

# **Roger Williams University**

## **Spill Prevention, Control, and Countermeasure (SPCC) Plan**



**Most Recent Amendment/Revision Completed: 04-28-2017**

## RWU SPCC Plan Table of Contents

<u>Plan Section</u>	<u>CFR/OPCR Sec.</u>	<u>CFR Section Title</u>	<u>Page</u>
Section 0	(Not Applicable)	Introduction to Facility	1
Section 1	(40 CFR 112.1) (OPCR Sec. 4)	General Applicability	2
Section 2	(40 CFR 112.2) (OPCR Sec. 5)	Definitions and Acronyms	3
Section 3	(40 CFR 112.3) (OPCR Sec. 14)	Requirement to Prepare and Implement a Spill Prevention, Control, and Countermeasures Plan	4
Section 4	(40 CFR 112.4)	Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator	5
Section 5	(40 CFR 112.5)	Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators	6
Section 6	(40 CFR 112.6)	[Reserved; Not Applicable at RWU at this time]	7
Section 7	(40 CFR 112.7) (OPCR Sec. 7-9, 14-16)	General Requirements for Spill Prevention, Control, and Countermeasure Plans	8
Section 8	(40 CFR 112.8) (OPCR Sec. 10, 11, 12, 13)	Spill Prevention, Control, and Countermeasure Plan Requirements for Onshore Facilities (excluding Production facilities)	22
Sections 9-11	(40 CFR 112.9 - .11)	[Reserved; Not Applicable at RWU at this time]	26
Section 12	(40 CFR 112.12)	Spill Prevention, Control, and Countermeasure Plan Requirements for Animal Fats, Oils, and Grease, Fish and Marine Mammal Oils, and Vegetable Oils	27
Sections 13-19	(40 CFR 112.13 - 19)	Reserved – Not Applicable	29
Section 20	(40 CFR 112.20)	Facility Response Plans	30

## Appendices

- Appendix A: Facility Diagram
- Appendix B: Oil Storage Containers
- Appendix C: P.E. Certification
- Appendix D: Amendments/Reviews
- Appendix E: Contact List & Numbers
- Appendix F: Training Records
- Appendix G: Inspection Checklists
- Appendix H: Discharge & Reporting Forms
- Appendix I: RWU and Vendor Spill Response
- Appendix J: Cooking Oil Transfer Procedures
- Appendix K: Secondary Containment Calculations
- Appendix L: Spill Records
- Appendix M: Substantial Harm Determination

## Section 0. Introduction to Facility

Roger Williams University (RWU) is a liberal arts university located in Bristol, Rhode Island, with small satellite campuses in:

- Bristol, Rhode Island (“Almeida”; university apartment units; no oil / oil products onsite),
- Portsmouth, Rhode Island (“Baypoint”; university housing and conference site; less than 1,380 U.S. gallons of oil / oil products), and
- Providence, Rhode Island (rented space at “One Empire” Plaza; classroom and offices only; RWU has no oil / oil products onsite).

The Bristol, Rhode Island campus (“Main Campus”; this campus is referred to in this plan as “Facility” as defined in 40 CFR 112.2) is located at One Old Ferry Road on the shoreline of Mount Hope Bay.

The facility has approximately thirty-six (36) individual buildings located on a 132 acre campus. The buildings include:

- Office buildings
- Dormitory/housing buildings
- Academic buildings
- Laboratory / art studio / work shop buildings
- Facility maintenance building,
- Recreation center with a competitive-sized swimming pool
- Two dining hall facilities with full commercial kitchens
- Competitive sailing and waterfront programming center
- Learning platform / dock which extends into Mount Hope Bay.

Many of these buildings contain elevators and/or dumbwaiters. The facility also has twenty-one (21) diesel fuel emergency generators, an onsite fueling station with both gasoline and diesel fuel (a Convault tank system), electric transformers, trash compactors, and facility-owned trucks, vans, utility vehicles, aerial platforms, powered industrial trucks, and motor boats. The facility boilers are all natural gas-fed with the exception of the Bridgehouse, which is fed by #2 heating oil stored in a 275-gallon horizontal AST (traditional size/style for homes).

A detailed Facility diagram is located in Appendix A.

*(The rest of this page is intentionally left blank)*

## Section 1. General Applicability (40 CFR 112.1)

**1.1** This Spill Prevention, Control, and Countermeasure (SPCC) Plan's purpose is to form a comprehensive Federal/State-compliant spill prevention program that minimizes the potential for oil discharges, and addresses all relevant spill prevention, control, and countermeasures necessary to accomplish this objective.

RWU is a non-transportation-related onshore facility engaged in storing, transferring, distributing, using, and consuming oil and oil products. Due to RWU's coastal location, there is a reasonable expectation that the potential exists for oil to be discharged into or onto the navigable waters of the United States (Mount Hope Bay; Bristol, Rhode Island) or adjoining shorelines in quantities that may be harmful.

RWU stores, transfers, distributes, uses, and consumes oil and oil products in, to, and from: aboveground containers, temporary storage, and containers in vaults (considered aboveground storage containers for the purposes of this plan). An inventory of these containers can be found in Appendix B.

RWU also has oil storage containers with capacities of less than 55 gallons which are excluded from the requirements of 40 CFR 112 (40 CFR 112(d)(5)) but are still quantified for the purposes of the Facility's Tier II Report and Hazardous Waste Contingency Plan, and are included in this plan in reference to those two reporting requirements. An inventory of these containers can also be found in Appendix B.

Sections 1 through 7 of this SPCC Plan are intended to comply with Subpart B of 40 CFR 112, specifically 40 CFR 112.1 through 112.7.

*(The rest of this page is intentionally left blank)*

## Section 2. Definitions (40 CFR 112.2) and Acronyms

**2.1** This SPCC Plan incorporates 40 CFR 112.2 (Definitions) by reference; all defined words will be used in this Plan as they are defined in the regulation. This SPCC Plan also incorporates the Rhode Island Department of Environmental Management (DEM) Oil Pollution Control Regulations (OPCR) Section 5 (Definitions) by reference.

**2.2** The following acronyms and abbreviations are used in this Plan:

ALS	Aerial Lift Storage
AST	Aboveground Storage Tank
CFR	Code of Federal Regulations
DEM	Rhode Island Department of Environmental Management
EHS	Environmental Health and Safety
EPA	Environmental Protection Agency
EV	Elevators and Dumbwaiters
FOG	Fats, Oils, and Greases
G	Emergency Generator
HWS	Hazardous Waste Storage
LDP	Loading Dock Plate
MAS	Mechanic's Auto Shop
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
OPCR	Oil Pollution Control Regulations (Rhode Island)
OSHA	Occupational Safety and Health Administration
OWS	Oil Water Separator
P.E.	Professional Engineer (registered in Rhode Island)
RWU	Roger Williams University
SPCC	Spill Prevention, Control, and Countermeasures
STI	Steel Tank Institute
TC	Trash Compactor
TR	Transformer
ULS diesel	Ultra-Low Sulfur diesel fuel
USDOT	United States Department of Transportation
UST	Underground Storage Tank
WVO	Waste Vegetable Oil

*(The rest of this page is intentionally left blank)*

## **Section 3. Requirement to prepare and implement a Spill Prevention, Control, and Countermeasures Plan (40 CFR 112.3)**

**3.1** Roger Williams University was in operation prior to August 16<sup>th</sup>, 2002, and this Plan has been maintained and amended to meet the updated compliance requirements in 40 CFR 112 such that the amendments were implemented no later than November 10<sup>th</sup>, 2011, as required in 40 CFR 112.3(a)(1).

**3.2** A licensed Professional Engineer has reviewed and certified this Plan as effective and satisfying the requirements of this regulatory part. The Professional Engineer, via this certification, is attesting:

- That he or she is familiar with the requirements of this part (40 CFR 112);
- That he or she or his/her agent has visited and examined the facility (Roger Williams University);
- 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;
- That procedures for required inspections and testing have been established; and
- That the Plan is adequate for the facility.

This certification does not relieve RWU of the duty to prepare and fully implement this Plan in accordance with the requirements of 40 CFR 112.

