MOVE YOUR ENVIRONMENT FORWARD

SPILL PREVENTION, CONTROL & COUNTERMEASURE (SPCC) PLAN

Town of Hamden Public Works Maintenance Garage
(VOED Building)
Hamden, Connecticut

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Original Prepared:

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PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that (i) I am familiar with the requirements of 40 CFR Part 112, (ii) my agent has visited and examined the facility, (iii) the plan has been prepared in accordance with good engineering practices including the consideration of applicable industry standards, (iv) procedures for required inspections and testing have been established, (v) and the Plan is adequate for the facility.

_____

Printed Name of Registered
Professional Engineer
HRP Associates, Inc.
197 Scott Swamp Road, Farmington, CT 06032
860-674-9570

_____

Signature of Registered
Professional Engineer

(Professional Engineer Seal)

Date: _____ Registration No: _____ State: _____

Note: This certification is contingent on meeting the action items listed in Section 13.0 of this plan. This certification shall in no way relieve Town of Hamden Department of Public Works of its duty to prepare and fully implement a SPCC Plan in accordance with 40 CFR 112.7, as required by 40 CFR 112.3(a), (b), and (c).

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GENERAL FACILITY INFORMATION

Name and Location of Facility:	Town of Hamden Public Works Maintenance Garage (VOED Building) 1255 Shepard Avenue Hamden, CT 06518
Type of Facility:	Municipal Government, Public Works Building
Telephone Number:	(203) 287-7044
Normal Operating Schedule:	7:00 am to 3:30 pm Monday through Friday
Name and Address of Owner/Operator:	Town of Hamden 2750 Dixwell Avenue Hamden, CT 06518
Designated Person Responsible for Spill Prevention at the Facility:	John Pucillo (203) 287-2626 (office) (203)796-2548
Date of Initial Operation of Facility:	1970
Oil Spill History:	None
Receiving Waters:	Unnamed Brook discharges to Shepard Brook

MANAGEMENT APPROVAL

Town of Hamden VOED Building is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the highest standards for spill prevention control and countermeasures through regular reviews, updating and implementation of this SPCC Plan for its facility in Hamden, Connecticut. This SPCC Plan will be implemented as herein described. By signing this document, I certify that I am thoroughly familiar with this SPCC Plan.

Signature:_____

Authorized Facility Representative: John Pucillo

Title: Superintendent of Vehicle Maintenance

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COMPLIANCE INSPECTION PLAN REVIEW PAGE

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every five years. As a result of this review and evaluation, Town of Hamden VOED Building will amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer* (in accordance with 40 CFR 112.3(d) within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.

REVIEW DATE (at least every 5 years)	PLAN UPDATE REQUIRED (YES/NO)	DESCRIPTION OF REQUIRED REVISION	SIGNATURE CERTIFYING TO STATEMENT BELOW**	DATE OF AMENDMENT (if necessary)
10/2017	Yes	5 year review and update	☒ will amend ☐ will not amend Signature: _____	
			☐ will amend ☐ will not amend Signature: _____	
			☐ will amend ☐ will not amend Signature: _____	
			☐ will amend ☐ will not amend Signature: _____	

CERTIFICATION STATEMENT

**A Professional Engineer's certification is required if (1) the site maintains oil in excess of 10,000 gallons, (2) the site has a single discharge exceeding 1,000 gallons or two discharges each exceeding 42 gallons within a twelve month period in the three years prior to the SPCC Plan self certification date, or (3) the SPCC Plan deviates from any requirements as allowed by 40 CFR 112.7(a)(2) and 112.7(d) except as provided in 40 CFR 112.6(c).*

***"I have completed a review and evaluation of the SPCC Plan for Town of Hamden VOED Building and will/will not amend the Plan as a result.*

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1.0 INTRODUCTION

The Oil Pollution Prevention Regulation in 40 Code of Federal Regulations (CFR) Part 112 was developed in order to (1) prevent oil discharges from reaching navigable waterways (defined to include, but not limited to: lakes, rivers, streams, and wetlands) and adjoining shorelines, and (2) to ensure effective response to oil discharges. Required under this rule is the development of a Spill Prevention Control and Countermeasure Plan (SPCC) for applicable owners, users and/or operators of facilities that could possibly discharge oil in harmful quantities into navigable waterways.

On January 14, 2010, the Environmental Protection Agency (EPA) put into effect a final rule amending the SPCC regulations. Under the SPCC requirements, owners or operators of facilities that "drill, produce, gather, store, use, process, refine, transfer, distribute, or consume oil and oil products" must prepare a SPCC if any of the following storage practices apply:

- greater than 1,320 gallons of oil is stored in above-ground containers/tanks, or
- greater than 42,000 gallons of oil is stored in underground containers/tanks provided the underground storage tank (UST) is not subject to the technical requirements of the UST regulations, 40 CFR Part 280 or 281.

Established under the SPCC regulations is a de minimis container size of 55 gallons. Only containers of oil (defined as "oil of any kind or in any form, including, but not limited to… petroleum, fuel, oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil") with a capacity of 55 gallons or greater are counted in the calculation of the 1,320-gallon threshold. All containers with a storage capacity of less than 55 gallons of oil exempt from the SPCC regulations. A complete copy of the SPCC regulations is included in Appendix A.

Town of Hamden VOED Building is required to prepare, maintain, and follow a SPCC plan since greater than 1,320 gallons of petroleum products are stored above-ground and the discharge of oil could potentially impact the Unnamed Brook from the onsite storm drainage system.

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2.0 FACILITY DESCRIPTION

2.1 Facility Operations

The Town of Hamden VOED Building located in Hamden, Connecticut is comprised of a one story sheet metal building. Operations include storage, maintenance and washing of town-owned vehicles and equipment. The Town of Hamden VOED Building's total above-ground oil storage capacity is approximately 3,994 gallons and includes the following containers with capacities at or exceeding 55-gallons:

- (1) 500-gallon waste oil AST (Outside)
- (1) 275-gallon 1540 diesel oil AST (Fire Department Area)
- (2) 275-gallon hydraulic oil ASTs (Oil Storage Room)
- (1) 275-gallon Petro-Canada Supreme 5W-20 Motor oil (Oil Storage Room)
- (1) 275-gallon 1540 motor oil (Oil Storage Room)
- (1) 275-gallon automatic transmission fluid (Oil Storage Room)
- (2) 55-gallon Automatic Transmission oil drums (Oil Storage Room)
- (5) 55-gallon universal tractor fluid drums (Oil Storage Room)
- (2) 55 gallon waste antifreeze drums (potential for some oil) (center of building)
- (2) 55-gallon waste oil filters drum (center & east side of building)
- (2) 55-gallon hydraulic fluid drums (NE corner of building on wood pallet)
- (2) 226-gallon (approx.) hydraulic fluid old lift reservoirs (east wall of building)
- (1) 55-gallon waste oil drum (east side of building)
- (1) 55-gallon 30 weight compressor oil drum (Compressor Room)
- (1) 55-gallon transmission oil drum (Fire Department Area)
- (1) 55-gallon 5W-20 motor oil (Fire Department Area)
- (1) 55-gallon waste oil drum (Fire Department Area)
- (1) 309-gallon (41.25 cu ft) unibin for used speedy-dry (outside)
- Approximately 93 gallons Transformer oil in Transclosure

The EPA has determined that oil-filled motor vehicle tanks or "motive power containers" used solely to fuel the propulsion of a vehicle are not governed by SPCC rules per 40 CFR 112(d)(7). Additionally, not listed above are those containers located on-site that are in storage containers of less than 55-gallons. Although these containers are exempt from the SPCC regulations, any spill or release from these sources should be managed in accordance with this Plan.

With the exception of the oil/water separators, the Town of Hamden VOED Building currently has no underground storage tank[s] on site. Interior floor drains tie into two oil/water separators in series. The first one is an approximate 450-gallon (sand trap) sump in the floor inside the facility. It connects to a larger 1,000-gallon concrete oil/water separator, located outside below the pavement, that reportedly drains to the sanitary sewer and operates per the requirements of the CTDEEP's Vehicle Maintenance General Permit.

The oil/water separators purpose is multi-faceted. They are used partially for the collection of powerwashing water, which is reportedly conducted on an infrequent basis. They also provide secondary containment for potential releases of oil to the facility floor that reach the containment trench. Oil Water Separators used to comply with general secondary containment requirements of

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section 112.7(c) and sized secondary containment requirements for bulk storage containers in 112.8(c) are not subject to bulk storage container requirements and do not count toward overall storage capacity at the facility. However, if being used to comply with secondary containment requirements it must (a) be sized to address the most likely oil discharge from any part of the facility and (b) be sized to contain the largest single bulk storage container with sufficient freeboard to contain precipitation.

In order to fulfill (a), the Town of Hamden VOED Building must demonstrate that the oil storage capacity of the two oil/water separators can contain a release from the vehicle fluid rack distribution dispensers (approx. 275 gallons), or provide the dispensers in this area with safeguards to prevent the dispensing of liquid by non-authorized personnel, such as the installation of an inline manual valve supplied with a lock. Only authorized personnel would have a key. The valve would be open and closed as needed throughout the work day. This would help prevent the dispensing of incorrect oil based products and to prevent spills.

In order to fulfill part (b), the Town of Hamden VOED Building must demonstrate that the oil storage capacity of the two oil/water separators can contain 226-gallons of oil (the largest single bulk container without secondary containment at this time), or provide secondary containment for all oil containing drums inside the facility, and have the hydraulic oil reservoirs for the lifts removed.

As a third option, the facility could install a valve that could close off the discharge from the trench to the oil water separators. The trench itself would have to provide enough storage capacity to fulfill (a) and/or (b) above.

A site location map has been provided in Figure 1. The location of each oil storage unit on-site is depicted in Figure 2. A photo log of representative oil storage locations at Town of Hamden VOED Building is included as Appendix G. Please note that Figures 1 and 2 have been provided at the end of the text for convenience to the reader and user of this SPCC Plan.

2.2 Drainage Pathways and Distance to Navigable Waters

The facility is broken up into three drainage areas (Drainage Area DA-1, DA-2, and DA-3). Runoff from DA-1, DA-2 and DA-3 are directed to three regulated outfalls identified as DSN001 through DSN003, which discharge to wooded wetlands south of the facility.

As shown on Figure 2, DA-1 is located in the eastern portion of the facility. Stormwater runoff from this area is collected in a couple of catch basins and perforated Reinforced Concrete Pipe (RCP). This area includes runoff collected from roof drains along eastern half of the building. The catch basins and roof drainage are connected to a manhole which conveys stormwater runoff to a riprap splash pad via a 21-inch RCP pipe (DSN001), which eventually discharges to an unnamed brook. The drainage area to DSN001 includes the following activities:

- A Scrap metal dumpster,
- An Oily waste solids dumpster/container,
- A cardboard dumpster,
- A Waste Oil Above Ground Storage Tank (AST)

- The facility's indoor oil storage loading/unloading area.
- A Vehicle Impoundment Area

DA-2 is located in the center portion of the facility and runoff from this area is collected in roof drains on the western half of the maintenance building. The roof drains are connected to a manhole which historically conveyed stormwater runoff to a riprap splash pad via a 12-inch RCP pipe (DSN002), which eventually discharged to an unnamed brook. The 12- inch RCP pipe was reportedly damaged therefore; this outfall is no longer accessible.

DA-3, which is on the western portion of the Facility, is broken up into three sub drainage areas (DA-3A, 3B, and DA-3C) as shown on Figure 2. The combined area discharges to a drainage swale via a 24-inch RCP Pipe (DSN003).

Runoff from DA-3A is collected by two catch basins located at the entrance to the facility. This drainage area includes a municipal solid waste (MSW) dumpster, facility loading bays, employee parking, and the pump-out area for the 1,000-gallon oil/water separator.

Runoff from DA-3B is collected by a series of interconnected catch basins, which the last catch basin in the system conveys stormwater runoff to a drainage swale via a 12-inch RCP pipe. This drainage swale is located between Shepard Avenue and the facility and flows from north to south where it is intercepted by a catch basin within the swale that is connected to the DA-3A drainage system. This drainage area includes facility loading bays (north and west side of garage), employee and municipal vehicle parking, and a loading dock, located on the north side of the building.

Runoff from DA-3C flows from an off-site area to the north and includes the drainage swale that DA-3B discharges too.

All the outfalls, with the exception of DSN002, receive off-site drainage from adjacent areas to the north. DSN003 also receives runoff from Shepard Avenue.

Facility drainage, based on a visual observation of site contours, is toward the south side of the property. It is estimated, based on a review of the Mount Carmel #80 USGS 7.5 Minute Topographic Quadrangle Map that drainage from the site would flow to an unnamed tributary of Shepard Brook, located approximately 1,000 feet south of the site.

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3.0 RESPONSIBILITIES, NOTIFICATIONS AND REPORTING

3.1 Responsibilities

The duties of the Primary Emergency Coordinator and his/her alternate are to routinely inspect all storage and handling facilities and take corrective action when conditions warrant. In addition, the Primary Emergency Coordinator will participate in, set up and maintain necessary spill emergency procedures, recordkeeping; personnel training, SPCC Plan Reviews and amendments (if required), and reporting requirements.

In the event of an oil release, appropriate staff of Town of Hamden VOED Building shall carry out the procedures outlined herein under the direction of the Primary Emergency Coordinator or his/her alternates(s).

3.2 Initial Notifications

In the event of any emergency or occurrence related to the release or threatened release of petroleum products, the following persons shall be notified immediately:

Rank	Name	24-hour phone
Primary	John Pucillo	(203) 996-2548
Alternate	James Lafond	(203) 996-2534

The Primary Emergency Coordinator and his/her Alternate Emergency Coordinator have been chosen based on the following qualifications:

- Is on-site or on call at all times;
- Is familiar with the facility layout;
- Is knowledgeable of the locations and characteristics of the materials handled;
- Is familiar with all operations and activities at the facility;
- Is thoroughly familiar with emergency plans;
- Is knowledgeable of the locations of all records; and
- Has the authority to commit facility resources in the event of an emergency.

The Emergency Coordinators or designated Alternates will then notify the proper off-site authorities about the actual emergency, following their initial action at the site.

Town of Hamden VOED Building staff does not respond to major spills. Those identifying the spill will contact the Emergency Coordinator. If the spill is a small, incidental spill (employees can respond with materials available on site and there is no immediate threat to human health and the environment) trained response personnel will tend to the spill. If the spill is beyond the capacity of site resources, one of the commercial cleanup contractors will be contacted to provide a response.

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3.3 Regulatory and Response Notifications for All Spills

The guidelines in this section apply to all spills: petroleum products, chemicals, and/or non-hazardous and hazardous waste.

3.3.1 Connecticut Requirements

The Connecticut Department of Energy and Environmental Protection (CTDEEP) shall be notified immediately of any spill that poses a potential threat to human health or the environment

CTDEEP Emergency Response Unit,
Hartford (24 hours) Phone: (860) 424-3338

Within 24 hours of the spill, The Town of Hamden VOED personnel are required to report such facts such as:

- the location;
- the quantity and type of substance, material or waste;
- the date and the cause of the incident;
- the name and address of the owner; and
- the name and address of the person making the report and his relationship to the owner.

