A. Taped with clear strapping tape.
- ❑ B. Placed in a closed container marked “Hazardous Waste Rags”.
- ❑ C. Placed in a closed container marked “Universal Waste Batteries” and dated with the date the first battery was placed in the container.
- ❑ D. Both A and C

Course Test

Q13. What is the number for the HW Hotline?

- ❑ A. x1718
- ❑ B. x1333
- ❑ C. 911
- ❑ D. None of the above

Course Test

Q14. Which is the only container label which requires a date in the SAA?

- ❑ A. Used Oil
- ❑ B. Hazardous Waste
- ❑ C. Nonhazardous Waste
- ❑ D. Universal Waste

Course Test

Q15. This condition was noticed during an inspection. Is there an issue that needs corrected.

- ❑ A. Yes; Remove the funnel and close the bung lid.
- ❑ B. No
- ❑ C. Yes; Oil cannot be placed in a plastic drum.
- ❑ D. Yes; Both A and C are correct.

Course Test

Q16. Each choice below describes waste stored in a SAA. Which SAA(s) contain(s) greater than 55 gallons of HW. All containers are full. Remember to apply the definition of HW.

- A. One 55 gallon drum of Used Oil.
- B. Two 5 gallon pails of nickel cadmium batteries, and one 55 gallon drum of oil rags.
- C. One 55 gallon drum of Jet Fuel (flashpoint = 100F) and two 5 gallon pails of hydrochloric acid (pH = 0.2).
- D. One 55 gallon drum of citric acid and water mixture (pH = 5.5) and two 5 gallon pails of alkaline batteries .

Course Test

Q17. Hazardous waste can be poured from a container in one SAA to another container in another SAA container.

- ❑ A. True
- ❑ B. False

Course Test

Q18. In the event of a hurricane or just to make it easier for Environmental staff, HW can be brought from Wallops Island to the Main Base.

- ❑ A. True
- ❑ B. False

Course Test

Q19. If a container has less than 1 inch of residue, can it be placed in the trash?

- A. No
- B. Yes; however, the container cannot be an aerosol can.
- C. Yes, but first remove the yellow HMMS sticker and return it to building F-19.
- D. Both B and C are correct

Course Test

Q20. It is important to contact the Environmental Office prior to draining 100 gallons of jet fuel (flash point = 100F) from an airplane because100 gallons of jet fuel exceeds the 55 gallon SAA limit. The Environmental Office will need to plan to remove the 100 gallons within 3 days.

- ❑ A. True
- ❑ B. False