This certification page is located in Appendix C.

**3.3** A complete copy of this Plan is maintained at RWU in the Environmental Health and Safety (EHS) Director's office. This Plan is available to the Regional Administrator for on-site review during normal working hours (Monday through Friday, 9:00AM – 5:00PM).

**3.4** Sub-sections (f) and (g) of 40 CFR 112.3 are not applicable to RWU at this time.

*(The rest of this page is intentionally left blank)*

## **Section 4. Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator (40 CFR 112.4)**

**4.1** As stated in 112.4(b), RWU will take no action under this section of the regulation (40 CFR 112.4) until it applies to the facility. If and when this section does apply, RWU will fulfill the requirements of this regulation section as detailed in 40 CFR 112.4 (incorporated by reference).

**4.2** Section 40 CFR 112.4 applies if and when:

- RWU has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in 112.1(b), or
- RWU has 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.

**4.3** All discharges, including those which do not meet the 40 CFR 112.4 criteria, will be recorded in Appendix L.

*(The rest of this page is intentionally left blank)*

## **Section 5. Amendment of Spill Prevention, Control, and Countermeasure Plan by Owners or Operators (40 CFR 112.5)**

**5.1** RWU will amend this SPCC Plan as described in 40 CFR 112.5(a) when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in 112.1(b). The Plan amendment will be prepared within six months of the facility change and implemented as soon as possible, and no later than six months after the preparation of the amendment.

**5.2** RWU will complete a review and evaluation of this SPCC Plan at least once every five years. The Plan will be amended and any amendments implemented as described in 40 CFR 112.5(b). This review will be documented with a signed statement, with the statement signature page kept in the master SPCC plan hard copy in the RWU EHS director's office. The statement will be as follows: "I have completed the review and evaluation of the SPCC Plan for (name of facility) on (date) and will (will not) amend the Plan as a result."

**5.3** A Professional Engineer will certify any technical amendments to this Plan, as well as the five-year review statements, as described in 40 CFR 112.3(d).

**5.4** The records of these amendments, five year reviews, and their accompanying certifications, are located in Appendix D.

*(The rest of this page is intentionally left blank)*

## **Section 6. [Reserved; Not Applicable at RWU at this time]**

**6.1** RWU does not meet the definitions of a Tier I or Tier II Qualified Facility as described in 40 CFR 112.6, “Qualified Facilities Plan Requirements,” so 40 CFR 112.6 is not applicable to RWU at this time.

*(The rest of this page is intentionally left blank)*

## **Section 7. General Requirements for Spill Prevention, Control, and Countermeasure Plans (40 CFR 112.7)**

### **7.1 Discussion of Roger Williams University's conformance with the requirements listed in 40 CFR 112 (40 CFR 112.7(a)(1))**

A non-destructive integrity evaluation is not performed on the fixed (25 – 1000-gallon fixed storage diesel tank) or portable (200-gallon portable storage diesel tank) emergency generators or on the 55-gallon storage drums.

The portable emergency generators have double wall construction and are elevated off the ground. The tanks are inspected regularly and following a regular schedule in accordance with the Steel Tank Institute (STI) SP-001 tank inspection standard as described in this SPCC Plan. Any leakage from the primary container would be detected through monitoring of the interstitial space performed on a monthly basis. Any leakage from the secondary shell would be detected visually during scheduled visual inspections by facility personnel.

Storage drums are elevated on spill pallets and have all sides visible, and any leak would be readily detected by facility personnel before they can cause a discharge to navigable waters or adjoining shorelines. Corrosion poses minimal risk of failure since drums are single use and remain on site for a relatively short period of time (less than one year). The drum storage area is inspected monthly. This is in accordance with accepted industry practice for drum storage and provides an effective means of verifying container integrity, as noted by EPA in the preamble to the SPCC rule at 67 FR 47120.

### **7.2 Compliance with all Applicable Requirements Listed in this Part (40 CFR 112.7(a)(2))**

Sections 7.3 through 7.15 (below) discuss RWU's compliance with all of the applicable requirements listed in 40 CFR 112.7.

### **7.3 Physical Layout of the Facility and Facility Diagram (40 CFR 112.7(a)(3))**

Please refer to Appendix A for the Facility Diagram.

#### **7.3.1 Type of Oil in each Fixed Container and its Storage Capacity**

Please refer to Appendix B for this information.

#### **7.3.2 Discharge Prevention Measures Including Procedures for Routine Handling of Products (Loading, Unloading, and Facility Transfers)**

All suppliers must meet the minimum requirements and regulations for tank truck loading / unloading established by the U.S. Department of Transportation (USDOT). RWU informs the vendor of the site layout and the protocol for entering the facility and unloading product, and requires the vendor to carry the necessary equipment to respond to a discharge from the vehicle or fuel delivery hose.

The Director of Facilities Management or his/her express designee supervises oil deliveries for all new suppliers, and periodically observes deliveries for existing, approved suppliers.

Vehicle filling operations are performed by facility personnel trained in proper discharge prevention procedures. The mechanic or facility personnel remain with the vehicle at all times while fuel is being transferred. Transfer operations are performed according to the minimum procedures outlined in Table 7.3.2. This table is also posted next to the loading/unloading point.

*(The rest of this page is intentionally left blank)*

**Table 7.3.2: Fuel Transfer Procedures**

<b>Stage</b>	<b>Tasks</b>
Prior to loading/unloading	<ul style="list-style-type: none"> <li>• Visually check all hoses for leaks and wet spots.</li> <li>• Verify that sufficient volume (ullage) is available in the storage tank.</li> <li>• Lock in the closed position all drainage valves of the secondary containment structure.</li> <li>• Secure the delivery/tank vehicle with wheel chocks and interlocks.</li> <li>• Ensure the vehicles parking brakes are set.</li> <li>• Verify proper alignment of valves and proper functioning of the pumping system.</li> <li>• If filling a tank, inspect the lowermost drain and all outlets.</li> <li>• Establish adequate bonding / grounding prior to connecting the fuel transfer point.</li> <li>• Turn off cell phone.</li> </ul>
During loading / unloading	<ul style="list-style-type: none"> <li>• Driver must stay with the vehicle at all times during loading/unloading activities.</li> <li>• Periodically inspect all systems, hoses, and connections.</li> <li>• When loading, keep internal and external valves on the receiving tank open along with the pressure relief valves.</li> <li>• When making a connection, shut off the vehicle engine. When transferring, shut off the engine unless it is used to operate a pump.</li> <li>• Maintain communication with the pumping and receiving station if not both in immediate vicinity.</li> <li>• Monitor the liquid level in the receiving tank to prevent overflow.</li> <li>• Monitor flow meters to determine rate of flow.</li> <li>• When topping off the tank, reduce flow rate to prevent overflow</li> </ul>
After loading / unloading	<ul style="list-style-type: none"> <li>• Make sure the transfer operation is completed.</li> <li>• Close all tank and loading valves before disconnecting.</li> <li>• Securely close all vehicle internal, external, and dome cover valves before disconnecting.</li> <li>• Secure all hatches.</li> <li>• Disconnect grounding/bonding wires.</li> <li>• Make sure the hoses are drained to remove the remaining oil before moving them away from the connection. Use a drip pan.</li> <li>• Cap the end of the hose and other connecting devices before moving them to prevent uncontrolled leakage.</li> <li>• Remove wheel chocks and interlocks.</li> <li>• Inspect the lowermost drain and all outlets on delivery truck prior to departure. If necessary, tighten, adjust, or replace caps, valves, or other equipment to prevent oil leaking while in transit.</li> </ul>

### **7.3.3 Discharge or Drainage Controls and Procedures for the Control of a Discharge**

This section describes the control procedures in the event of an oil discharge. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by state and federal laws. Immediate action must be taken to control, contain, and recover discharged product.

Upon the discovery of a potential discharge, in general, the following control steps are taken:

- Eliminate potential spark sources
- If possible and safe to do so, identify and shut down the source of the discharge to stop the flow
- Contact the Facility Manager or his / her alternate

A list of Emergency Contacts is provided in Appendix E. The list is also posted at prominent locations throughout the facility. A list of discharge response material kept at the facility is included in Appendix I.