Note: Unless specifically requested, the CTDEEP does not require a written submission when reporting a spill. A copy of an example Spill Reporting form for internal use can be found in Appendix C.

3.3.2 Spills Threatening to Reach Navigable Waters

In the event that a spill of ***oil*** in any amount (or enough to cause sheen) threatens to reach navigable waters, the National Response Center in Washington as well as local authorities shall be notified immediately:

Authorities	Phone Numbers
National Response Center (NRC)	(800) 424-8802
EPA Region I	(617) 424-8802
CT DEEP	(860) 424-3338

With any of the above notifications, Town of Hamden VOED Building personnel will be ready to report the following information immediately following the discovery of the event:

- Your name, location, organization, and telephone number;
- Name and address of the party responsible for the incident;
- Date and time of the incident;
- Location of the incident;
- Source and cause of the release or spill;
- Types of material(s) released or spilled;

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- Quantity of materials released or spilled;
- Danger or threat posed by the release or spill;
- Number and types of injuries (if any);
- Weather conditions at the incident location;
- Any other information that may help emergency personnel respond to the incident.

Navigable waters of United States are defined in 40 CFR Part 110.1 to include interstate waterways or intrastate waterways including lakes, rivers and streams which may be utilized by interstate travelers for recreational purposes. *Navigable waters* also include lakes, rivers and streams from which fish or shellfish are taken. The complete definition may be found in Section 502(7) of the Federal Water Pollution Control Act. *Navigable waters* for the purpose of Town of Hamden VOED Building's response plan includes a spill that may enter the storm drainage system and/or may reach the unnamed brook.

3.3.3 Spills Threatening Human Health or the Sewer

In the event the Emergency Coordinator or designated alternate also determines that the release of materials threatens human health outside the facility and evacuation may be necessary, the following additional authorities will be notified immediately:

Authority	Phone Numbers
CTDEEP Emergency Response	(860) 424-3338
Town of Hamden Police Department	911 or (203) 230-4000
Town of Hamden Fire Department	911 or (203) 407-5880
Hospital of Saint Raphael	(203) 789-3000

If the spill has discharged down the drain to local sewer authority, immediately contact:

Authority	Phone Numbers
Greater New Haven Water Pollution Control Authority	203-466-5260

3.3.4 Commercial Clean-Up Contractors

Should a spill contractor be needed, the Town of Hamden VOED Building personnel will contact one of the following contractors:

Contractor	Phone Numbers
Connecticut Tank Removal, Inc	(203) 384-6020
United Industrial Services	(203) 235-3753

The Town of Hamden VOED Building personnel should contact the above contractor and invite a representative to visit the facility in order to become familiarized with the site. This will enable the

contractor to promptly dispatch a well-equipped spill response team to the facility in the event of a spill.

3.4 Federal Reporting

After a spill or release of oil greater than 1,000 gallons or after two spills of oil greater than 42 gallons within any twelve-month period, or if the spill impacted a navigable waterway, the Emergency Coordinator will report the event(s) to the following agency within 60 days.

The Regional Administrator
U.S. Environmental Protection Agency – Region I
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912
Phone: (617) 918-1010

The EPA report will include:

- Name of the facility;
- Your name;
- Location of the facility;
- Maximum storage or handling capacity of the facility and normal daily throughput;
- Corrective action and countermeasures you have taken, including a description of equipment repairs and replacement;
- An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
- The cause of the discharge, including a failure analysis of the system or subsystem in which the failure occurred;
- Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and
- Such other information as the Regional Administrator may reasonably require pertinent to the Plan or spill event.

As required by EPA Federal Regulation 40 CFR 112.4(c), a copy of the EPA report will also be submitted to the CTDEEP Emergency Response Section at the following address:

The Connecticut Department of Energy and Environmental Protection
Hazardous Materials Management Unit
Oil and Chemicals Spills Section
79 Elm Street
Hartford, Connecticut 06106-5127
(860) 424-3338

If 1,000 gallons or more of material is spilled to a navigable waterway, or there are two or more reportable spills (to the National Response Center) in a year, the EPA may conduct an inspection of

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the site and review this Plan. Following the inspection and review, the EPA may require facility modifications and/or operational changes to minimize the possibility of future spills.

3.5 State Reporting

If the Town of Hamden VOED Building staff has determined that a reportable spill or release of petroleum products (or other virgin or waste chemicals) has occurred, the Emergency Coordinator must contact the CTDEEP within twenty-four (24) hours of the event to the following agency:

Connecticut DEEP
Emergency Response Unit, Phone: (860) 424-3338
Hartford (24 Hours)

For all spills reported to the CTDEEP, the Town of Hamden VOED Building staff will submit written information in the form of a letter describing the details of the discharge or spill and supporting the adequacy of the response action within 30 days of the discovery of the reportable discharge or spill.

The documentation shall contain one of the following items:

- A statement that the discharge or spill response action has been completed and a description of how the response action was conducted. The statement shall include the initial report information outlined in Section 3.3 of this plan;

- A request for an extension of time to complete the response action, along with the reasons for the request. The request shall also include a projected work schedule outlining the time required to complete the response action. The executive director may grant an extension up to six months from the date the spill or discharge was reported. Unless otherwise notified by the appropriate regional manager or the Emergency Response Team, the Town of Hamden PWG shall proceed according to the terms of the projected work schedule; or

- A statement that the discharge or spill response action has not been completed nor is it expected to be completed within the maximum allowable six month extension. The statement shall explain why completion of the response action is not feasible and include a projected work schedule outlining the remaining tasks to complete the response action. This report will be mailed to:

  The Connecticut Department of Energy and Environmental Protection
  Hazardous Materials Management Unit
  Oil and Chemicals Spills Section
  79 Elm Street
  Hartford, Connecticut 06106-5127

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4.0 EMERGENCY PROCEDURES

In the event of a spill or release, the emergency procedures outlined in the Emergency Procedures flow chart provided on the following page will be followed. A copy of the emergency procedure flow chart will be in or near the Primary Emergency Coordinator's office, as well as all of the alternates. If any employee discovers a spill or release, it will immediately be reported to the Primary Emergency Coordinator. If the Primary Emergency Coordinator or alternate determines that the spill or release cannot be handled by on-site personnel and/or may be a threat to either health or the environment, the listed professional spill response contractor (previously listed in Section 3.3) will be contacted.

The Primary Emergency Coordinator or Alternate is responsible for determining when a spill event has concluded or is under control sufficiently such that normal activities and personnel presence may be safely resumed.

Only if the spill or release can be safely handled by on-site personnel, the following actions may be conducted:

- While awaiting arrival of the Emergency Coordinator or designated Alternates, personnel shall commence containment activities immediately, if safe to do so, using spill response materials available on site. Containment activities may include up righting a spilled container, closing a valve, protecting a drain, or using spill response material to berm a spilled area.

- Following spill containment, trained personnel may begin absorbing the spilled material with absorbent material provided in the site spill kits.

- Used absorbent material will be collected and containerized for off-site disposal in containers such as 55-gallon drums. All equipment and manpower shall be utilized to remove spilled materials promptly and in a safe manner. All drums used to contain spilled waste will be transported to the waste storage area for eventual off-site disposal by a licensed transporter.

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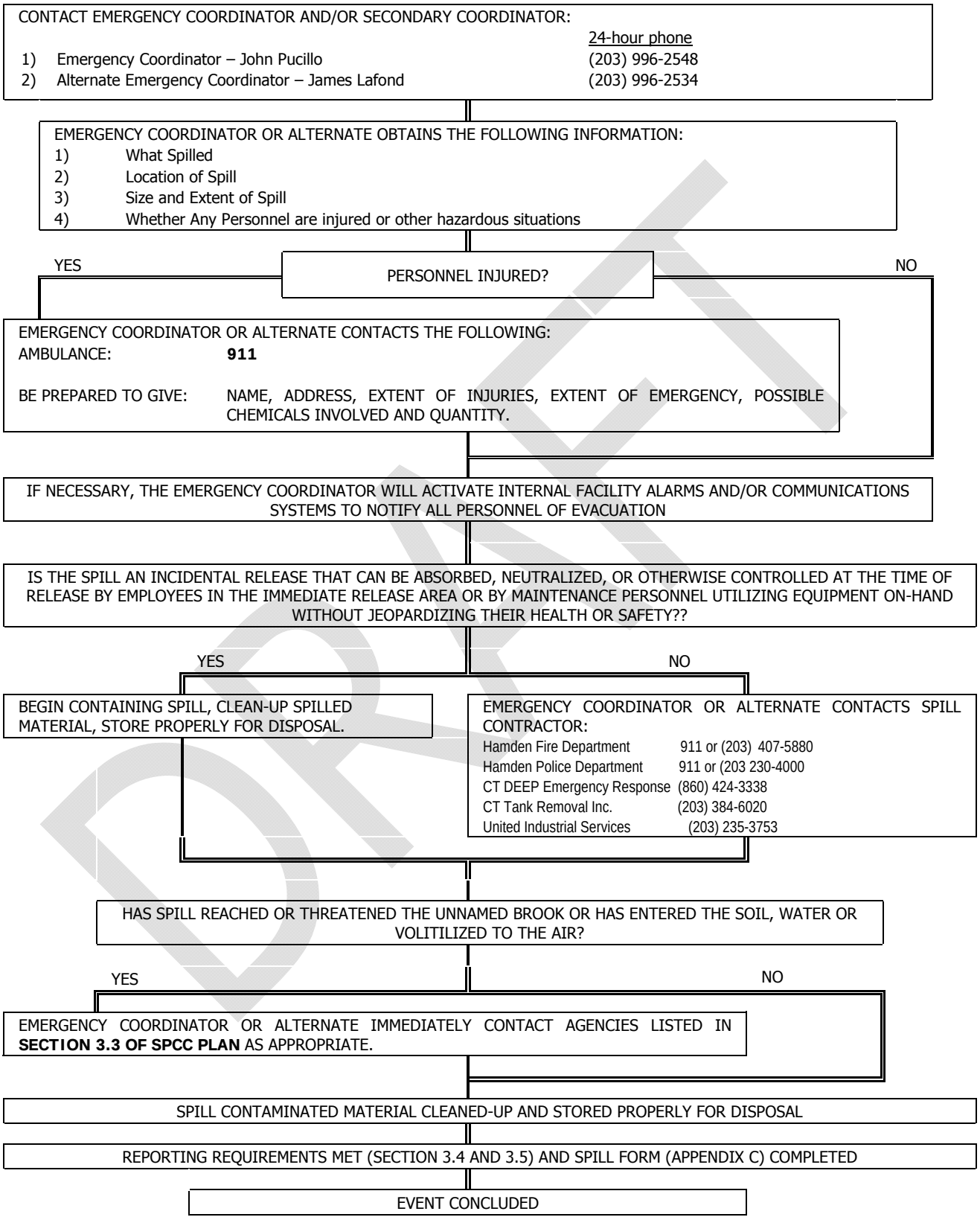
SPILL AND/OR RELEASE FLOW CHART



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5.0 PAST SPILL EXPERIENCE

In order to prepare a more complete and accurate plan, significant spills or releases, corrective action taken, and plans for preventing a recurrence have been taken into consideration.

In preparing this plan, no spills having occurred within the past five years were identified.

Any future spills will be documented using the Spill Form in Appendix C.

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6.0 POTENTIAL SPILL PREDICTION AND CONTROLS

6.1 Oil Capacity and Storage

After a review of the Town of Hamden VOED Building campus, it was determined that all petroleum products are stored and managed at the facility within bulk storage and oil filled operational equipment. Provided in Tables 1 and 2, is a summary of the oil capacities and containment and control practices identified at the Town of Hamden VOED Building. At any one time, a total of approximately 3,994 gallons of fuel/oil is stored at the facility. Tables 1 and 2 describe the potential type of failure(s), the estimated amount of material which may be released, the probably flow direction if a spill should occur, and secondary containment measures in each area of concern.

Oil Filled Operational Equipment

Oil filled operational equipment includes any oil storage container in which the oil is present solely to support the function of the apparatus or the device. While oil-filled equipment is not subject to the bulk storage container requirements, it must still meet the requirements for general secondary containment. General secondary containment may include:

i. Dikes, berms, or retaining walls sufficiently impervious to contain oil;
ii. Curbing
iii. Culverting, gutters, or other drainage systems;
iv. Weirs, booms, or other barriers;
v. Spill diversion ponds;
vi. Retention ponds; or
vii. Sorbent materials.

Table 1 is a description of measures for the avoidance and/or containment of the release of materials from the facility associated with oil filled operational equipment. All oil reservoirs listed in Table 1 are compatible with the oil stored within.

TABLE 1 – OIL FILLED OPERATION EQUIPMENT OIL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Stormwater Drain	Secondary Containment
TRANSFORMER TRANSCLOSURE (total 93 gallons)					
North side of building-3 overhead type transformers	(3) x 31 gal 93 gal total	Electrical Transformer Failure	93	Spill would flow into surrounding grass, nearest CB approx. 10ft away	A
MISCELLAENOUS OIL FILLED OPERATIONAL EQUIPMENT (total 452 gallons)					
Former Hydraulic Lift Reservoirs	(2) 226-gallon (approx.)	Tank failure	226 gallons (approx.)	Inside building-spill would flow to containment trench to O/W Separator	A, B or containment trench

TABLE 1 – OIL FILLED OPERATION EQUIPMENT OIL STORAGE POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY Town of Hamden VOED Building, Hamden, Connecticut					
Area/Source	**Total Volume (gal.)/ Source**	**Potential Type of Failure**	**Potential Spill Volume (gal.)**	**Flow Direction & Distance to Closest Stormwater Drain**	**Secondary Containment**
Oil/Water Separators*	NA	Spill during pump out of oil	To be verified	Closest storm drain is 60ft to the east, however drainage is to the west	NA

Secondary Containment Legend
A To be contained by spill kit absorbent materials.
B Spill contained by impervious nature of building's floor and walls
C^1 Sized Secondary containment via double-walled construction
C^2 Sized Secondary containment via constructed berm
C^3 Sized Secondary containment via spill pallet, containment trenches
D Electronic Monitoring System
E Inadequate containment, see Section 13.0 for implementation schedule

*Oil/Water separator volume not included in total oil storage

Bulk Fuel Storage

Bulk fuel storage refers to any container (≥55 gallons capacity) used to store oil other than oil filled operational equipment. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. These containers are subject to the more laborious bulk storage container requirements of 40 CFR 112.8 and 40 CFR 112.12 which include but are not limited to sized secondary containment, integrity testing, facility and dike drainage, and discharge avoidance.

Table 2 is a description of measures for the avoidance and/or containment of the release of materials from the facility associated with bulk fuel storage. All containers and drums listed in Table 2 are compatible with the oil stored within. Pipe supports (as applicable) are all designed to minimize abrasion and corrosion and to allow for expansion and contraction. Potential for abrasion and/or corrosion will be inspected monthly to ensure pipe integrity is maintained (see Section 7.0).