### **7.3.4 Countermeasures for Discharge Discovery, Response, and Cleanup (Facility and Contractor)**

This section describes the countermeasure procedures in the event of an oil discharge. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by state and federal laws. Immediate action must be taken to control, contain, and recover discharged product.

In general, the following countermeasure steps are taken:

- Contain the discharge with sorbents, berms, fences, trenches, sandbags, booms, or other material
- Contact environmental contractor as needed
- Contact regulatory authorities and the response organization as needed

For the purpose of establishing appropriate response procedures, this SPCC Plan classifies discharges as either “minor” or “major,” depending on the volume and characteristics of the material released.

A list of Emergency Contacts is provided in Appendix E. The list is also posted at prominent locations throughout the facility. A list of discharge response material kept at the facility is included in Appendix I.

#### ***7.3.4.1 Response to a Minor Discharge***

A “minor” discharge is defined as one that poses no significant harm (or threat) to human health and safety or to the environment. Minor discharges are generally those where:

- The quantity of product discharged is small (eg. may involve less than 10 gals. of oil).
- Discharged material is easily stopped and controlled at the time of the discharge.
- Discharge is localized near the source.

- Discharged material is not likely to reach water.
- There is little risk to human health or safety.
- There is little risk of fire or explosion.

Minor discharges can usually be cleaned up by RWU. The following guidelines apply:

- Immediately notify the Facility Manager.
- Under the direction of the Facility Manager, contain the discharge with discharge response materials and equipment. Place discharge debris in properly labeled waste containers.
- The Facility Manager will complete the discharge notification form (Appendix H) and attach a copy to this SPCC Plan.
- If the discharge involves more than 10 gallons of oil, the Facility Manager will call the Rhode Island Department of Environmental Management (DEM) Incident Response Division (401-222-3070).

#### **7.3.4.2 Response to a Major Discharge**

A “major” discharge is defined as one that cannot be safely controlled or cleaned up by facility personnel, such as when:

- The discharge is large enough to spread beyond the immediate discharge area.
- The discharged material enters water.
- The discharge requires special equipment or training to clean up.
- The discharge material poses a hazard to human health or safety.
- There is a danger of fire or explosion.

In the event of a major discharge, the following guidelines apply:

- All workers must immediately evacuate the discharge site via the designated exit routes and move to the designated staging areas at a safe distance from the discharge. Exit routes are included on the facility diagram and posted in the Environmental Health and Safety office, in the Facilities Management offices, and on the inside wall of the shed that contains the spill response equipment.
- If the Facility Manager is not present at the facility, the senior on-site person notifies the Facility Manager of the discharge and has authority to initiate notification and response. Certain notifications are dependent on the circumstances and type of discharge. For example, if oil reaches a sanitary sewer, Bristol Wastewater Treatment Plant should be notified immediately. A discharge that threatens Mount Hope Bay may require immediate notification to downstream users and / or waterfront occupants.
- The Facility Manager (or senior on-site person) must call for medical assistance if workers are injured.
- The Facility Manager (or senior on-site person) must notify the Fire Department or Police Department.
- The Facility Manager (or senior on-site person) must call the spill response and cleanup contractors listed in the Emergency Contacts list in Appendix E.
- The Facility Manager (or senior on-site person) must immediately contact the Rhode Island Department of Environmental Management (DEM) Incident Response Division (401-222-3070) and the National Response Center (NRC) (800-424-8802).

- The Facility Manager (or senior on-site person) coordinates clean-up and obtains assistance from a clean-up contractor or other response organization as necessary

### **7.3.5 Methods of Disposal of Recovered Materials in accordance with Applicable Legal Requirements**

Wastes resulting from a minor discharge response will be containerized in impervious bags, drums, or buckets. The facility manager will characterize the waste and coordinate disposal with a licensed waste disposal vendor. Wastes resulting from a major discharge response will be removed and disposed of by a clean-up contractor at the time of the response.

### **7.3.6. Contact List and Phone Numbers**

Please refer to Appendix E for this information.

## **7.4 Information and Procedures for Discharge Reporting (40 CFR 112.7(a)(4))**

The discharge notification form included in Appendix H will be completed upon immediate detection of a discharge and prior to reporting a spill to the proper notification contacts.

Any size discharge (i.e. one that creates a sheen, emulsion, or sludge) that affects or threatens to affect navigable waters or adjoining shorelines must be reported immediately to the National Response Center (NRC) (1-800-424-8802). The NRC is staffed 24 hours a day.

A summary sheet is included in Appendix H to facilitate reporting. The person reporting the discharge must provide the following information:

- 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 discharge
- Types of material(s) released or discharges
- Quantity of material(s) released or discharged
- Danger or threat posed by the release or discharge
- Number and types of injuries (if any)
- Media affected or threatened by the discharge (i.e. water, land, air)
- Weather conditions at the incident location
- Any other information that may help emergency personnel respond to the incident

Contact information for reporting a discharge to the appropriate authorities is listed in Appendix H and is also posted in prominent locations throughout the facility (e.g. in the RWU Office of Environmental Health and Safety, in the Department of Facilities Maintenance, and in the Department of Public Safety).

In addition to the above reporting, refer to Section 4 of this document for additional reporting requirements which apply whenever a facility discharges (as defined in 40 CFR 112.1(b)) more

than 1,000 gallons of oil in a single event, or discharges (as defined in 40 CFR 112.1(b)) more than 42 gallons of oil in each of two discharge incidents within a 12-month period.

### **7.5 Organization of Plan Portions to be used and readily available when a discharge occurs (40 CFR 112.7(a)(5))**

The following plan portions will be photocopied and placed in the following order into the front pocket of each SPCC Plan binder, and also scanned in this same order and stored as a .PDF file on the EHS website:

- 7.4 Information and Procedures for Discharge Reporting (incl. Appx. H form)
- 7.3.6 Contact List and Phone Numbers
- 7.3.3 Discharge or Drainage Controls and Procedures for the Control of a Discharge
- 7.3.4 Countermeasures for Discharge Discovery, Response, and Cleanup (Facility and Contractor Capabilities)
- 7.3.5 Methods of Disposal of Recovered Materials in Accordance with Applicable Legal Requirements
- Appx. A, B, E

### **7.6 Prediction of Direction, Rate of Flow, and Total Quantity of Oil which could be discharged as a result of Major Equipment Failure (40 CFR 112.7(b))**

Table 7.6 presents expected volume, discharge rate, general direction of flow in the event of equipment failure, and means of secondary containment for different parts of the facility where oil is stored, used, or handled.

*(The rest of this page is intentionally left blank)*

**Table 7.6: Potential Discharge Volumes and Direction of Flow**

Potential Event	Max. Vol. Released (gallons)	Max. Discharge Rate (gal/min)	Direction of Flow	Secondary Containment
<b>Bulk Storage Area (Above Ground Storage Tanks)</b>				
Failure of aboveground tank (collapse or puncture below product level)	275	Gradual to instantaneous	SE to Mount Hope Bay	Concrete Dike (interior), Oil/Water Separators (exterior)
Aboveground tank overfill	1 to 120	60 gal / min	SE to Mount Hope Bay	Catchment basin, whistle signal fill alarm, metal tank cap. tags, OWS
Pipe failure	6,000	240 gal / min	SE to Mount Hope Bay	land based spill response capability (spill kit)
Leaking pipe or valve packing	600	1 gal / min	SE to Mount Hope Bay	land based spill response capability (spill kit)
Leak during transfer to heating fuel AST	1 to 120	60 gal / min	SE to Mount Hope Bay	land based spill response capability (spill kit)
<b>Non-Bulk Storage Area</b>				
Failure of EG tank (collapse or puncture below product level)	1,000	Gradual to instantaneous	SE to Mount Hope Bay	Secondary shell, Land based spill response capability (spill kit)
Tank overfill	1 to 120	60 gal / min	SE to Mount Hope Bay	Metal tank capacity tag , land based spill response capability (spill kit)
<b>Maintenance Building</b>				
Leak or failure of drum	1 to 55	Gradual to instantaneous	SE to Mount Hope Bay	Spillskid platforms; floor drain leads to oil/water separator
<b>Other Areas</b>				
Complete failure of portable EG	330	Gradual to instantaneous	SE to Mount Hope Bay	Secondary shell, Land based spill response capability (spill kit)
Leaking portable tank or overfills	1 to 100	3 gal / min	SE to Mount Hope Bay	Metal tank capacity tag , secondary shell, land based spill response capability (spill kit)
Transformer oil leak	1 to 570	1 gal / min	SE to Mount Hope Bay	Secondary shell
Elevator hydraulic oil reservoir / shaft leak	1 to 125	1 gal / min	SE to Mount Hope Bay	Floor drain collars

### 7.7 Provide Appropriate Containment / Diversionary Structures / Equipment to Prevent a Discharge (40 CFR 112.7(c))

Methods of secondary containment at this facility include a combination of structures (e.g., catch basins, floor drain collars, spillskid platforms, oil/water separators), drainage systems, and land-based spill response (e.g., drain covers, sorbents) to prevent oil from reaching navigable waters and adjoining shorelines.

For bulk storage containers (refer to Section 8 of this SPCC Plan):

- Catch basins
- Floor drain collars
- Spillskid platforms

- Oil/Water Separators
- Melt-blown polypropylene oil booms and Oil absorbent pads

In transfer areas and other parts of the facility where a discharge could occur:

- Drip pans
- Sorbent material
- Spillskid platforms
- Oil/Water Separators
- Melt-blown polypropylene oil booms and Oil absorbent pads

### **7.8 Description of any Measures Determined to be Impractical (40 CFR 112.7(d))**

RWU management has determined that secondary containment is practicable at this facility.

### **7.9 Inspections, Tests, and Records (40 CFR 112.7(e))**

As required by the SPCC rule, RWU performs the inspections, tests, and evaluations listed in the following table. Table 7.9 summarizes the various types of inspections and tests performed at the facility. The inspections and tests are described later in this section, and in the respective sections that describe different parts of the facility (e.g. Section 8 for bulk storage containers).

*(The rest of this page is intentionally left blank)*

**Table 7.9: Inspection and Testing Program**

<b>Facility Component</b>	<b>Action</b>	<b>Frequency / Circumstances</b>
Aboveground container	Test container integrity. Combine visual inspection with another testing technique (non-destructive shell testing). Inspect outside of container for signs of deterioration and discharges.	Follow a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Aboveground container supports and foundation	Inspect container's supports and foundations	Follow a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
All aboveground valves, piping, and appurtenances	Assess general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, piping supports, locking of valves, and metal surfaces.	Monthly
Underground piping	Inspect for deterioration  Integrity and leak testing	Whenever a section of buried line is exposed for any reason  At the time of installation, modification, construction, relocation, or replacement
Liquid level sensing devices (overfill)	Test for proper operation	Monthly and during filling
Generator tanks	Test container integrity. Combine visual inspection with another testing technique (non-destructive shell testing). Inspect outside of container for signs of deterioration and discharges.	Follow a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Elevator reservoir / shaft	Visually inspect reservoir and shaft for leaks	Monthly, during routine maintenance, and whenever material repairs are made.
Transformer	Visually inspect for leaks	Monthly, during routine maintenance, and whenever material repairs are made.

### **7.9.1 Daily Inspection**

RWU Public Safety Officers and Facilities Maintenance employees perform general inspections of the facility during the course of their normal shift duties and responsibilities. This daily visual inspection involves looking for tank/piping damage or leakage, stained or discolored soils, or excessive accumulation of water in bermed areas and catch basins.

RWU Food Services employees perform daily visual inspections of the cooking oil storage container. This daily visual inspection involves looking for tank/piping damage or leakage.

### **7.9.2 Monthly Inspection**

The checklist provided in Appendix G is used for monthly inspections by RWU personnel. On a monthly basis, the RWU Facilities Management Department physical plant staff performs the visual inspections of above ground oil tanks and piping and tests the continuous monitoring and alarm systems of the underground tanks for operational effectiveness. Emergency generators and their fuel tanks are also inspected monthly by the RWU Facilities Management Department physical plant staff. The monthly inspections cover the following key elements:

- Observing the exterior of aboveground storage tank, pipes, and other equipment for signs of deterioration, leaks, corrosion, and thinning.
- Observing the exterior of portable containers for signs of deterioration or leaks.
- Observing tank foundations and supports for signs of instability or excessive settlement.
- Observing the tank fill and discharge pipes for signs of poor connection that could cause a discharge, and tank vent for obstructions and proper operation.
- Verifying the proper functioning of overfill prevention systems.
- Checking the inventory of discharge response equipment and restocking as needed.
- Observing the fill catch basins for water accumulation and pumping as necessary.

The elevator maintenance contractor performs routine inspections of the hydraulic elevators. Oil-containing electrical transformers are owned by National Grid. National Grid performs all transformer maintenance and inspections. In the event of any spill, leakage or other problem emanating from an electrical transformer, RWU is to contact National Grid.

Written inspection procedures as well as a record of inspections signed by the appropriate supervisor or inspector have been implemented. Copies of all inspection reports are maintained with this SPCC Plan in the Office of Environmental Health and Safety for at least three years. The hydraulic elevator inspections generate a written record of oil levels in elevator's hydraulic reservoirs. The cause of any oil losses detected from the system is to be determined immediately. All maintenance contractors who handle oil at Roger Williams University have been informed of the requirement for any oil release to be immediately reported to Public Safety who will contact Facilities Management.

### **7.9.3 Annual Inspection**

Facility Management Department personnel perform a more thorough inspection of facility equipment on an annual basis. This annual inspection compliments the monthly inspection described above and is performed in June of each year using the checklist provided in Appendix G of this SPCC Plan. When possible, the annual inspection is preferably performed after a large storm event in order to verify the imperviousness and/or proper functioning of drainage control systems.

### **7.9.4 Periodic Integrity Testing**

In addition to the above monthly and annual inspections by Facilities Management personnel, the Bridge House tank is periodically evaluated by an outside certified tank

inspector following the Steel Tank Institute (STI) Standard for the Inspection of Aboveground Storage Tanks, SP-001, 2005 version, as described in Section 4.2.6 of this SPCC Plan.

### **7.10 Personnel, Training, and Discharge Prevention Procedures (40 CFR 112.7(f))**

The RWU Director of Environmental Health and Safety is the facility designee and is responsible for oil discharge prevention, control, and response preparedness activities at this facility.

RWU has instructed oil-handling facility personnel in the operation and maintenance of oil pollution prevention equipment, discharge procedure protocols, applicable pollution control laws, rules and regulations, general facility operations, and the content of this SPCC Plan. Any new facility personnel with oil handling responsibilities are provided with this same training prior to being involved in any oil operation.

Annual discharge prevention briefings are held by the Director of Environmental Health and Safety for all facility personnel involved in oil operations. The briefings are aimed at ensuring continued understanding and adherence to the discharge prevention procedures presented in the SPCC Plan. The briefings also highlight and describe known discharge events or failures, malfunctioning components, and recently implemented precautionary measures and best practices. Facility operators and other personnel will have the opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations. Simulations of both on-site AST discharges and vehicular discharges has been conducted, and future training exercises will be periodically held to prepare for possible discharge responses.

Records of the briefings and discharge prevention training are kept on the form shown in Appendix F and maintained with this SPCC Plan for a period of three years.

### **7.11 Security (40 CFR 112.7(g))**

In order for a vehicle to enter RWU, it must receive a visitor's pass from a manned front gate / main entrance security station. The front gate / main entrance is always manned, unless a medical emergency has occurred requiring the guard at the entry station. RWU Public Safety Officers provide continuous and vigilant security to ensure all vehicles on campus have either a RWU parking permit or a visitor's pass displayed in the vehicle's front window. RWU employs its own security/public safety force. Public Safety patrols the campus 24 hours a day, year round. Lighting is sufficient on the site for security, nighttime operation and deliveries, and the discovery and proper handling of spills. All boiler rooms and equipment rooms are not accessible to the general public, including students. Key for access to the boiler rooms and equipment rooms are only issued to the RWU Public Safety Officers and the Facility Management Department personnel requiring access to these spaces in the course of their normal prescribed duties and responsibilities. The above ground fuel oil tanks have secondary containment and there are no valves that will permit direct outward flow of the tanks' contents.