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TABLE 2 – BULK FUEL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Storm Drain	Overflow Protection/ Discharge Avoidance	Secondary Containment Type and Capacity	Dike Draining Protocols
ABOVE-GROUND STORAGE TANKS (total 2,150 gallons)							
Waste Oil ConVault AST – outside SE side of building	500	Tank failure	500	Spill would flow to the SE towards CB located 49' away. Closest CB is 26' to the north	Direct vision gauge. A large rectangular funnel/pan is used for adding oil to the tank. VOED personnel present during transfer to Vac Truck to ensure no spills	A, C[1] Doublewalled Concrete	Secondary containment area is protected from accumulating rainwater. See Section 6.3.2 as necessary
		Spill during transfer	50				
		Spill during small container emptying	55			A	
1540 Diesel Oil AST - Fire Department Area	275	Tank failure	275	Tank located indoors	Tank equipped with direct vision gauge and nozzle on delivery trucks have overfill protection	A, C[2] Tank located inside secondary containment berm >110%	Tank is located indoors
		Spill during transfer	27.5				
		Spill during small container filling	27.5		Ensure filling occurs within bermed area		
(2) Hydraulic Oil ASTs – Oil Storage Room	(2) x 275	Tank Failure	275 each (550 total)	Tanks located indoors, however near overhead door, spill could flow to the downgradient CB, 21' away, if door was open	Tanks equipped with overfill whistles and direct vision gauge.	A, C[1]	Tank is located indoors
		Spill during transfer	27.5 each (55 total)				

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TABLE 2 – BULK FUEL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Storm Drain	Overflow Protection/ Discharge Avoidance	Secondary Containment Type and Capacity	Dike Draining Protocols
		Pipe failure from pump dispenser system	275 each (550 total)	Spill would enter containment trench (connected to O/W separator) or be contained within the building		Spill would enter containment trench or be contained within the building	
5W-20 Motor Oil AST – Oil Storage Room	275	Tank Failure	275	Tank located indoors, however near overhead door, spill could flow to the downgradient CB, 21' away, if door was open	Tank equipped with overfill whistles and direct vision gauge	A, C[1]	Tank is located indoors
		Spill during transfer	25.5				
		Pipe failure from pump dispenser system	275	Spill would enter containment trench (connected to O/W separator) or be contained within the building		Spill would enter containment trench or be contained within the building	
1540 Motor Oil AST – Oil Storage Room	275	Tank Failure	275	Tank located indoors, however near overhead door, spill could flow to the downgradient CB, 21' away, if door was open	Tank equipped with overfill whistles and direct vision gauge	A, C[1]	Tank is located indoors
		Spill during transfer	25.5				

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TABLE 2 – BULK FUEL STORAGE POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY Town of Hamden VOED Building, Hamden, Connecticut							
Area/Source	**Total Volume (gal.)/ Source**	**Potential Type of Failure**	**Potential Spill Volume (gal.)**	**Flow Direction & Distance to Closest Storm Drain**	**Overflow Protection/ Discharge Avoidance**	**Secondary Containment Type and Capacity**	**Dike Draining Protocols**
		Pipe failure from pump dispenser system	275	Spill would enter containment trench (connected to O/W separator) or be contained within the building		Spill would enter containment trench or be contained within the building	
Automatic Transmission Fluid AST – Oil Storage Room	275	Tank Failure	275	Tank located indoors, however near overhead door, spill could flow to the downgradient CB, 21' away, if door was open	Tank equipped with overfill whistles and direct vision gauge	A, C[1]	Tank is located indoors
		Spill during transfer	25.5				
		Pipe failure from pump dispenser system	275	Spill would enter containment trench (connected to O/W separator) or be contained within the building		Spill would enter containment trench or be contained within the building	
MISCELLANEIOUS DRUM, TOTES AND CONTAINERS (total 1299 gallons)							
(2) Automatic Transmission Oil Drums – Oil Storage Room	(2) x 55	Drum failure	55 each (110 total)	Spill would be contained by containment pallet	Only active drums are open with a spigot attached. Oil is transferred to	A, C[3] Containment pallet	Drum(s) located indoors
		Spill during dispensing	55 each (110 total)				

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TABLE 2 – BULK FUEL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Storm Drain	Overflow Protection/ Discharge Avoidance	Secondary Containment Type and Capacity	Dike Draining Protocols
		Spill during transfer	55 (110 total)	Nearest CB is 21' SE from room during unloading	smaller containers in this room over containment pallets.		
(5) Universal Tractor Fluid Drums – Oil Storage Room	(5) x 55	Drum failure	55 each (275 total)	Spill would be contained by containment pallet	Only active drums are open with a spigot attached. Oil is transferred to smaller containers in this room over containment pallets.	A, C[3] Containment pallet	Drum(s) located indoors
		Spill during dispensing	55 each (275 total)				
		Spill during transfer	55 (275 total)	Nearest CB is 21' SE from room during unloading.			
(2) Waste Antifreeze (potential for trace amounts of oil) Drums – Maintenance Area in Building	(2) x 55	Drum failure	55 each (110 total)	Spill would flow towards containment trench (connected to O/W separator) or be contained within the building	Only active drums are open with a large funnel attached.	A, B or containment trench	Drum(s) located indoors
		Spill during transfer/filling	55 (110 total)				
(2) Waste Oil Filter Drums – Maintenance Area in Building	(2) x 55	Drum failure	<55 each (<110 total)	Spill would flow towards containment trench (connected to O/W separator) or be contained within the building	Drums shall be covered prior to transfer to shipping area	A, B or containment trench	Drum(s) located indoors
		Spill during transfer	<55 each (<110 total)				
(2) Hydraulic Fluid Drums –	(2) x 55	Drum failure	55 each (110 total)	Spill would flow towards containment trench	Drums shall remain closed and on	A, B or containment	Drum(s) located indoors

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TABLE 2 – BULK FUEL STORAGE POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY Town of Hamden VOED Building, Hamden, Connecticut							
Area/Source	**Total Volume (gal.)/ Source**	**Potential Type of Failure**	**Potential Spill Volume (gal.)**	**Flow Direction & Distance to Closest Storm Drain**	**Overflow Protection/ Discharge Avoidance**	**Secondary Containment Type and Capacity**	**Dike Draining Protocols**
Maintenance Area in Building		Spill during transfer	55 each (110 total)	(connected to O/W separator) or be contained within the building	wood pallets until use	trench	
(2) Waste Oil Drums – Maintenance & Fire Dept. Areas in Building	(2) x 55	Drum failure	55 each (110 total)	Spill would flow towards containment trench (connected to O/W separator) or be contained within the building	Drums shall be covered prior to transfer to shipping area	A, B or containment trench	Drum(s) located indoors
		Spill during transfer/filling	55 each (110 total)				

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TABLE 2 – BULK FUEL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Storm Drain	Overflow Protection/ Discharge Avoidance	Secondary Containment Type and Capacity	Dike Draining Protocols
Compressor Oil Drum - Compressor Room	55	Drum Failure	55	Spill would be contained within walls of Compressor Room	Drum Reportedly not used- recommend removing from Site	A,B	Drum located indoors
		Spill during Transfer	55				
Unibin-Used/Oily Speedy Dry	309 gallon (41.25 cu ft)	Container Failure	309	Spill would be primarily in solid form and stationary	Employees can visually see product level	A, Container is liquid tight	Container is covered
		Spill During Transfer	309				
Transmission Oil Drum – Fire Dept. Area	55	Drum Failure	55	On spill containment pallet	Oil dispensing to occur from drum on containment pallet	A, B, C[3]	Drum located indoors
		Spill during dispensing	55				
		Spill during Transfer	55	Spill would flow towards containment trench (connected to O/W separator) or be contained within the building			
5W-20 Motor Oil Drum – Fire Dept. Area	55	Drum Failure	55	On spill containment pallet	Oil dispensing to occur from drum on containment pallet	A, B, C[3]	Drum located indoors
		Spill during dispensing	55				
		Spill during Transfer	55	Spill would flow towards containment trench (connected to O/W separator) or be contained within the building			

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TABLE 2 – BULK FUEL STORAGE
POTENTIAL SPILL PREDICTION AND CONTROL SUMMARY
Town of Hamden VOED Building, Hamden, Connecticut

Area/Source	Total Volume (gal.)/ Source	Potential Type of Failure	Potential Spill Volume (gal.)	Flow Direction & Distance to Closest Storm Drain	Overflow Protection/ Discharge Avoidance	Secondary Containment Type and Capacity	Dike Draining Protocols

Secondary Containment Legend

A To be contained by spill kit absorbent materials.
B Spill contained by impervious nature of building's floor and walls
C^1 Sized Secondary containment via double-walled construction
C^2 Sized Secondary containment via constructed berm
C^3 Sized Secondary containment via spill pallet
D Electronic Monitoring System
E Inadequate containment, see Section 13.0 for implementation schedule
F Either remove these Drums from the facility or place them on Spill Containment Pallets to prevent spillage in accordance with the Implementation Schedule.

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6.2 Containment and Control Measures

The petroleum storage locations identified within Tables 1 and 2 are further described below in regards to its methods of containment

1. *Electrical Transformer Reservoirs*

   Three overhead type transformers are located inside the facility owned steel cabinet called a transclosure. Each transformer has 31 gallons of dielectric fluid for a total of 93 gallons. The transclosure is situated on a concrete pad. Being an oil filled operational equipment as outlined in Section 6.1, preventive methods implemented for transformers will include having sorbent material readily available as outlined in Section 7.0 and conducting periodic inspections as outlined in Section 7.1.

2. *Miscellaneous Oil-Filled Operational Equipment Reservoirs*

   Two old hydraulic lift reservoirs are located inside the facility with oil capacities greater than 55 gallons. Being oil filled operational equipment as outlined in Section 6.1, preventive methods implemented for transformers will include having sorbent material readily available as outlined in Section 7.0 and conducting periodic inspections as outlined in Section 7.1. The building walls and containment trench in the floor function as containment in the event of a tank rupture.

3. *Above-Ground Storage Tanks*

   - The 500-gallon Waste Oil AST consists of a double-walled construction and is situation on a concrete pad. The tank is equipped with an overfill protection valve and a product level gauge. The fill ports should be locked unless in active use and keys should only be signed out to authorized personnel. If a spill or release occurs during transfer, the spill will be contained by the fact that storm drains in the vicinity will be protected during transfers as outlined in Section 6.3.1., and the adjacent spill kit. Town of Hamden VOED Building personnel oversee all oil transfers.
   - One 275-gallon single walled 1540 diesel oil AST is located in the garage area and is used by the Fire Department. The tank is situated within a secondary containment concrete block berm and is equipped with a direct vision gauge. In, addition the delivery truck is equipped with an overfill protection nozzle. The approximate dimensions of the bermed area were 7.25’ x 4.5’ x 2’, providing more than 110% secondary containment capacity.
   - Five 275-gallon double walled ASTs are located in the Oil Storage Room used by the Town of Hamden VOED Building personnel. The tanks are equipped with direct vision gauges, spill/overfill protection whistles and locked fill ports. The Town of Hamden VOED Building employees oversee all oil transfers and a spill kit is located in the vicinity of the tanks. In addition, these ASTs are connected to hoses/piping that distribute the motor and hydraulic oils. In the event of a failure of one of these hoses, the spill would be contained by the walls of the building or the containment trench in the floor.

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4. Miscellaneous Drums, Totes and Containers

The majority of the various bulk storage oil containing drums located throughout the facility are stored on plastic spill containment pallets and all are stored inside the building. A release from any of these drums would be contained within the secondary containment and/or the walls of the building or the containment trench in the floor. The containment trench is connected to the two oil-water separators, and the sanitary sewer. Dispensing from drums occurs over secondary containment pallets. Spill kits and speedy dry are located throughout the facility. Funnels on used oil drums shall be fitted with covers.

6.3 General Practices

6.3.1 Oil Transfer Procedures

a. AST Loading/Unloading Areas

The loading of Waste Oil and the unloading of various oils in the ASTs located inside the facility occurs via tanker trucks. Approximately once a year the accumulated oil is pumped from the two oil/water separators by vacuum tanker trucks for off-site disposal. In accordance with 40 CFR Part 112.7 (c), procedures utilized by the facility to prevent or control an oil spill in transfer areas include:

<u>Before the Loading/Unloading Begins</u>

- The vendor chocks the wheels of the delivery truck and visually checks all hoses for leaks and wet spots;
- Facility personnel ensure that all applicable drainage valves are locked in the closed position and check the tank for any signs of a leak;
- Facility personnel will ensure that internal and external valves on the receiving tank are open along with the pressure relief valves.
- Facility personnel will confirm the type of oil and the quantity of which will be transferred;
- Facility personnel will visually confirm the ability of the tank to accept the agreed upon quantity;
- Facility personnel will ensure spill control equipment is readily available, place pigs/socks/berms in appropriate locations to contain a small spill from the truck, and place a spill mat over nearby stormwater catch basins.

<u>Loading/Unloading Process</u>

- Facility personnel and the vendor will remain at the tank/transfer area for the entire transfer process;
- The vendor will shut off the delivery truck engine prior to making connections. Do not restart the engine during the loading/unloading process unless the truck engine is used to operate a pump;
- The vendor will ensure all valves are in proper positions and begin the transfer;
- The vendor will monitor the flow meters to determine the rate of flow;

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- Facility personnel will monitor the tank volume to prevent overflow; and
- Facility personnel and vendor will periodically inspect all systems hoses and connections.

After the Loading/Unloading Process

- Facility personnel will visually check the volume delivered;
- The vendor will ensure all valves are in proper positions and disconnect the hose;
- Facility personnel and vendor will check the transfer area for any signs of a spill;
- Facility personnel will return the spill control equipment to its storage location; and
- The vendor will prepare to depart.

A delivery and pump/out log should be used to ensure supervision of the entire unloading operation and minimize any releases. The following information should be recorded on the logs:

- Date and time of delivery (start, end);
- Quantity in tank;
- Quantity delivered;
- Inspection comments; and
- Employee present.