There are no master drain valves that allow direct outward flow of tank contents. Tank locations are shown on the site plan in Appendix A. This site plan includes marks which depict the location and capacity of each container, its contents (type of oil), transfer stations (fill areas) and connecting pipes, electrical transformers, elevators with hydraulic reservoirs, and the used cooking oil storage locations. Security cameras and outdoor lighting provide additional effective monitoring measures,

### **7.12 Facility Tank car and Tank truck loading / unloading rack (40 CFR 112.7(h))**

In addition to following the loading / unloading requirements listed in 7.3.2, all vendors delivering or retrieving oil and oil products must use chock blocks under the wheels of the trucks for the entire duration of the fuel delivery, to prevent the truck from moving before completion of the product transfer. The vendor must also carefully check the lowermost drain and all outlets of their vehicle for any discharge or drainage prior to leaving RWU. All outlet caps must be tightened, adjusted, or replaced as needed to prevent liquid discharge while in transit. These checks must be performed prior to the vendor removing the chock blocks from in front of the wheels and leaving the site.

### **7.13 Repairs, Alterations, Reconstructions, or Changes in Service for Field-Constructed Aboveground Containers (40 CFR 112.7(i))**

RWU does not have any field constructed aboveground containers at this time, so this section is not currently applicable to RWU.

### **7.14 Conformance with State rules, regulations, and guidelines (40 CFR 112.7(j))**

This section of the SPCC plan addresses those sections of the DEM OPCR which are not already addressed by other sections of this plan:

**7.14.1** RWU is not the owner or operator of either an oil carrying vessel or a terminal as defined in OPCR Section 5 “Definitions” or Section 7 “Oil and Waste Transfers,” so Section 7 is not applicable to RWU at this time.

**7.14.2** RWU is not the owner or operator of an oil carrying vessel as defined in OPCR Section 5 “Definitions” or Section 8 “Ballasting of Oil-Carrying Vessels,” so Section 8 is not applicable to RWU at this time.

**7.14.3** RWU is the operator of one boiler / boiler room which is under the requirements of OPCR Section 9, “Boiler Rooms and Remote Fill Tanks.” This boiler room is located in the Bridgehouse, which is owned by the Rhode Island Bridge Authority. The boiler room is located in the basement of the building, and the aboveground storage tank is a 275-gallon horizontal AST (the same style commonly found in household systems). The AST holds #2 heating oil and is connected to the building’s boiler. The AST is contained within a concrete dike.

**7.14.3.1** There is no floor drain located in the boiler room of the Bridgehouse (Sec. 9 (a)).

**7.14.3.2** The AST's maximum capacity is below 500 gallons, so Sec.9 (b) and (c) are not applicable to RWU at this time.

**17.14.4** RWU is not the owner or operator of any vessel ship which transfers or discharges any shipboard oil to a reception facility as discussed in OPCR Section 15 "Discharges to Reception Facilities," so Section 15 is not applicable to RWU at this time.

**7.14.5** RWU has not requested any variance of the OCPR under the procedure listed in OPCR Section 16, "Variances," to date, so Section 16 is not applicable to RWU at this time.

### **7.15 Qualified Oil-Filled Operational Equipment (40 CFR 112.7(k))**

This section is not applicable to RWU at this time.

*(The rest of this page is intentionally left blank)*

## **Section 8. Spill Prevention, Control, and Countermeasure Plan requirements for onshore Facilities (excluding production facilities) (40 CFR 112.8)**

### **8.1 General Requirements for Plan in 112.7 (40 CFR 112.8(a))**

Please see Section 7 of this plan for a full description of RWU's compliance with 40 CFR 112.7. Please see the following Section 8 sub-sections for descriptions of RWU's compliance with the specific discharge prevention and containment procedures listed in 40 CFR 112.8.

Sections 8 through 11 of this SPCC Plan are intended to comply with Subpart B of 40 CFR 112, specifically 40 CFR 112.8 through 112.11.

### **8.2 Facility Drainage (40 CFR 112.8(b))**

Any potential discharge from ASTs will be restrained by secondary containment structures. Discharges outside the containment areas, such as those occurring during fuel transfers or while unloading heating oil, will flow by gravity and will be controlled by pre-planned spill response as detailed in PART 5: Discharge Response of this SPCC Plan. Anticipated facility drainage directions can be determined by Appendix A. Drainage events from facility secondary containment structures are recorded in the log included in Appendix L – Discharge Records to this SPCC Plan.

### **8.3 Bulk Storage Containers (40 CFR 112.8(c))**

Please see Appendix B for a summary of the construction, volume, and content of bulk storage containers at Roger Williams University.

#### **8.3.1 Construction (40 CFR 112.8(c)(1))**

All oil tanks used at this facility are constructed of steel, in accordance with industry specifications as described above. The design and construction of all bulk storage containers are compatible with the characteristics of the oil product they contain, and with temperature and pressure conditions. Piping between fixed aboveground bulk storage tanks is made of steel and placed aboveground on appropriate supports designed to minimize erosion and stress.

#### **8.3.2 Secondary Containment (40 CFR 112.8(c)(2))**

The indoor AST dikes for the Bridgehouse AST (the only single-walled steel tank) provides secondary containment in excess of 110 percent of the tank capacity. The floor and walls of the containment dike are constructed of poured concrete reinforced with steel. The concrete dike was built by licensed masons and in conformance with specifications to prevent oil migration for a period of 72 hours. The surface of the concrete floor, the inside and the outside of the walls, and the interface of the floor and walls, are visually inspected during the monthly facility inspection to detect any cracks, signs of heaving or settlement, or other structural damage that could affect the ability of

the dike to contain oil. Any damage is promptly corrected to prevent migration of potential oil discharge into the ground and / or out of the dike. See Appendix K for containment volume calculations.

The 55-gallon drums are placed on spill pallets inside the mechanics maintenance garages and dining commons. Each spill pallet provides 75 gallons of containment capacity, which is more than the required 55 gallons for any single drum since the drums are not exposed to precipitation. The floors of the maintenance garages are impervious and are sloped to direct any discharge occurring in the building away from doorways and towards the floor drain, which leads to an oil/water separator catch basin. The floor of the dining commons oil storage room is impervious, and the room is located on the basement level, with all access to ground level requiring stairs – there is not enough combined volume present to breach the stairwells and exit through the ground-level doors. In the extremely unlikely event that there was a catastrophic water event in basement that caused oily water to breach the ground-level door (e.g., complete failure of water main), there is an oil/water separator directly outside at the loading dock. The oil storage room does not have an open floor drain – the drain must be opened manually with hand tools.

The two 1,000-gallon fuel station outdoor ASTs are completely encased in poured concrete reinforced with steel, such that no part of the tank is exposed and no material can leak from either tank.

The trash compactor compressors are contained within steel secondary containments with rain caps. See Appendix K for containment calculations.

The elevator machine rooms have metal berms/stops installed at the room thresholds to contain any released oil within the machine room. See Appendix K for containment calculations.

### **8.3.3 Drainage of Diked Areas (40 CFR 112.8(c)(3))**

The concrete dikes are drained under direct supervision of facility personnel. There are no valves in the dikes for drainage, so any liquid accumulation must be pumped out and properly disposed of as hazardous waste. Remaining oil residue in dikes will be cleaned with absorbent pads that will also be properly disposed of as state regulated waste.

### **8.3.4 Corrosion Protection (40 CFR 112.8(c)(4))**

This section is not applicable since there are no underground storage tanks at this facility.

### **8.3.5 Partially Buried and Bunkered Storage Tanks (40 CFR 112.8(c)(5))**

This section is not applicable since there are no partially buried or bunkered storage tanks at this facility.

### **8.3.6 Inspections and Tests (40 CFR 112.8(c)(6))**

Visual inspections of ASTs by facility personnel are performed according to the procedure described in this SPCC Plan. Leaks from tank seams, gaskets, rivets, and bolts

are promptly corrected. Records of inspections and tests are signed by the inspector and kept at the facility for at least three years.

The scope and schedule of certified inspections and tests performed on the facility’s ASTs are specified in STI Standard SP-001. The AST external inspection includes ultrasonic testing of the shell, as specified in the standard, or if recommended by the certified tank inspector to assess the integrity of the tank for continued oil storage. Records of certified tank inspections are kept at the facility for at least three years.

Table 8.3.6 summarizes inspections and tests performed on bulk storage containers.

**Table 8.3.6: Scope and Frequency of Bulk Storage Containers Inspections and Tests**

<b>Inspection / Test</b>	<b>Emergency Generators</b>
Visual inspection by facility personnel (per App G checklists)	Monthly, Annually
External inspection by certified inspector (per STI Standard SP-001)	Env. Equivalent Measures (see Sect. 7)
Internal inspection by certified inspector (per STI Standard SP-001)	Env. Equivalent Measures (see Sect. 7)
Tank Tightness (per RI DEM Regs)	Not Applicable

The schedule above is based on implementation of a continuous scheduled inspection / testing program. The facility’s ASTs will be inspected on a monthly and annual basis using the respective monthly and annual inspection checklists found in Appendix G of this SPCC Plan.

**8.3.7 Heating Coils (40 CFR 112.8(c)(7))**

There are no internal heating coils used at this facility. In the unlikely event that internal heating coils are ever added at this facility, exhaust lines will be monitored for signs of leakage as part of the monthly inspection of the facility.

**8.3.8 Overfill Prevention Systems (40 CFR 112.8(c)(8))**

All fixed ASTs are equipped with a direct-reading level gauge. General secondary containment is provided in the event of overfills, as described in this SPCC Plan. Facility personnel are present throughout the filling operations to monitor the product level in the tanks. Storage drums are not refilled, so overfill prevention systems do not apply.

**8.3.9 Effluent Treatment Facilities**

The RWU facility does not require a National Pollutant Discharge Elimination System (NPDES) program permit since it does not have a “point source,” as defined by the EPA that discharges pollutants into waters of the United States.

**8.3.10 Visible Discharges**

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, rivets, and bolts – are quickly corrected upon discovery. Oil is promptly

removed from the diked area and disposed of according to the waste disposal method described in Section 7 of this Plan.

### **8.3.11 Mobile and Portable Containers (40 CFR 112.8(c)(11))**

The three portable emergency generators' tanks are of double-wall design, which provides for adequate secondary containment in the event of leaks in the primary container shell. The interstitial space is monitored monthly for signs of leakage.

Small portable oil storage containers, such as 55-gallon drums, are stored inside the maintenance shop or dining commons basement oil storage room, where secondary containment is provided by spill pallets. Any discharged material is quickly contained and cleaned up using sorbent pads and appropriate cleaning products. The floors of the maintenance garages are impervious and are sloped to direct any discharge occurring in the building away from doorways and towards the floor drain, which leads to an oil/water separator catch basin. The floor of the dining commons oil storage room is impervious, and the room is located on the basement level, with all access to ground level requiring stairs – there is not enough combined volume present to breach the stairwells and exit through the ground-level doors. In the extremely unlikely event that there was a catastrophic water event in basement that caused oily water to breach the ground-level door (e.g., complete failure of water main), there is an oil/water separator directly outside at the loading dock. The oil storage room does not have an open floor drain – the drain must be opened manually with hand tools.

## **8.4 Facility Transfer Operations, Pumping, and Facility Process (40 CFR 112.8(d))**

RWU follows the requirements listed in 40 CFR 112.8(d) whenever installing or replacing buried pipes, and uses bollards, cones, and signage to protect pipes and operations from vehicles.

*(The rest of this page is intentionally left blank)*

## **Sections 9-11 [Reserved; Not Applicable at RWU at this time]**

**9.1** RWU does not meet the definitions of a Tier I or Tier II Qualified Facility as described in 40 CFR 112.6, “Qualified Facilities Plan Requirements,” so 40 CFR 112.9 is not applicable to RWU at this time.

**10.1** 40 CFR 112.10 - Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities is not applicable to RWU at this time.

**11.1** 40 CFR 112.11 - Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling and workover facilities is not applicable to RWU at this time.

*(The rest of this page is intentionally left blank)*

## **Section 12. Spill Prevention, Control, and Countermeasure Plan Requirements for Animal FOG (Fats, Oils, and Grease), Fish and Marine Mammal Oils, and Vegetable Oils (40 CFR 112.12)**

### **12.0 Areas of Facility Subject to this Regulation**

RWU is subject to the requirements of Subpart C - 40 CFR 112.12 because of the presence of vegetable/ canola oil, and its associated spent grease, in the Dining Commons and Law School kitchens.

The canola oil is used in the fryolators in the Dining Commons and Law School kitchens and these fryolators are cleaned out on a regular basis (approximately once per week during the busiest times of the semester) which involves draining out the used canola oil into a specifically designed transport caddy and re-filling the fryolator tank with fresh canola oil, then bringing the full transport caddy to the.

Canola oil is also used when pan-cooking food, such as stir fries and other sautéed items (Dining Commons only). The canola oil used in pan cooking, as well as any grease that accumulates from the meats being cooked, is rinsed off of the cooking equipment when the pans and other cooking implements are washed. This rinse water flows into a skimmer located in the Dining Commons basement before re-joining the rest of the building wastewater.

Section 12 of this SPCC Plan are intended to comply with Subpart C of 40 CFR 112, specifically 40 CFR 112.12.

### **12.1 General Requirements for Plan in 112.7 (40 CFR 112.12(a))**

Section 7 of this Plan describes how this Plan meets the general requirements of 112.7 – please refer to this section.

### **12.2 Facility Drainage (40 CFR 112.12(b))**

The spent grease is collected from the wastewater by a Big Dipper Skimmer in the basement, and the skimmed grease is diverted to several large 55-gallon drums which are emptied routinely (every 2-3 weeks as needed) by an outside vendor. The skimmed wastewater reconnects with the rest of the building wastewater stream and flows into the wastewater pipe, where it eventually connects to the municipal wastewater system and is treated at the town wastewater plant. There are ball valves located on the wastewater piping before and after the Big Dipper Skimmer to control the flow of wastewater. The un-skimmed wastewater can be diverted into the 55-gallon drums as needed. Each 55-gallon drum also has a ball valve which can be opened or closed to allow or prevent flow of grease and un-skimmed wastewater to that drum. These drums and the associated piping are inspected on a daily basis for integrity and fill level, and the Big Dipper Skimmer is cleaned daily per the manufacturer's instructions.

The campus wastewater is sampled quarterly to demonstrate compliance with the Facility's town-issued wastewater discharge permit, and this sampling includes sampling for fats, oils, and

greases (FOG). An abnormal FOG reading would prompt a Facility investigation into the source of the abnormality. Facility records dating back to 2008 show no abnormal FOG readings, and FOG levels are routinely around 10ppm or less, which is approximately 10% of RWU's maximum discharge level of 100 ppm.

### **12.3 Bulk Storage Containers (40 CFR 112.12(c))**

The used canola oil from the fryolators is collected in bulk storage containers called the CleanStar 1500C system. This system is UL-listed and includes a transport caddy specifically designed to connect to it. The CleanStar 1500C tanks are located in the Dining Commons basement Waste Vegetable Oil Room and in the back room of the Law School kitchen (ground level; basement). Each CleanStar 1500C tank holds up to 197 gallons of used canola oil. There are spill kits located in each area with oil sorbent spill pads, speedy dry, gloves, safety glasses, and oil sorbent socks.

The grease that is skimmed from the Dining Commons building wastewater is collected in three (3) 55-gallon steel drums which are located on top of a spill deck in the Waste Vegetable Oil Room. These drums are checked daily for volume by RWU Facilities Management personnel, who also clean out the skimmer and dispose of any collected solids and grease in the same steel drums.