Mobile on-site vehicle fueling *"wet-hosing"* operations are not specifically exempt from the secondary containment requirements of the 40 CFR Part 112.7(c), and therefore are subject to the facility oil transfer procedures discussed above. Mobile on-site vehicle fueling does not occur at this facility.

b. Oil Drum Transfer Areas

In accordance with 40 CFR Part 112.7 (c), procedures utilized by the facility to prevent or control an oil spill during drum transfer operation of various virgin oils, waste antifreeze or waste oil filters include:

- The vendor chocks the wheels of the waste hauler truck;
- Spill mats are placed over nearby catchbasins;
- Facility personnel and the vendor ensure that the drums are in good condition and there are no signs of drips, leaks or spills prior to loading into the truck;
- Facility personnel will confirm the quantity of drums which will be transferred; and
- Facility personnel will ensure spill control equipment is readily available.
- Facility personnel and the vendor will be present for the entire transfer process;
- Facility personnel and the vendor will ensure no damage has been done to the drums and there are no signs of leaks or spills;
- The vendor will prepare to depart.

c. Waste Oil Transfer to the AST

In accordance with 40 CFR Part 112.7 (c), procedures utilized by the facility to prevent or control an oil spill during waste oil transfer from drums to waste oil tank include:

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- Spill mats are placed over nearby catchbasins;
- Facility personnel and the vendor ensure that the drums are in good condition and there are no signs of drips, leaks or spills prior to moving drums to the door near the AST;
- Drums will stay inside the facility during transfer;
- Facility personnel will ensure spill control equipment is readily available;
- Facility personnel will check the site gauge to ensure there is adequate capacity for the waste oil;
- Facility personnel will unlock the AST fill port and ensure not clogged;
- Facility personnel will inspect the explosion proof pump and associated hoses to ensure in good working condition with no potential for leaks;
- The pump and hose will be connected and facility personnel will ensure secured tightly;
- During transfer, the site gauge will be monitored
- Facility personnel will disconnect the hose in a manner as to not create spills to the ground;
- The fill port will be closed and locked when transfer is complete;
- Facility personnel will be present for the entire transfer process; and
- Facility personnel will ensure there are no signs of leaks or spills.

6.3.2 Dike Drainage

The facility does not maintain any diked ASTs which are subject to storm water collection and drainage, however if the facility maintains any diked areas requiring drainage in the future, the outlined procedure below will be used.

- Trained Town of Hamden VOED Building personnel visually inspect the contained rainwater for evidence of an oily sheen or film, color, sludge or deposits.
- If there is any evidence of an oily sheen or film, discoloration, or oily sludge or deposits, Town of Hamden VOED Building personnel will **NOT** drain the accumulated liquid to the ground but will contact an outside contractor to vacuum the contained fuel/oil/water mixture and dispose in accordance with the resulting waste stream determination.
- If the containment area is drained to the ground, Town of Hamden VOED Building personnel will monitor the entire draining event (i.e. not leave that dike or containment area while the dike is being drained). Additionally, all drain lines will be securely closed and locked after the event.

6.3.3 Recovered Clean-up Material Disposal

Town of Hamden VOED Building personnel will typically use absorbent mats, absorbent socks, and granular loose absorbent material to contain any minor spills or releases.

Waste Absorbent material will be cleaned-up and disposed of using the following procedure:

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1. Contain the clean-up material into a dedicated storage container as soon as a spill is absorbed, but no later than the end of the day in which the spill occurred.

2. The dedicated drum will be labeled with the words "Oil Absorbent Material" or other words as appropriate.

3. Conduct a waste stream determination to determine if material is hazardous or non-hazardous waste, document results with facility waste profiles.

4. The used clean-up material will then be disposed of properly based on the outcome of the waste stream determination and profile.

5. Shipping records for used materials that is transported off-site will be maintained in Town of Hamden VOED Building's waste files.

6.3.4 Vehicle Traffic

Loading/unloading of oil or drums would occur at the rear of the facility, or on the north side of the building, both areas away from vehicle traffic. The 500-gallon ConVault AST is encased in concrete, protected by bollards and located behind the facility, outside the path of vehicle traffic. The transformer is located on the north end of the facility up on a curbed, grassed area, outside the path of vehicle traffic.

6.3.5 Drum and Container Handling

The following precautions will be taken during drum and container handling:

- Keep the container closed at all times, except when adding or removing oil; and

- Use appropriate transport devices such as a dolly, a specifically designed handcart, forklift with appropriate attachments, etc.

- Mobile drums that are used throughout the facility for used oil should be placed in a plastic secondary containment overpack bucket/drum.

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7.0 INSPECTIONS

7.1 Visual Inspections

On a monthly basis, Town of Hamden VOED Building personnel will inspect its oil storage areas. A written record of the inspections will be kept. An SPCC Inspection Log (Appendix D), will be completed and signed by the inspector as part of each monthly inspection.

At a minimum, Town of Hamden VOED Building personnel will inspect all tanks for deterioration (e.g. corrosion), leaks, tank supports and foundations, and condition of secondary containment, where applicable. In addition to the tank, the associated above-ground piping will be inspected for damage, including the condition of the piping system including all valves, flanges, etc. Containers and drums will be checked for proper labeling and signs of deterioration or leakage. Any sign of rust, corrosion, or leakage constitutes an unsatisfactory condition requiring appropriate preventive maintenance. Any container or drum label deficiencies will be corrected immediately. The containment areas will also be inspected for cracks or other forms of deterioration.

Town of Hamden VOED Building personnel will also verify the adequate supply of spill containment and abatement materials. See Section 8.0 for a detailed list of spill abatement equipment and materials that will be maintained on-site.

All inspection logs will be made a part of the SPCC and maintained on-site for at least three (3) years. Any problems will be reported to the Emergency Coordinator and corrected as soon as possible.

7.2 Integrity Testing

Each container with a capacity of 55 gallons or greater (e.g. 55-gallon drum, tank, etc.), which is not an oil-filled electrical, operating, or manufacturing equipment, is considered to be a bulk storage container and is therefore regulated under 40 CFR 112.8(c)(6). Each above-ground bulk storage container will be tested for integrity on a regular schedule and when material repairs are made.

The Steel Tank Institute (STI) provides industry standards regarding integrity testing guidance for shop-built tanks and portable containers. The guidance categorizes ASTs from 1-3 based on a spill or release risk level, with 1 being the lowest risk and 3 being the highest risk for a spill or release. For instance, a double-walled, shop-built tank in contact with the ground that maintains a Continuous Release Detection Method (CRDM) and is less than 5,000 gallons is considered a Category 1 tank. Category 1 tanks are recommended by STI to have periodic inspections conducted by the owner or designated employee.

The integrity testing requirement does not apply to oil-filled electrical operating and manufacturing equipment, 55-gallon drums which are not reused on-site, or USTs subject to 40 CFR 280. Re-use of portable containers is subject to STI SP001 standards. Under STI SP001, portable containers must either discontinue to be used for oil storage or be DOT tested and recertified per the following schedule: plastic portable container – every 7 years; steel portable container – every 12 years; stainless steel portable container – every 17 years. For 55-gallon drums and 275-gallon

plastic totes, it is more practical to replace the drums/totes than to conduct any type of integrity testing beyond visual inspection. Any sign of compromised integrity visually observed should be remedied by replacing the questionable drum. While awaiting replacement, the drum/tote should be placed within a secondary containment over-size drums or bermed area.

The regulations allow deviations from this requirement where "you provide equivalent environmental protection by some means of spill prevention, control, or countermeasure" 40 CFR Part 112.7(a)(2). The life expectancy of a typical shop built bulk storage container is approximately twenty years, after which it is past its nominal useful life. Although a rigorous testing program could justify leaving tanks past their life expectancy in-place, the cost of such testing is likely to be more than the expense of replacing the tank.

For the steel tank, several standards exist for integrity testing, including the following:

- API Standard 653 – "Tank Inspection, Repair, Alteration, and Reconstruction."
- API Recommended Practice 575 – "Inspection of Atmospheric and Low Pressure Tanks".
- STI Standard SP001-00 – "Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids."

Only certified inspectors should be used for the integrity testing.

ConVault® tanks are unique among above-ground tanks in that they are double walled, equipped with a polyethylene liner within the interstitial space and have a 4-6" concrete encasement that forms the secondary containment double wall. In addition, the interstitial space is equipped with a leak detection system that would indicate any failure of the primary inner steel tank. The concrete encasement is resistant to ballistic and vehicle impact as well as fire. All of these features provide environmental protection equivalent to the integrity testing techniques listed in 40 CFR 112.8(c)(6).

Based on these criteria, Town of Hamden VOED Building will perform integrity testing on the following bulk storage tanks as outlined below:

TABLE 3 – INTEGRITY TESTING
STEEL TANK INSTITUTE AST CATEGORIES

Location	Description	Installation Date	AST Category[1]	Integrity Testing Implementation
Outside E of building	500-gallon Used Oil ConVault AST	1997	1	Visual monthly and annual inspection by facility personnel (as per checklist in Appendix D)*
Inside Garage-Fire Dept. Area	275-gallon 1540 diesel oil AST	2005	1	Visual monthly and annual inspection by facility personnel (as per checklist in Appendix D)

1 2011, Steel Tank Institute, Standard for the Inspection of Above-ground Storage Tanks, 5th Ed., Steel Tank Institute.

TABLE 3 – INTEGRITY TESTING STEEL TANK INSTITUTE AST CATEGORIES				
Location	**Description**	**Installation Date**	**AST Category[1]**	**Integrity Testing Implementation**
Oil Storage Room	(5) 275-gallon various Petroluem Oil ASTs	2006	1	Visual monthly and annual inspection by facility personnel (as per checklist in Appendix D)
Inside Garage Area	Re-used 55 gallon drums	Varies	NA	Visual monthly inspections (as per checklist in Appendix D). Dispose of drums prior to end of useful life @10 years

STI Category Explanation[1]

1 Secondary Containment and Continuous Release Detection Method (CRDM)
2 Secondary Containment
3 No secondary containment or Release Prevention Barrier (RPB), or one or the other

*In addition, ConVault requires some items be checked on a weekly basis as part of the ConVault warranty. See Appendix I for ConVault specific maintenance checklists.

The routine integrity testing procedure will consists of monthly visual inspection by designated facility personnel. Visual inspections consist of evaluating each of the above listed tanks and drum storage areas in accordance with the Inspection Logs, provided in **Appendix D.** Observations are to be recorded on the Inspection Logs during the time of visual inspection, and a record of the logs made a part of this SPCC Plan.

Non-destructive integrity evaluation is not specifically required on the 55-gallon storage drums that will not be reused. Most storage drums are elevated on plastic spill pallets, and have all sides visible. Any drum leaks would be readily detected by facility personnel before they can cause a discharge to navigable waters or adjoining shorelines. However, per this SPCC Plan the facility is required to conduct monthly visual inspections of the various drums storage areas as outlined in the Monthly SPCC Plan Inspection Logs.

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8.0 SPILL ABATEMENT EQUIPMENT AND MATERIALS

Town of Hamden VOED Building personnel will maintain spill control equipment for all of the oil storage areas on-site. The following materials, or their equivalents, will be provided:

- Absorbent material (i.e. Speedy-dry, pads and booms)
- Shovel/broom
- "Attack Pack" Spill Kit hanging from ConVault AST
- Temporary disposal bag or drum

The Public Works VOED Building personnel should procure catch basin mats in accordance with the implementation schedule at the end of this report. The catch basin mats are to be used when there is a potential for a spill in the vicinity of a catch basin, (i.e. during loading/unloading).

Spill control equipment will be stored in locations which are accessible to all employees and located near oil storage locations. Town of Hamden VOED Building personnel will inspect the spill control equipment periodically to ensure that they are maintained in working order and spill abatement materials are replenished as needed.

The Town of Hamden VOED Building will maintain spill control equipment in the following areas on campus:

- On ConVault AST
- In Oil Storage Room
- In Compressor Room
- Near Waste Antifreeze and Used Oil Filter Drums
- Inside door on east side of the facility

Commercial clean-up contractors who could be contacted by the Town of Hamden VOED Building if their assistance is needed are as follows:

Firm	Phone Number
Connecticut Tank Removal, Inc	(203) 384-6020
United Industrial Services	(203) 235-3753

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9.0 SECURITY

Town of Hamden VOED Building will maintain the following security measures in place at the facility:

1. The Town of Hamden VOED Building is locked when it is not in operation. Locking the building prevents access to the oil storage containers located in the maintenance garage.

2. The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in non-operating or non-standby status.

3. Motion sensor lighting is mounted on the exterior walls of the building. The lighting at the facility is adequate to assist in the observation or identification of any possible security breaches or spills. The lighting at the facility is also adequate to assist in the prevention of discharges due to acts of vandalism.

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10.0 TRAINING

EPA Regulation 40 CFR Part 112.7(f) requires that annual training be provided for all "oil handling" personnel to assure an understanding of the SPCC Plan. Personnel at the Town of Hamden VOED Building whose duties involve the daily management, use, inspection or maintenance of oil storage, transfer, process or treatment equipment will be trained in the contents of this SPCC Plan. This training will highlight those portions of the SPCC as they relate to facility operations, including, but not limited to, known discharges or failures, malfunctioning components, and recently developed precautionary measures. The training will include the following:

- Operation and Maintenance of equipment to prevent the discharge of oil;
- Discharge procedure protocols;
- Applicable pollution control laws, rules and regulations;
- General facility operations;
- Contents of the facility SPCC plan; and
- Review of any spills or releases in the last year.

All current and new hires of "oil handling" personnel shall be trained by the Town of Hamden VOED Building prior to beginning work. This training includes a detailed and complete review of the facility's SPCC Plan and its standard operating procedures. Annual refreshers of this training will be given to all facility employees. Sign-in sheets (example in Appendix F) for each training session may be maintained in Appendix H of this SPCC.

The Emergency Coordinator, also the Designated Person Responsible for spill prevention at the facility (page ii), will approve the SPCC and certify that he/she is thoroughly familiar with the Plan. As such, the Emergency Coordinator is qualified to conduct training of oil handling personnel or may opt to designate to another qualified individual thoroughly familiar with this plan to conduct such training.

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11.0 FACILITY RESPONSE PLAN

The Town of Hamden VOED Building is not required to prepare and submit a Facility Response Plan defined under 40 CFR Part 112.20 for the following reasons:

1. This facility does not transfer oil over water to or from vessels with a total oil facility storage capacity greater than or equal to 42,000 gallons.

2. The facility does not have a total oil storage capacity greater than or equal to 1,000,000 gallons.

Since the Town of Hamden VOED Building does not meet the substantial harm criteria, the Town of Hamden VOED Building must only complete a Certification of Harm Determination Form and maintain the form as part of their SPCC Plan. The Certification form, to be completed, is included in Appendix E.

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12.0 SPCC PLAN AMENDMENT

12.1 Facility Modifications

This SPCC Plan, under 40 CFR 112.5, will be amended whenever there is a change in facility design, construction, operation or maintenance which material affects the facility's potential for a discharge of oil to navigable waters of the United States or adjoining shorelines. These plan amendments will be prepared within six (6) months and fully implemented as soon as possible, but not later than six (6) months following the plan's amendment. Emergency response issues will be reviewed when:

1. The plain fails during an emergency;
2. It becomes evident that emergency contacts are not equipped to handle situations; or
3. There are personnel changes (i.e. emergency coordinator or alternate).

12.2 US EPA Requirements

The Environmental Protection Agency Regional Administrator may require amendments to the Plan whenever the facility has: 1) discharged more than 1,000 U.S. gallons into or upon the navigable waters in the U.S.; 2) discharged oil in quantities larger than 42 gallons, as defined in 40 CFR Part 112.1(b), into or upon the navigable waters of the U.S. in two spill events, occurring within any twelve month period.