## **12.4 Facility Transfer Operations, Pumping, and Facility Process (40 CFR 112.12(d))**

### **12.4.1 Used Canola Oil Transfer Process (Fryolator to Caddy; Caddy to CleanStar Tank)**

Please see the process training documents in Appendix J for a complete description.

### **12.4.2 Used Canola Oil Pumping/Transportation Process (CleanStar Tank to Recycling Truck)**

This pumping and transportation process is performed by RWU's used canola collection and disposal vendor, Newport Biodiesel, following the transfer procedures described in Section 7 of this plan.

### **12.4.3 Spent Grease Pumping/Transportation Process (55-gallon Drums to Disposal Truck)**

This pumping and transportation process is performed by RWU's grease collection and disposal vendor, J&K Sanitation following the transfer procedures described in Section 7 of this plan.

*(The rest of this page is intentionally left blank)*

**Sections 13-19 [Reserved; Not Applicable at RWU at this time]**

Sections 13 through 19 are not included in this SPCC Plan since 40 CFR 112.13 through 112.19 are reserved in Subpart C of the 40 CFR 112 Regulations.

*(The rest of this page is intentionally left blank)*

## **Section 20. Facility Response Plans (40 CFR 112.20)**

### **20.0 Applicability**

Section 20 of this SPCC Plan are intended to comply with Subpart D of 40 CFR 112, specifically 40 CFR 112.12.

### **20.1 Facility Response Plan in 112.20**

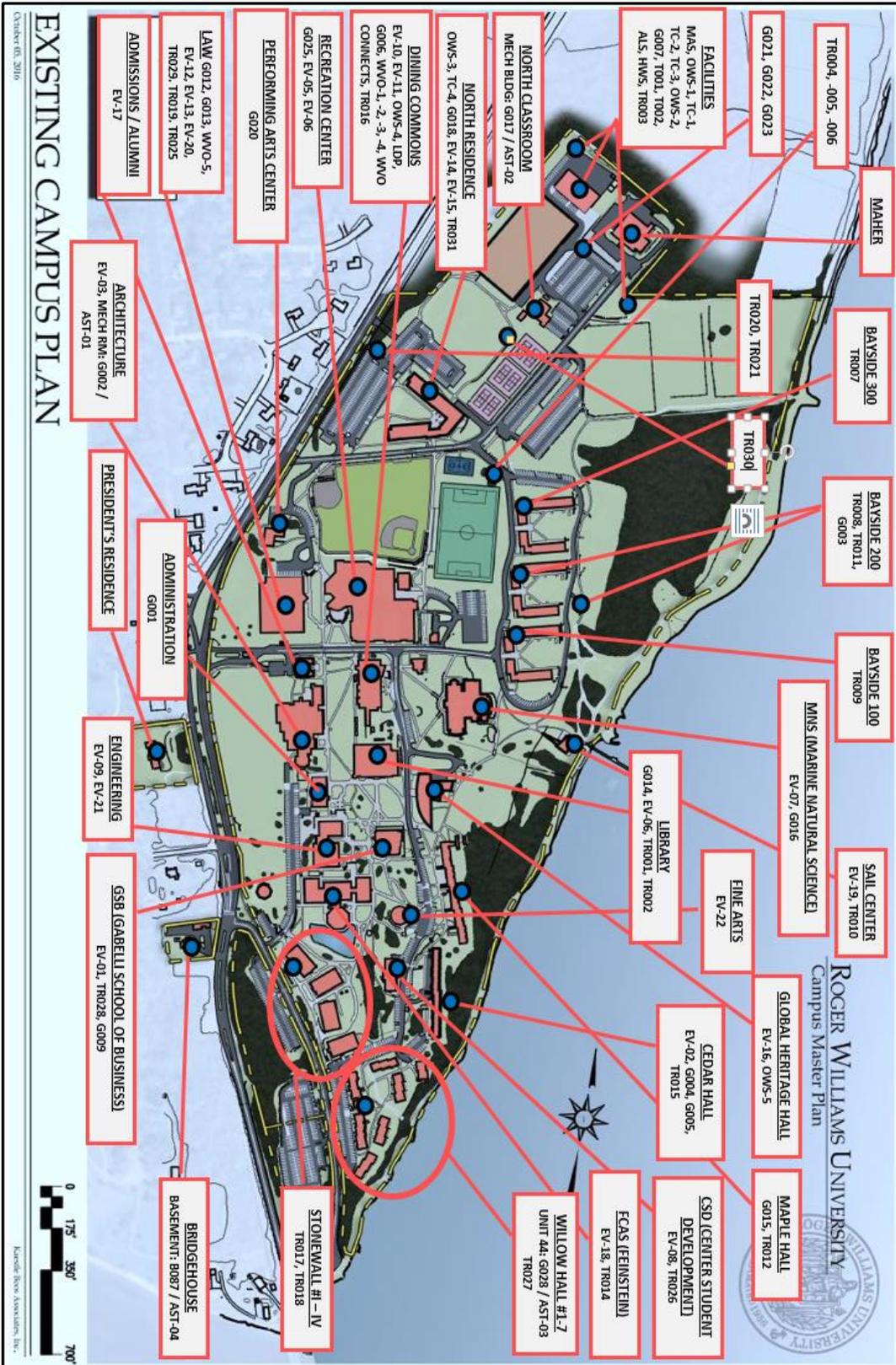
RWU does not transfer oil over water, does not have a total storage capacity greater than 1 million gallons, and maintains that the facility could not reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines. Consequently, the facility does not meet the substantial harm criteria as specified within Appendix C of 40 CFR 112, and a Facility Response Plan (FRP) is not required. Appendix M presents a Certification of Substantial Harm Determination.