12.3 5-Year Revisions

Regardless of facility changes, the SPCC Plan will also undergo a complete review and evaluation at least once every five (5) years. As a result of this review, the plan will be updated within six (6) months to include more effective prevention and control technology, if such technology is identified as having the ability to significantly reduce the likelihood of spills, and has been field proven at the time of the review. All technical amendments to this plan shall be certified by a Professional Engineer in accordance with 40 CFR 112.3(d). Non-technical amendments include changes to phone numbers or names. These amendments will be made as the change occurs, initialed, and dated by Town of Hamden VOED Building personnel.

All 5-year SPCC plan reviews will be documented at their completion in the SPCC Plan Review Log on page iii at the beginning of this plan. The person responsible for the 5-year review will attest to the certification statement with their signature, include the date of the review and indicate whether a revision to the plan is necessary, as well as date of the revision, if applicable.

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13.0 IMPLEMENTATION SCHEDULE

The Town of Hamden VOED Building will fully implement this SPCC Plan and be compliant with the SPCC regulations by following the implementation schedule presented below. Town of Hamden VOED Building will complete the far right column at the time that each item is implemented. Failure to implement these actions may negate the PE signature associated with this SPCC Plan.

Action Item Number	Action Item	Corresponding Section in SPCC Plan	Proposed Implementation Date	Actual Implementation Date and Signature
1	Post the spill response flow chart in the following offices and associated spill kits: (*names of emergency coordinators or alternates*)	4.0	September 2018	
2	Ensure appropriate employees are familiar with and following oil transfer procedures, including covering storm drains during transfers to the ASTs	6.3.1	September 2018	
3	Ensure that all oil-filled drums are stored on secondary containment pallets. Mobil waste oil drums should be placed in large plastic overpack drums.	6.2	September 2018	
4	Conduct monthly inspections	7.1 and Appendix D	On-going	
5	Initiate integrity testing schedule	7.2 and Appendix D	On-going	
6	Maintain spill response material on site in appropriate locations. Spill kit hanging on Waste Oil AST needs to be replaced	8.0	September 2018	
7	Conduct training of all oil handling personnel in the contents of this plan	10.0	Upon certification of SPCC and annually thereafter	
8	Amend the Plan within 6 months within changes to facility design, construction, operation, or maintenance that affect the potential for oil discharge to a navigable waterway.	12.1	AS needed	
9	Perform a complete review and evaluation of the SPCC Plan at least once every five years.	12.3	March 2022	
10	Remove any accumulated oil and/or debris in spill pallet or other containment areas as well as fill containment sumps.	6	As needed	
11	Ensure the starter control on the 275-gallon diesel AST filling pump is locked in the "off" position and accessible only to authorized personnel when not in use. Ensure that filling of smaller containers occurs over the bermed containment area.	9.0	September 2018	
12	Purchase Catch basin mats	8.0	September 2018	

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Action Item Number	Action Item	Corresponding Section in SPCC Plan	Proposed Implementation Date	Actual Implementation Date and Signature
13	Replace re-used drums every 12 years	7.2	As needed	
14	Vehicle exhaust covers in the floor need to be replaced.		September 2018	
15	Properly dispose of oil and remove old hydraulic lift reservoir boxes if no longer in use, or provide/verify secondary containment. If empty, label as indicated in implementation item #18		September 2018	
16	Verify oil/water separator construction and/or complete implementation measures for secondary containment listed in the report	2.1	September 2018	
17	Provide lids/covers to funnels on-top of used oil drums	6.2	September 2018	
18	Empty tanks must be labelled as "Permanently Closed" with a closure date. All piping shall be disconnected and fill & vent ports closed and locked. If the emergency generator on-site becomes active and the tank filled with oil, the generator and tank will need to be added to this plan.		September 2018	

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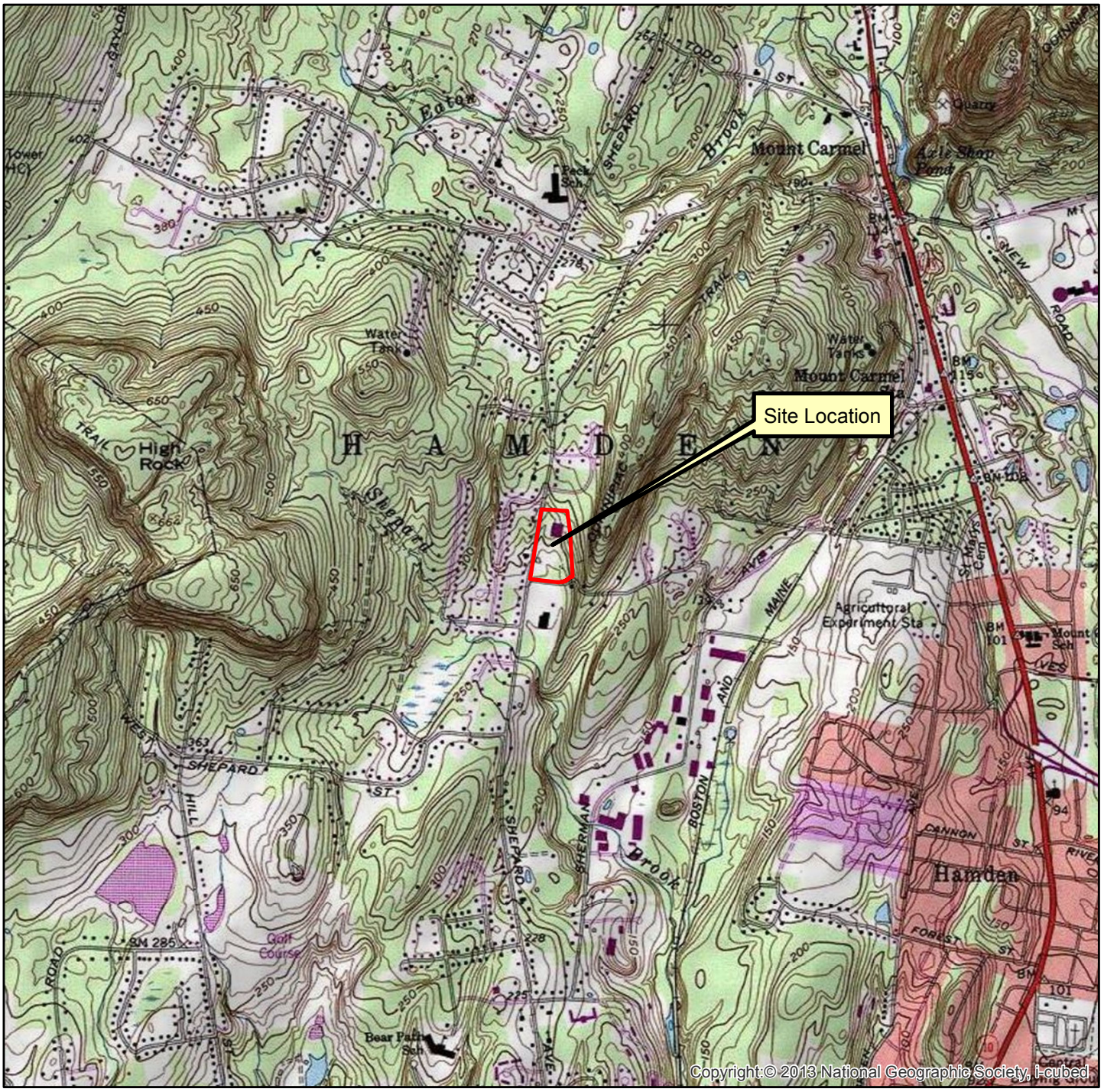
FIGURES

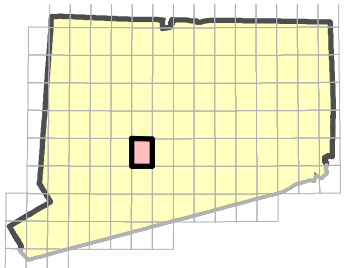


0 1,000 2,000 4,000 6,000 8,000

Feet

1 inch = 2,000 feet

N



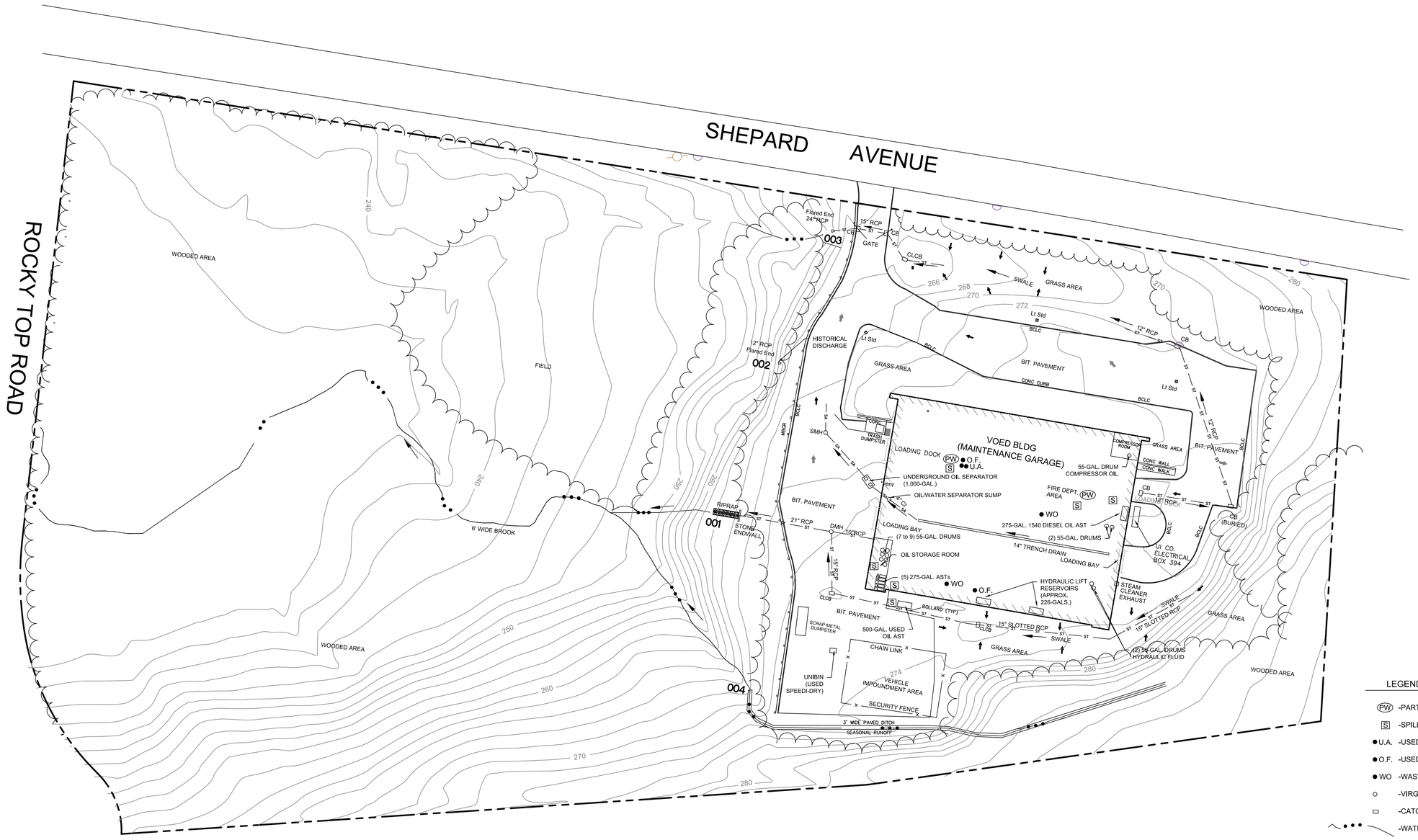
USGS Quadrangle data Copyright:© 2009
National Geographic Society, i-cubedxt
USGS Name: Mount Carmel, Connecticut
USGS Quad ID: 41072-D8
Date Rev: 1982
Date Pub: 1985

Figure 1
Site Location Map
Town of Hamden
Voed Building
1225 Shepard Avenue
Hamden, Connecticut
HRP# HAM4063.WM
Scale 1" = 2,000'

MOVE YOUR ENVIRONMENT FORWARD

197 SCOTT SWAMP ROAD
FARMINGTON, CT 06032
(860) 674-9570
HRPASSOCIATES.COM

Path: J:\H\HAMDT - TOWN OF HAMDEN\3 TOWN FACILITIES\HAM4063WM\GIS\VOED Building - Site Location.mxd



LEGEND

- (PW) -PARTS WASHER
- [S] -SPILL KIT
- ● U.A. -USED ANTIFREEZE DRUM
- ● O.F. -USED OIL FILTER DRUM
- ● WO -WASTE OIL DRUM
- ○ -VIRGIN OIL CONTAINING DRUM
- ▭ -CATCH BASIN
- -WATERCOURSE
- -PROPERTY BOUNDARY
- SA SA SA SA -SANITARY SEWER
- ST ST ST -STORM SEWER
- -SURFACE WATER FLOW DIRECTION
- -PIPE FLOW DIRECTION

MAP REFERENCE:
"FIGURE 1, SITE PLAN, VOED BUILDING-MAINTENANCE GARAGE, 1255 SHEPARD AVENUE, HAMDEN, CONNECTICUT" BY TOWN OF HAMDEN ENGINEERING DEPARTMENT; DATED 05/01/03, LAST REVISED 08/16/10; DRAWING NO. 10016; JOB NO. 10016; PROJ. VOED BUILDING.

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NORTH

0 20' 40'

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED: CMA	SCALE: 1" = 40'	PUBLIC WORKS MAINTENANCE GARAGE (VOED BUILDING)	SHEET NO. Figure 2
DRAWN: BOB	ISSUE DATE: 11/09/2017	1255 SHEPARD AVENUE HAMDEN, CONNECTICUT	
REVIEWED: CMA	PROJECT NUMBER: HAM4063.WM	FACILITY DIAGRAM	
APPROVED: VPS	SHEET SIZE: 24"x36"		

DRAWING NAME: J:\HAMDT - TOWN OF HAMDEN\2 TOWN FACILITIES\HAM4063WM\GAS\REG802 2 - VOED BUILDING\FACILITY DIAGRAM.dwg LAYOUT: 24 x 36 - BOTTOM TITLE FLOATS ATE: Nov 16, 2017 - 2:55pm OPERATOR: EJFR

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APPENDIX A
SPCC Regulations

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APPENDIX B
SPCC Regulatory Cross Reference

Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
112.3(d)	Except as provided in § 112.6, a licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.	i	NA
112.3(d)(1)	By means of this certification the Professional Engineer attests:	i	NA
112.3(d)(1)(i)	That he is familiar with the requirements of this part:	i	NA
112.3(d)(1)(ii)	That he or his agent has visited and examined the facility:	i	NA
112.3(d)(1)(iii)	That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;	i	NA
112.3(d)(1)(iv)	That procedures for required inspections and testing have been established; and	i	NA
112.3(d)(1)(v)	That the Plan is adequate for the facility.	i	NA
112.3(d)(1)(vi)	That, if applicable, for a produced water container subject to § 112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.	NA	NA
112.4(a)	Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject of this section:	§3.4	NA
112.4(a)(1)	Name of the facility;	§3.4	NA
112.4(a)(2)	Your name;	§3.4	NA
112.4(a)(3)	Location of the facility;	§3.4	NA
112.4(a)(4)	Maximum storage or handling capacity of the facility and normal daily throughput;	§3.4	NA
112.4(a)(5)	Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;	§3.4	NA
112.4(a)(6)	An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;	§3.4	NA
112.4(a)(7)	The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;	§3.4	NA
112.4(a)(8)	An additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and	§3.4	NA
112.4(a)(9)	Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.	§3.4	NA
112.4(d)	Amendment of Spill Prevention Control and Countermeasure Plan (SPCC) by Regional Administrator.	--	--
112.5(a)	SPCC amendments due to changes in facility design.	iii	NA
112.5(b)	Perform a review and evaluation of SPCC Plan at least once every five years. The owner/operator must document completion of the review and evaluation, and must sign a statement as to whether he will amend the SPCC Plan. The following will suffice: "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result.	iii	NA
112.5(c)	Obtain Professional Engineers certification for any technical amendments in accordance with 11-2.3(d).	iii	NA
112.7(a)(1)	Include a discussion of your facility's conformance with the requirements listed in 40 CFR 112.7.	--	--
112.7(a)(2)	Comply with all applicable requirements listed in this part. Except as provided in § 112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).	§6.3.1	✓

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Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
112.7(a)(3)	Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under § 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under § 112.1(d)(11). You must also address in your Plan:	Figures 1 and 2, Table 1	✓
112.7(a)(3)(i)	The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities	Table 1	✓
112.7(a)(3)(ii)	(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);	§6	✓
112.7(a)(3)(iii)	(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.	§6	✓
112.7(a)(3)(iv)	(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);	§3	✓
112.7(a)(3)(v)	(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and	§6.3.3	✓
112.7(a)(3)(vi)	(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of discharge as described in § 112.1(b).	§3 & 4	✓
112.7(a)(4)	Unless you have submitted a response plan under 40 CFR 112.20, provide information and procedures in your SPCC Plan to enable a person reporting a discharge to relate information on the exact address or location and phone number of the facility…	§3 & 4	✓
112.7(a)(5)	Unless you have submitted a response plan under 40 CFR 112.20, organize portions of the SPCC Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency and include appropriate supporting materials as appendices.	§3 & 4	✓
112.7(b)	Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.	Table 1	✓
112.7(c)	Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in § 112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in § 112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:	§6	✓
112.7(c)(1)	For onshore facilities: (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (ii) Curbing or drip pans; (iii) Sumps and collection systems; (iv) Culverting, gutters, or other drainage systems; (v) Weirs, booms, or other barriers; (vi) Spill diversion ponds; (vii) Retention ponds; or (viii) Sorbent materials.	§6	✓
112.7(c)(2)	For offshore facilities: (i) Curbing or drip pans; or (ii) Sumps and collection systems.	NA	NA

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Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
112.7(d)	When installation of structures or equipment, as outlined in 112.7(c) and (h)(1) and 40 CFR 112.8(c)(2), (c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2) and 112.14(c) is not practicable, clearly explain why such measures are not practicable; for bulk storage containers, conduct periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping, unless you have submitted a response plan under 40 CFR 112.20 provide the following in your SPCC Plan: 1. Provide an oil spill contingency plan described in 40 CFR 109; and 2. Provide a written commitment of manpower, equipment, and materials to control and remove harmful quantity of oil discharged.	§6.2 §13	✓
112.7(e)	Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer developed for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.	§7	✓
112.7(f)	Personnel, training, and discharge prevention procedures	--	--
112.7(f)(1)	At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rule, and regulations; general facility operations; and, the contents of the facility SPCC Plan.	§10	✓
112.7(f)(2)	Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.	§10	✓
112.7(f)(3)	Schedule and conduct discharge prevention briefings for your oil handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in § 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.	§10	✓
112.7(g)	Security (excluding oil production facilities). Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.	§9	✓
112.7(h)	Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).	--	--
112.7(h)(1)	Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.	§6	✓
112.7(h)(2)	Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.	§6	✓
112.7(h)(3)	Prior to filling and department of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.	§6	✓
112.7(i)	If a field-constructed above-ground container undergoes a repair, alteration, reconstruction or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container of risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.	7.0	✓
112.7(j)	In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.	NA	✓
112.8(b),	Facility Drainage (for onshore facilities, except oil production)	--	--
112.8 (b)(1)	Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.	6.3.2	✓

Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
112.8 (b)(2)	Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.	6.3.2	✓
112.8 (b)(3)	Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.	6.3	✓
112.8 (b)(4)	If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge retain oil in the facility.	6.3	✓
112.8 (b)(5)	Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.	NA	✓
112.8 (c)	Bulk Storage Containers (for onshore facilities, except oil production)	--	--
112.8 (c)(1)	Bulk storage containers. (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.	6.1	✓
112.8 (c)(2)	Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.	§6	✓
112.8 (c)(3)	Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you: (i) Normally keep the bypass valve sealed closed. (ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b). (iii) Open the bypass valve and reseal it following drainage under responsible supervision; and (iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41 (j)(2) and 122.41 (m)(3).	6.3.2	✓
112.8 (c)(4)	Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.	NA	✓
112.8(c)(5)	Do not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.	NA	✓
112.8(c)(6)	Test or inspect each above-ground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.	7.3	✓

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Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
112.8(c)(7)	Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.	NA	✓
112.8(c)(8)	Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices: (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities, an audible air vent may suffice. (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level. (iii) Direct communication between tank gauger and pumping station. (iv) Fast response system for determining liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers. (v) You must regularly test liquid level sensing devices to ensure proper operation.	Table 1 and §6	✓
112.8(c)(9)	Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).	NA	✓
112.8(c)(10)	Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.	§4 §6	✓
112.8(c)(11)	Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.	§6	✓
112.8(d)(1)	Facility Transfer Operations, Pumping, and Facility Process (onshore facilities, except oil production)	--	--
112.8(d)(1)	Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect if for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.	NA	✓
112.8(d)(2)	Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.	NA	✓
112.8(d)(3)	Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	§6	✓
112.8(d)(4)	Regularly inspect all above-ground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.	§7	✓
112.8(d)(5)	Warn all vehicles entering the facility to be sure that no vehicle will endanger above-ground piping or other oil transfer operations.	§6.3.4	✓

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Town of Hamden VOED Building SPCC Plan Regulatory Cross Reference			
SPCC Rule Section	**Description**	**Facility SPCC Plan**	**Visually Confirmed in Field**
Appendix C to Part 112	Appendix C to Part 112 – Substantial Harm Criteria Section 2.1 A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Section 2.2 Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest above-ground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to the EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems. Section 2.3 A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined by 40 CFR 112.2) to fish and wildlife sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil spill could cause the appropriate formula presented in Attachment C-III to this appendix or a comparable formula. Section 2.4 A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c).	Appendix E	✓

The following sections of the SPCC Rules do not apply to the facility:

112.9 SPCC Plan requirements for onshore oil production facilities.
112.10 SPCC Plan requirements for onshore oil drilling and work over facilities.
112.11 SPCC Plan requirements for offshore oil drilling, production, or work over facilities.
112.12 SPCC Plan requirements for animal, vegetable, & seed oils.

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APPENDIX C
Spill Reporting Form

REPORT OF PETROLEUM DISCHARGE, SPILLAGE, OR RELEASE

When did the incident occur? Date_____ Time_____

Where did the incident occur?_____

_____

How did the incident occur?_____

_____

_____

What and how much spilled? Is there a reportable quantity (RQ) associated with the material and was that RQ exceeded? (reference the List of Lists)

_____

_____

Describe path of spill and any affected water bodies or areas of the environment. If fully contained, described how the spill was contained to prevent a release.

_____

_____

_____

_____

_____

Under whose control was the product at the time of the incident? Please give their name, mailing address and telephone number (if not part of Town of Hamden Public Works (VOED) Building).

_____

_____

List agencies that were notified as a result of this spill or note "NA" if reporting not required per Section 3.3 of SPCC Plan:

Date	Time	Person Making Notification	Agency Notified	Notes From Conversation/Notification

What actions are being taken, or are proposed, to prevent reoccurrence of an incident of this type?

_____

_____

_____

_____

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Were there any injuries as a result of this incident? If so, list the names of exposed individuals, their addresses, phone numbers, and describe their injuries.

What is the appropriate advice regarding medical attention necessary for exposed individuals?

Are there any known or anticipated health risks, acute or chronic, associated with the release of this chemical or medical advice that should be communicated?

What waste was generated as a result of clean-up activities and how was it disposed (provide waste classification and name of waste vendor)

I hereby affirm that the foregoing statement is true to the best of my knowledge.

Signature	Title	Date
Print Name		Telephone Number
Street Address/P.O. Box	City/Town	State Zip

This form may be reproduced or computerized as long as it contains all of the information requested and is on an 8-1/2" x 11" white paper, black type format. For serious incidents the questions may be answered in a narrative format which must include the preparer's affidavit.

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APPENDIX D
Inspection Logs

MONTHLY SPCC PLAN INSPECTION LOG

Town of Hamden VOED Building, Hamden, Connecticut

Inspection Date: _____ Inspector Name/Title: _____

Inspection Time: _____ Signature: _____

OIL-FILLED OPERATIONAL EQUIPMENT

Location / Description	Free of Leaks or Spills		Units maintained in Good Condition (no corrosion, sturdy supports and foundations)		Problems Identified	Corrective Actions Taken & Date
	Acceptable	Unacceptable	Acceptable	Unacceptable		
Transformers						
North side of building						
Equipment						
Hydraulic Oil Lift Reservoirs- East side of building						

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MONTHLY SPCC PLAN INSPECTION LOG

Town of Hamden VOED Building, Hamden, Connecticut

Inspection Date: _____ Inspector Name/Title: _____

Inspection Time: _____ Signature: _____

BULK FUEL STORAGE CONTAINERS

Tank Location / Description	Secondary Containment Maintained (complete dike draining log as necessary)		Fill and Drain Valves Securely Locked		Free of Leaks or Spills (check for presence of liquid in interstice)		Containers and piping in Good Condition (no corrosion, sturdy supports and foundations)		Level Indicator Functional / Overfill Protection		Problems Identified (enter work order as necessary)	Corrective Actions Taken & Date
	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable		
ABOVE-GROUND STORAGE TANKS AND DRUMS												
ConVault Waste Oil AST-outside east wall of building												
275-gallon 1540 diesel oil AST-Fire Dept. Area												
(5) 275 gallon fuel oil ASTs – Lube Room												
(7) 55-gallon drums – Oil Storage Room												

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MONTHLY SPCC PLAN INSPECTION LOG

Town of Hamden VOED Building, Hamden, Connecticut

Inspection Date: _____ Inspector Name/Title: _____

Inspection Time: _____ Signature: _____

BULK FUEL STORAGE CONTAINERS

Tank Location / Description	Secondary Containment Maintained (complete dike draining log as necessary)		Fill and Drain Valves Securely Locked		Free of Leaks or Spills (check for presence of liquid in interstice)		Containers and piping in Good Condition (no corrosion, sturdy supports and foundations)		Level Indicator Functional / Overfill Protection		Problems Identified (enter work order as necessary)	Corrective Actions Taken & Date
	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable	Acceptable	Unacceptable		
(2) 55-gallon drums waste antifreeze- Maintenance Area												
(2) 55-gallon drums of waste oil- Maintenance & Fire Dept. Area												
(2) 55-gallon drums of used oil filters- Maintenance Area												
(2) 55-gallon drums of hydraulic fluid – Maintenance Area												
41.25 cu ft Used speedy dry Unibin												

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ANNUAL INTEGRITY INSPECTION LOG

Town of Hamden VOED Building, Hamden, Connecticut

Inspection Date:_____ Inspector's Name/Title:_____

Inspection Time:_____ Signature:_____

Container ID	Containment structure in satisfactory condition?	Drainage pipes/valves within containment fit for continued service.	Evidence of tank settlement or foundation washout	Cracking or spalling of foundation	Tank supports in satisfactory condition	Water able to drain away from tank	Grounding strap secured and in good condition	Evidence of paint failure	Any damage evident to the tank shell?	Flanged connection bolts tight and fully engaged with no sign of wear or corrosion	Standing water on tank	Vents free of obstructions	Emergency vent operable? Lift as required	Insulation damaged or missing	Are there noticeable areas of moisture on the insulation	Mold on insulation	Is the insulation sufficiently protected from water intrusion	Has the tank liquid level sensing device been tested to ensure proper operation	Does the tank liquid level sensing device operate as required	Are overfill prevention devices in proper working condition	Are tank grounding lines in good condition	Is electrical wiring for control boxes/lights in good condition	Comments
500-gallon Used Oil ConVault AST																							
275-gallon 1540 diesel oil AST																							
275-gal Fuel Oil AST-1																							
275-gal Fuel Oil AST-2																							
275-gal Fuel Oil AST-3																							
275-gal Fuel Oil AST-4																							
275-gal Fuel Oil AST-5																							

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DIKE DRAINING LOG

Town of Hamden VOED Building
Hamden, Connecticut

Date	Dike or Secondary Containment Location	Name of VOED Personnel Making Assessment	Visual Indication of Oily Sheen or Film? (yes/no)*	Visual Indication of Discoloration? (yes/no)*	Dike Drained to Ground or Pumped & Hauled by Contractor?	If Drained to Ground**		If Pumped & Hauled, Indicate Name of Contractor Used
						Start and End Time	Return Drain Valve to Closed & Locked Position	

*If answer "yes" to any of the questions, the contents of the dike or secondary containment area must be pumped and hauled off site

**If contents are drained to the ground, VOED personnel must be present during the entire draining activity, ensuring all drain valves are properly closed and locked after the draining event.

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APPENDIX E

Certification of the Applicability of the Substantial Harm Criteria Checklist

CERTIFICATION FOR FACILITIES THAT DO NOT POSE SUBSTANTIAL HARM

Facility Name: Town of Hamden VOED Building

Facility Address: 1255 Shepard Avenue, Hamden, Connecticut

	YES	NO
1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?		X
2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each above-ground storage area sufficiently large to contain the capacity of the largest above-ground storage tank within the storage area?		X
3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III or an alternative formula[1] considered acceptable by the RA) such that a discharge from the facility could cause injury to an environmentally sensitive area as defined in Appendix D?		X
4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III or an alternative formula[1] considered acceptable by the RA) such that a discharge from the facility would shut down a public drinking water intake[2]?		X
5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?		X

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 this information, I believe that the submitted information is true, accurate, and complete.

John Pucillo
Name (please type or print)

Superintendent of Vehicle Maintenance
Title (please type or print)

Signature

Date

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

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APPENDIX F
Training Roster

SPCC Plan Training Roster Town of Hamden VOED Building Hamden, Connecticut		
Date:	Training Conducted By:	
Employee Name	**Type of Training (Circle One)**	**Employee Signature**
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
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	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	
	Initial / Refresher	

By signing this form, each employee acknowledges that he/she has received SPCC Plan training and has an understanding of all material presented, including his/her responsibilities with regard to spill prevention and response at Town of Hamden Public Works (VOED) Building. Completed Training Rosters may be maintained in Appendix F of the SPCC Plan.

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APPENDIX G
Photo Log of Oil Storage Locations

	
Photo Description: 275-gallon 1540 diesel oil AST (Fire Department Area)	Photo Description: 55-gallon drums in secondary containment in Oil Storage Room
	
Photo Description: 275-gallon double walled AST in Oil Storage Room	Photo Description:500-gallon ConVault AST for Waste Oil

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APPENDIX H
SPCC Plan Records

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APPENDIX I
ConVault Onsite Integrity Testing Procedures

Above Ground Fuel Storage Solutions

Onsite Integrity Testing Procedures

Onsite Inspection & Testing Recommendations to Meet Requirements of EPA SPCC Regulations

Release Date: January 31, 2014

Oldcastle Precast®

The ConVault System

ConVault is an above ground, fuel and oil storage system manufactured for the purpose of above ground storage. The purpose of this testing procedure document is to aid ConVault owners and engineers in complying with the requirements of the Spill Prevention Control and Containment regulations for integrity testing or inspection as found at 40 CFR 112.8(c)(6) in effect as of January 14, 2010.

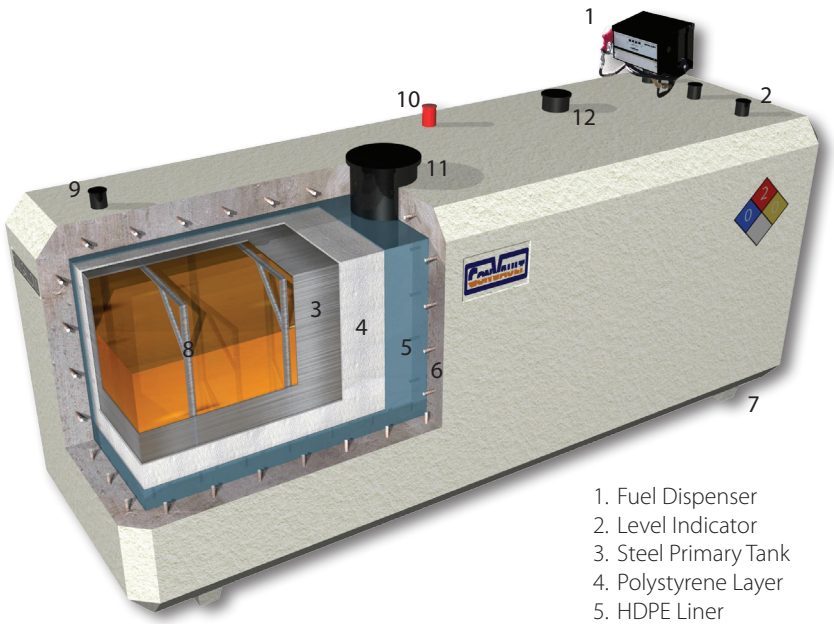
The ConVault system includes:

1. **Primary containment**: Inner shop fabricated steel tanks built in accordance with UL 142 Standard. The tank is pressure tested for 24 to 48 hours after fabrication process, again pressure tested during the precasting process, and also prior to shipment of the tank.

2. **Secondary containment**: Consists of a high density polyethylene (HDPE) liner. This secondary containment is vacuum tested prior to shipment of the tank.

3. **Encasement** inner steel tank and the HDPE liner are encased on all sides in 6" thick reinforced concrete. The entire system is elevated upon 4" to 6" high integral concrete legs.

The ConVault above ground fuel storage system is manufactured and tested in accordance with the UL 2085 Standard.



1. Fuel Dispenser
2. Level Indicator
3. Steel Primary Tank
4. Polystyrene Layer
5. HDPE Liner
6. Reinforced Concrete
7. Support Legs
8. Internal Bracing
9. Atmospheric Vent
10. Leak Detector Tube
11. Overfill Containment
12. Emergency Vent

ConVault is thus a three layered containment system; Primary steel tank, secondary HDPE liner and exterior concrete layer acting as a dam or dike. The integrity of each layer will be addressed in the following steps.

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convault.com

Note regarding Steel Tank Institute Standard Inspection Guidelines STI SP001: *STI SP001 requirements are not prepared or issued with inspection criteria that are readily applicable to other AST manufacturers especially to the concrete tanks. The STI SP001 should make a notation to say: Inquire with the manufacturer of the tank before utilizing SP001 to inspect your ConVault tank. Some portions of STI SP001 are applicable to the inspection of ConVault, such as inspection frequency. A copy of the STI SP001 Standard can be found at:*

www.steeltank.com/Publications/STISPFAStore/tabid/487/Default.aspx

In no case should a pressure test be performed on the secondary containment. Serious damage to the tank system may result from pressure testing.

Refer to manufacturer's drawings and specifications to confirm the configuration of your tank. If you do not have drawings and specifications please contact the supplier or, manufacturer or call 1-888-965-3227.

- *Testing of ConVault tanks may be completed by qualified personnel following this testing methodology.*
  If you require assistance sourcing a qualified testing professional please call 1-800-965-3227 or visit www.convault.com.
- *Testing should proceed only after reviewing all previous test records and any documentation detailing modifications, repairs, and visible or known damage to the tank.*
- *ConVault tank systems feature a nameplate which will provide the Underwriters Laboratory listing serial number. Include this number in the documentation of inspections.*
- *This testing procedure will not apply or may not be adequate if:*
  - *The ConVault has been moved from its original location;*
  - *The ConVault has sustained known or apparent trauma or impact;*
  - *Products incompatible with the inner steel tank have been put into the ConVault.*

Test Protocol

1. Examine the area under and around the ConVault (pavement, drip pan, soil) for signs of movement or settlement that could lead to system performance problems.
2. Examine the area under and around the ConVault for signs of spills and if any are found, document the location relative to the ConVault tank.
3. Examine the exterior (sides and bottom) of the ConVault noting any cracks and/or damage to the concrete outer layer.
4. During the inspection of the ConVault exterior pay particular attention to any signs of fuel or oil leaks that may manifest as staining on the exterior of the concrete or dirt, dust or soil that may adhere to spilled fuel or oil. Document the location and nature of any signs of fuel or oil on the exterior (sides and bottom).
5. Fuel or oil spills on the side of a ConVault emanating from the top of the tank will be addressed in later sections of this document.
6. If fuel or oil is found in specific areas of the side or bottom of the ConVault the owner/user should be notified immediately.
    i. Inquire as to the time frame the owner/user first noticed the spill.
    ii. Note whether any fuel or oil has accumulated on the surface under the ConVault which can be specifically related to the location of fuel or oil present on the exterior (side and bottom). If any fuel or oil is noted on the surface under the ConVault, the owner/user should be notified immediately and the owner/user should take immediate steps to notify any appropriate governing authorities.

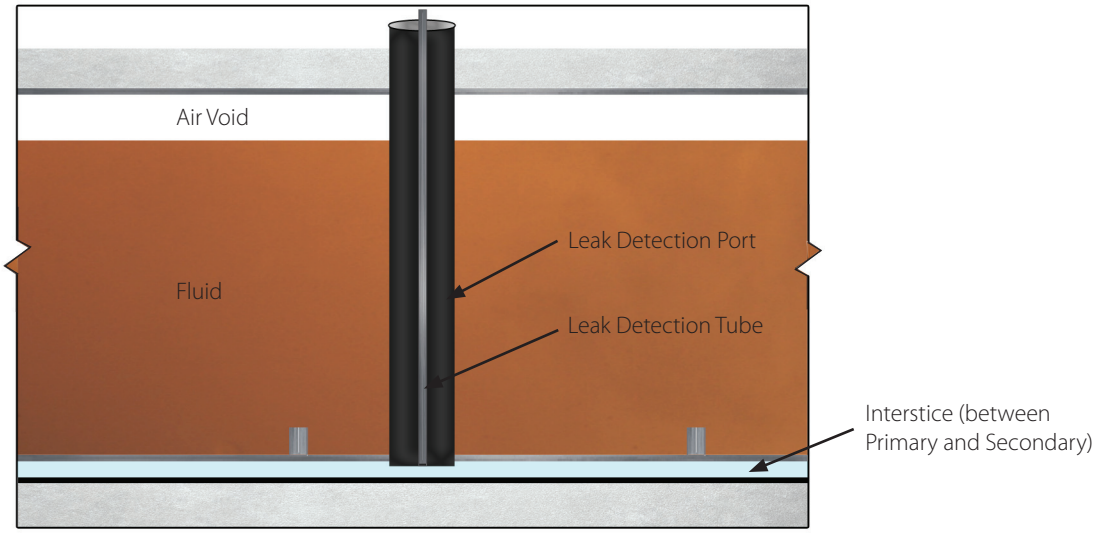
    If no evidence of leakage is noted on the exterior of the concrete containment layer then the inspection report indicate so.
7. Examine the top of the ConVault. Note: Examination of the top of the ConVault may involve persons walking on top of the tank and appropriate safety precautions should be implemented to insure the safety of the inspector from falls or injury related to tripping upon hardware. If appropriate a second person should be utilized to assist.
8. While inspecting the top of the tank, first locate and note the location, configuration, condition and types of any plumbing, meters and dispensing equipment.
    i. Minor fuel spillage on top of the ConVault is not uncommon and may make it difficult to determine the actual source of leaks. Any leaks directly related to the plumbing, meters, dispensing equipment or other hardware used to load or dispense fuel should be noted. Rust or other deterioration should also be noted.
    ii. Closely inspect the interfaces between the steel connections protruding from concrete. Note any areas that should be resealed to prevent the introduction of rain water into the system.
        a. Consult with the tank manufacturer or call 1-800-965-3227 for recommendations.

    iii. Note the condition of the concrete surface. The surface should be relatively clean and smooth without cracks, holes or other deteriorations. A functioning layer of sealant (waterproof) paint should be present across the entire surface of the concrete top.
        a. Use only recommended products to re-coat the top of the ConVault after thoroughly cleaning with bio-degreaser and light pressure cleaning.

Test Protocol (cont.)

9. Inspection of the primary steel tank
    i. At this point the inspector should locate and note the leak detection port.
    ii. The integrity of the inner steel primary tank is accomplished by checking for fluid between the steel tank and the HDPE liner. See below.

Cross Section of ConVault



Case: Steel tank is uncompromised
Result: Fuel remains safely stored in tank

The inspector should obtain a clean wood or plastic inspection (non-pointed) rod of sufficient length to reach the full depth of the inner steel tank. With the inspection port cap opened, insert the rod to the bottom of the tube.

iii. Withdraw the inspection rod and visually examine it.
    a. If the rod is dry and there is no liquid present then the primary steel tank is not leaking and the ConVault is suitable for continued use .

    See next page if the rod is wet.

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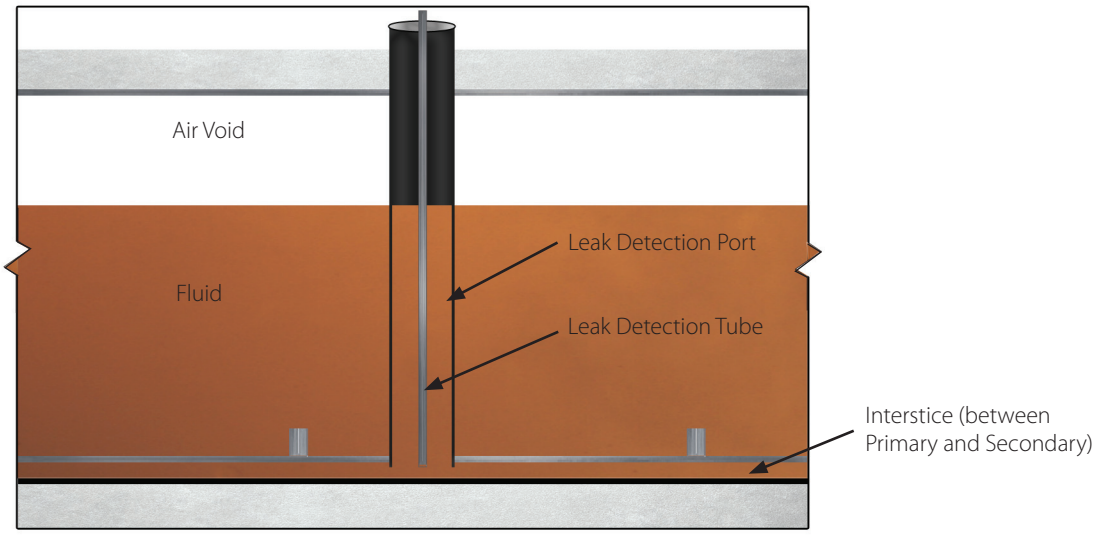
Test Protocol (cont.)

Cross Section of ConVault



Case: Steel tank has been breached
Result: Fuel is trapped by liner and is easily detected with probe

b. If the rod is wet then the inspector must determine the nature of the liquid, water or fuel.

1. If the liquid on the inspection rod is water then rainwater has entered the system due to inspection port cap being left off or water has entered the system due to a gap between the concrete outer layer and plumbing on top of the tank.

   - The water should be extracted from the tank interstice. Consult with ConVault or the manufacturer of your ConVault or call 1-800-965-3227 for recommendations as to water removal techniques.

c. If the rod is wet and smells of fuel or oil or has a sheen then:

1. The owner/user should be notified immediately.
2. It is possible that fuel or oil was introduced into the interstice through the inspection port. The fuel or oil should be extracted from the interstice. At this point and after complete extraction of the fuel or oil the rod should be re-introduced into the inspection port to check for the presence of fuel or oil. If the interstice contains fuel, after pumping out the fuel, the fuel entrapped in the secondary containment will flow down and fuel might be seen in the leak detector tube again. In this case, the best way of insuring the integrity of the primary tank is a pressure or vacuum test, using the ConVault testing manual: www.convault.com/testingmanual.pdf
3. The inner steel primary containment tank may have leaked and the tank should be tested to determine if primary has failed.
   - At this point, the owner/user should contact the installer or manufacturer of the ConVault or call1-800-695-3227 for recommended next steps.

Industry Standard Requirements for Tank Inspection Frequency

For the sake of consistency, the standard for testing frequency for ConVault fuel and oil containment systems should be consistent with the requirements of STI SP001 which is detailed below and is normally a function of the size of the tank and it's Category per SP001 Standard.

Tank Categories

The tank categories and inspection schedule from SP001 are to be utilized for ConVault tanks.

Among other factors, owners should take a number of aspects into consideration such as the tank leak detection system, and that the monitoring equipment is in good working condition.

Based on many considerations, the SP001 standard classifies tanks into three categories. Depending on the risk a tank system poses to the environment if kept in service it is ranked as a category 1, 2 or 3 tank. Category 1 tanks pose the least amount of risk and category 3 the highest.

See **Table 5.4** of the standard, reproduced here, for examples of tank configuration and AST category. Please note that if the AST bottom plate, other than its legs or supports, is in contact with the ground or a concrete slab, it is prone to corrosion and increased susceptibility to leakage. Shop Fabricated Tanks in contact with the ground or a concrete base are almost always vertical tanks. Such tanks are placed in Category 2 or 3. ASTs which are elevated, have a leak detection system, have spill control and have no part of the tank in contact with the ground (other than legs or supports) are classified as category 1 tanks.

Table 5.4: Example Tank Configurations and AST Category

Tank Configuration	Tank has CRDM	AST Category
AST in contact with ground	No	2 or 3
ConVault → Elevated tank w/ spiill control & no part of AST in contact w/ ground	Yes	1
Vertical tank w/ RPB & spill control	Yes	1
Vertical tank w/ double bottom & spill control	Yes	1
Double-wall AST	Yes	1
AST w/ secondary containment dike/berm	Yes	1

CRDM: Continuous Release Detection Method – or Leak Detection System
RPB: Release Prevention Barrier

Inspection Type and Frequency

The SP0001 standard requires different inspection types and different inspection intervals based on the tank size, tank category, and the risk it poses. The tank inspection intervals from SP001 are to be followed for ConVault tanks.

In Table 5.5 of SP0001 (see next page), those portions pertaining to shop fabricated tanks up to 30,000 gallons have been highlighted showing inspection schedules for the different AST categories.

Industry Standard Requirements for Tank Inspection Frequency (cont.)

In Table 5.5 use the following designations:

P - Periodic AST inspection

E - Formal External Inspection by Certified Inspector

L - Leak test by owner's designee

I - Formal Internal Inspection by Certified Inspector

( ) indicates maximum inspection interval in years. For example; E (5) indicates formal external inspection every 5 years.

SP001 Table 5.5: Inspection Schedules

ConVault

Shop Fabricated AST Size (US Gallons)		Category 1	Category 2	Category 3
Shop Fabricated ASTs	0-1100 (0-4,164 liters)	P	P	P, E & L (10)
	1,101 - 5,000 (4,168 - 18,927 liters)	P	P, E & L (10)	P, E & L (5), I (10) or P, L (2), E(5)
	5,001 - 30,000 (18,931 - 113,562 liters)	P, E (20)	P, E (10), I (20) or P, E (5), L(10)	P, E & L (5), I (10) or P, E & L (5), E(5)
	30,001 - 50,000	P, E (20)	P, E & L (5), I (15)	P, E & L (5), I (15)
Portable Containers		P	P	P*

**Owners shall either discontinue use of portable container for storage or have the portable container DOT (Department of Transportation) tested and recertified per following schedule (refer to Section 9.0):*
Plastic containers – every 7 years; steel portable container – every 12 years
Stainless Steel container – every 17 years

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Periodic Inspection Requirements

ConVault tanks of 5,000 gallons or less capacity are CATEGORY 1 TANKS. Owners of ConVault ASTs of this size are NOT required to employ Certified AST Inspectors to inspect their tanks to comply with the standard's requirements, but can be in compliance with the standard by inspecting the tanks themselves or having their employees inspect them. ConVault tanks larger than 5000 gallons, are also self-inspected and only require inspection by a Certified Inspector after 20 years of service.

What qualifications are required for the owner to self-inspect his tank, and how does the owner need to know what to inspect?

Section 4 of the SP001 standard defines the qualifications of the Owner's Inspector as follows: *"Periodic inspections are to be performed by an owner's inspector. The personnel performing these inspections shall be knowledgeable of storage facility operations, the type of AST and its associated components, and characteristics of the liquid stored".*

Section 6 of the standard STI SP001 explains what is meant by the PERIODIC AST INSPECTION – and what needs to be inspected and kept in the owner's AST records. These are simple and straight-forward tasks which can be performed by any competent owner or his employees. The standard makes it very easy to know what to do and what to check for by providing a check list in the standard's Appendix C. The first section requires filling in information about the owner and the ID of the tank. The second section is the SP001 Monthly Inspection Checklist which consists of 9 easy to check, Yes or No questions such as; is there water in primary or secondary containment, are there visible signs of leakage around the tank, concrete pad, or ground, are all tank openings properly sealed, etc. The third section is the SP001 Annual Inspection Checklist which contains 27 questions with Yes or No answers and a space for comments. It should be noted that the Periodic Inspection must be performed in addition to the Formal External Inspections.

Simply put, the periodic inspection requirements are visual, documented inspections conducted by an owner's inspector, to assess the general AST conditions, as best as possible, without suspending AST operations or removing the AST from service.

ConVault strongly encourages the use of the Monthly and Annual Inspection Checklists provided in SP001, and, in fact, requires some of these items be checked on a weekly basis as part of the ConVault warranty.

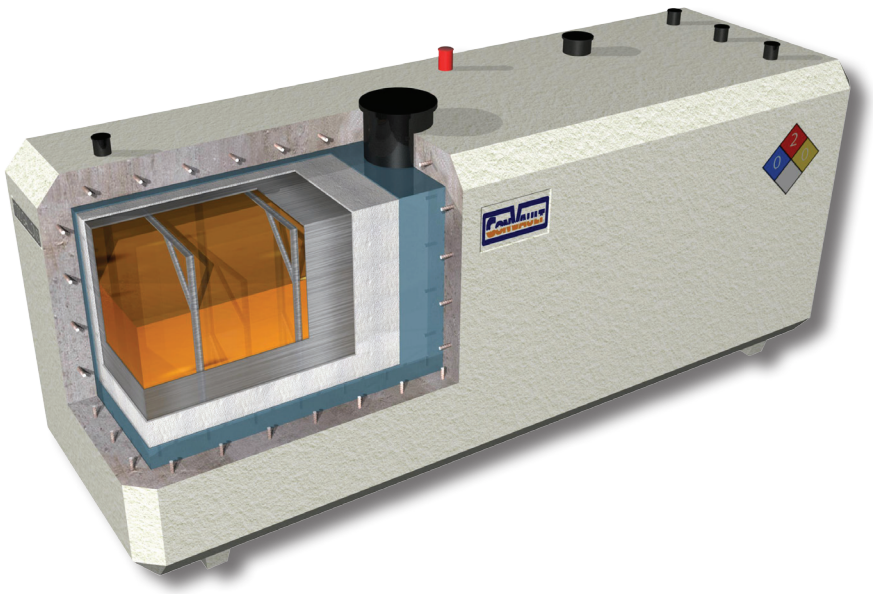
See Pages 10-12 for a ConVault specific Maintenance Checklist.

A copy of ConVault's weekly/monthly/yearly checklist is available online at http://www.convault.com/pdfdoc/checklist.pdf.

Summary

- As an owner of a ConVault you are NOT required to employ Certified Inspectors or a registered Professional Engineer to perform inspections on ConVault ASTs up to 5,000 gallons for most installations .
- For ConVault ASTs from 5,001 to 12,000 gallons you will need an External Inspection by a Certified Inspector once every 20 years for most installations.
- Monthly and yearly inspections by the tank owner or a designated employee are required by SP001, and Inspection Checklists are provided in Appendix C of the document.
- ConVault requires that the interstice be checked on a weekly basis using the inspection port and rod method described on Page 4.
- A newly installed ConVault AST will meet all the requirements of the SP001 checklists.

Visit: www.epa.gov/emergencies/docs/oil/spcc/integrity-testing-factsheet.pdf
if you have any questions regarding the EPA Spill Prevention, Control and Countermeasure Plan (SPCC) Program



Maintenance Checklist

Inspection Date_____ Inspector_____

Note: This checklist is designed for general use. Some items may not apply. All equipment inspections and maintenance should be documented. You are **encouraged** to make copies of this checklist. See the corresponding maintenance procedures and your owner's manual for corrective actions and more details.

Weekly Maintenance:

- ☐ 1. Check leak detector for indication of fluid in interstice. (This is required by warranty.) If checked with a stick gauge, ensure the stick is clean and dry before insertion.
- ☐ 2. Check for leaks on the pumps, filters, hoses, nozzles, joints and fittings.
- ☐ 3. Check nipples, spill containment and manholes for paint or powder coating decay (required by warranty). Check piping and fitting for rust.
- ☐ 4. Check pump meter and reset button.
- ☐ 5. Check fuel gauge for proper operation. If you have a Kruger At-A-Glance Gauge, check the clear cap for weathering or cracks.
- ☐ 6. Check spill containment for debris.
- ☐ 7. Check for small cracks in concrete.
- ☐ 8. Check readability of signs and decals.

Monthly Maintenance:

- ☐ 9. Check for water in the primary tank bottom under the fuel (required by warranty).
- ☐ 10. Visually check the tank, including under the tank for any signs of leakage as required by the Environmental Protection Agency 40 CFR 112.
- ☐ 11. Check leak detector tube cap for corrosion and proper operation. If a Kruger manual leak indicator is installed, remove the red ring and clear cap and check to see that the red indicator moves up and down about 1 inch freely. Also, check for weathering or cracks in the clear cap. If electronic leak detection is installed, check it by using the test button.
- ☐ 12. Check all nozzles, hoses and fittings for wear and tear.
- ☐ 13. Check trigger mechanism on nozzle for metal fatigue or mechanical failure.
- ☐ 14. Check pump motor for signs of over-heating or excessive wear.
- ☐ 15. Check body of tank for cleanliness, need of paint, or rusting where applicable. Check signs and decals for need of replacement. Check slab and supports of unit for structural soundness.
- ☐ 16. Check grounding wires to see that they are properly attached to the tank terminals and grounding rod.

Other Periodic Maintenance:

- ☐ 17. Replace the dispenser filter at least every six (6) months or as needed (mark the date replaced on the filter).
- ☐ 18. Check fuel for bacterial infestation or microbial growth.
- ☐ 19. Have a qualified person periodically check all electrical wiring.
- ☐ 20. Check the emergency relief vent at least once a year by lifting the top cap and releasing it to ensure freedom of movement.
- ☐ 21. At least once a year, remove the leak detection device and check for proper operation.
- ☐ 22. At least once a year, check the calibration of the fuel gauge.
- ☐ 23. Follow the pump manufacturer's recommendation for frequency and procedures of maintenance.
- ☐ 24. Document significant storage events per 40 CFR 112 and your state regulations.

Maintenance Procedures

Please note that item numbers on this sheet corresponds with the item numbers on the Maintenance Checklist. Most of the maintenance requirements and procedures are also covered in the Convault owner's manual.

Weekly Checks:

1. If leak detector indicates fluid in the interstice, remove any devices and determine what the fluid is. Call your Convault representative.
2. If leaks are detected, contact the appropriate authorities as necessary. Tighten, repair as necessary, replace components, or contact your installer or service company.
3. If paint or powder coating deterioration occurs on nipples, spill containment or manholes, clean to bare metal, prime with a good quality zinc based primer, and repaint. If corrosion is severe, contact your Convault representative as soon as practical.
4. If dispenser meter is not working or will not reset, call your service company or installer.
5. If the fuel gauge fails to operate properly, repair/replace it, or call your service company before the next delivery. (It is the owner/operator's responsibility to prevent the overfilling of the tanks. The gauge is part of the required system to prevent overfilling.) If the Kruger cap has deteriorated, it could be allowing rainwater into the primary tank and should be replaced.
6. Keep spill containment clear of debris at all times. A contaminated spill containment will cause the fuel to be contaminated when any spill is released through the drain into the primary tank. Materials such as rags or paper products used to clean the spill containment must be disposed of properly, as they will usually contain fuel from the spill containment.
7. If there are small cracks in the concrete, fill and repair them. If you have questions, call your local Convault representative.
8. If signs or decals lose visibility, order replacements from your local Convault representative before the next time the tank is filled.

Monthly:

9. If there is water in the tank it will collect at the bottom, under the fuel. Water in the tank will cause increased corrosion. If you discover water in the primary tank it must be removed. One method is to pump it out with a "Thief Pump", a small pump that pulls the water from the bottom 1/8" of the tank. Check tank openings for possible water entry points. If you find that you are pumping out more than one half gallon of water for every 1000 gallons of product stored, see your fuel dealer, or call your Convault representative. Also consult item (I) in the maintenance section of the owner's manual.
10. If you detect leakage, determine what the liquid is, if possible, and call your Convault representative and appropriate authorities as necessary.
11. If there are problems with the leak detector tube or lock, clean and lubricate them as necessary. See item (G) in the maintenance section of the owner's manual. If the Kruger leak indicator does not function properly, remove it and repair or replace it. Due to ultraviolet radiation, the clear cap on the Kruger leak indicator will deteriorate over time. If it has deteriorated, it could be allowing rainwater into the interstitial area and should be replaced. New caps and rings or entire units can be purchased from Kruger, your service company, or your Convault representative. Kruger now offers a guard, which will prolong the life of the cap. If electronic leak detection test fails, call your service company.

12. If nozzles, hoses or fittings exhibit signs of wear and tear, repair/replace as necessary or call your service company.
13. If trigger mechanism on nozzle exhibits signs of metal fatigue or mechanical failure, replace nozzle or call your service company.
14. If pump motor shows signs of overheating or excessive wear, repair as necessary or contact your service company.
15. Clean, paint, and repair problem areas as necessary. Order replacements signs or decals from your local Convault representative If the slab is cracking or settling, contact your local Convault representative and your slab installer. If you have questions, call your local Convault representative.
16. If grounding wires are not attached properly, make appropriate changes or call your installer or your service company.

Other Periodic Maintenance:

17. Filters can be purchased from your Convault representative or local service company. The date can be scratched on with a sharp object, or written with a permanent marker.
18. If bacterial infestation is detected, consult item (H) in the maintenance section of the owner's manual.
19. Repair as necessary. Wiring (other than intrinsically safe items) in a class 1 area requires special sealing to prevent explosions.
20. If the emergency relief vent exhibits signs of motion restriction, promptly call your installer, your service company, or your Convault representative. Proper operation of this device is critical as most injuries and fatalities that happen in conjunction with fuel fires are due to improper, non-functional emergency relief vents or emergency relief vents replaced with normal pipe caps.
21. Most leak detection devices use a float. By removing the device from the leak detector tube and turning it upside down (simulating a floating situation) you can easily check for movement of the float and proper mechanical or electronic indication. If the leak detection device fails to operate properly, call your installer or your service company.
22. The fuel gauge can be checked by "sticking" the tank and comparing it to the gauge reading. Some gauges are more accurate than the stick. If the gauge reading varies substantially from the stick reading, contact the gauge manufacturer or service company. If your stick reads in inches only and you need a calibration chart, contact your Convault representative.
23. Pump maintenance requirements vary by manufacturer. If you have questions, contact your installer, local service company, or the manufacturer of the equipment.
24. If you have a warranty or environmental problem down the road, documentation will be very helpful. We recommend that you keep a copy of the "Maintenance Checklist" with items marked for every maintenance inspection. Notes about problems and corrections can be written on the back of the sheet and used for future reference. Many sites are now required to have a SPCC plan for emergencies on file. If you need a recommendation for companies that do this, please call your Convault representative. **The name, phone number and location of your local representative can be obtained from the Convault web site by clicking on "Local Distributor" and your state or country at http://www.convault.com.**

Oldcastle Precast

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