*(The rest of this page is intentionally left blank)*

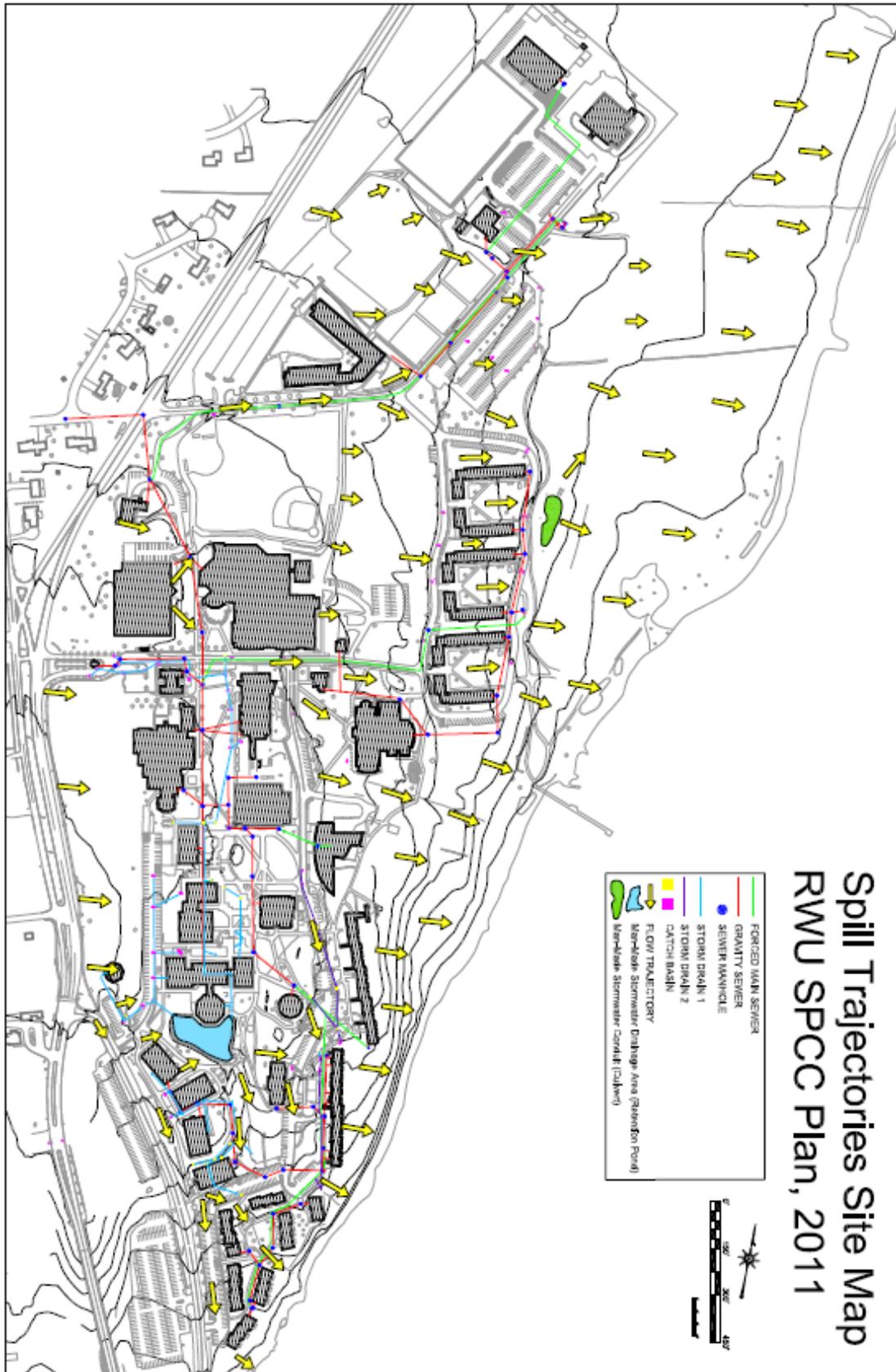
## Appendices

- Appendix A: Facility Diagram
- Appendix B: Oil Storage Containers
- Appendix C: P.E. Certification
- Appendix D: Amendments/Reviews
- Appendix E: Contact List & Numbers
- Appendix F: Training Records
- Appendix G: Inspection Checklists
- Appendix H: Discharge & Reporting Forms
- Appendix I: RWU and Vendor Spill Response
- Appendix J: Cooking Oil Transfer Procedures
- Appendix K: Secondary Containment Calculations
- Appendix L: Spill Records
- Appendix M: Substantial Harm Determination

# Appendix A: Facility Diagram



# Spill Trajectories Site Map RWU SPCC Plan, 2011



## Map Abbreviations and Markings (see Appendix B for additional information on container contents, volumes, spill protection, etc.)

### Oil/Water Separators (OWS)

OWS-1	Facilities Back Parking Lot	Behind hazardous waste sheds and trash compactors
OWS-2	East side, Facilities Building	Floor drain in Mechanic's shop leads to this vault
OWS-3	North Residence Hall Driveway	In front of emergency generator and trash compactor
OWS-4	Dining Commons Loading Dock	Base of loading dock below lift plate / trash compactors
OWS-5	Global Heritage Driveway	(Trash compactor used to be located here)

### Trash Compactors (TC)

TC-1	Facilities Back Parking Lot	Regular trash compactor (hydraulic fluid)
TC-2	Facilities Back Parking Lot	Regular trash compactor (hydraulic fluid)
TC-3	Facilities Back Parking Lot	Corrugated cardboard trash compactor (hydraulic fluid)
TC-4	North Residence Hall Driveway	Regular trash compactor (hydraulic fluid)
TC-5	Dining Commons Loading Dock	Corrugated cardboard trash compactor (hydraulic fluid)
TC-6	Dining Commons Loading Dock	Regular trash compactor (hydraulic fluid)

### Loading Dock Plate (LDP)

LDP	Dining Commons Loading Dock	Middle docking bay, 25-gal reservoir (hydraulic fluid)
-----	-----------------------------	--

### Hazardous Waste Storage (HWS)

HWS	Facilities Back Parking Lot	Main Accumulation Area (potential for oil / oily debris)
-----	-----------------------------	--

### Aerial Lift Storage (ALS)

ALS	North-West side Parking Garage	Facilities' Cherry Picker Boom Lift (hydraulic fluid)
-----	--------------------------------	---

### Mechanic's Auto Shop (MAS)

MAS	Inside North side of Facilities	4 x 55 gallon Oil and Oily Debris waste drums (motor)
-----	---------------------------------	---

### Emergency Generators (G) – Some with Separate Aboveground Storage Tanks (AST)

*(G008, G010, G011, G019, G024, G026, G027, G029 not shown – natural gas generators)*

G001	Administration, exterior NW side	Em. Gen., 100-gal. internal tank (ULS diesel fuel)
G002 / AST01	SAAHP Basement Mech. Rm.	Em. Gen., separate 500-gal. horizontal AST (ULS diesel fuel)
G003	Bayside 200, exterior E side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G004	Cedar, exterior SW side	Em. Gen., 400-gal internal tank (ULS diesel fuel)
G005	Cedar Sewer, exterior S side	Em. Gen., 100-gal internal tank (ULS diesel fuel)
G006	Dining Commons, E side	Em. Gen., 1,000-gal internal tank (ULS diesel fuel)
G007	Facilities, exterior NE side	Em. Gen., 600-gal internal tank (ULS diesel fuel)
G009	Gabelli Data Ctr, exterior, E side	Em. Gen., 500-gal internal tank (ULS diesel fuel)
G012	Law, exterior NW side (Guard)	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G013	Law, exterior NW side (Law/Rec)	Em. Gen., 600-gal internal tank (ULS diesel fuel)
G014	Library, exterior N side	Em. Gen., 700-gal internal tank (ULS diesel fuel)
G015	Maple, exterior E side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G016	MNS, exterior S side	Em. Gen., 600-gal internal tank (ULS diesel fuel)
G017 / AST02	North Classroom, Mech. Bldg.	Em., Gen, separate 275-gal. horizontal AST (ULS diesel fuel)
G018	North Residence, N side	Em. Gen., 500-gal internal tank (ULS diesel fuel)
G020	Performing Arts, exterior E side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G021	Portable #1, Parking Lot A, N side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G022	Portable #2, Parking Lot A, N side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G023	Portable #3, Parking Lot A, N side	Em. Gen., 200-gal internal tank (ULS diesel fuel)
G025	Recreation, exterior NE side	Em. Gen., 250-gal internal tank (ULS diesel tank)
G028 / AST03	Willow Hall Unit #44 Mech. Rm.	Em. Gen., separate 300-gal. horizontal AST (ULS diesel fuel)

**Elevators and Dumbwaiters (EV)**

EV-01	Gabelli, #93236	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-02	Cedar, #93241	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-03	Architecture, #93243	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-04	Rec Center, #93238	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-05	Rec Center, #96523	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-06	Library, #93235	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-07	MNS, #93498	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-08	Ctr Std Dev, #95578	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-09	Engineering, #95194	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-10	Dining Commons, #96993	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-11	Dining Commons Service, #96992	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-12	Law School Right, #95926	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-13	Law School Left, #96926	Elevator Machine Room, 125-gal tank (hydraulic fluid)
EV-14	North Residence 1, #97655	Elevator Machine Room, 150-gal tank (hydraulic fluid)
EV-15	North Residence 2, #97654	Elevator Machine Room, 150-gal tank (hydraulic fluid)
EV-16	Global Heritage Hall, #97896	Elevator Machine Room, 150-gal tank (hydraulic fluid)
EV-17	Admissions/Alumni, #96664	Elevator Machine Room, 150-gal tank (hydraulic fluid)
EV-18	FCAS	Elevator Shaft (no MR), 90-gal system (FR-3 fluid)
EV-19	Sail Center	Elevator Shaft (no MR), 90-gal system (FR-3 fluid)
EV-20	Law School Dumbwaiter	Elevator Shaft, 25-gal system (hydraulic fluid)
EV-21	Engineering Dumbwaiter	Elevator Shaft, 25-gal system (hydraulic fluid)
EV-22	Fine Arts Dumbwaiter	Elevator Shaft, 25-gal system (hydraulic fluid)
EV-23	Library Dumbwaiter	Elevator Shaft, 25-gal system (hydraulic fluid)

**Transformers (TR) (TR013, TR022-24 not shown, switch gear with no fluid)**

TR001	Library/Dining, 1350011121	Transformer, 407-gal internal tank (FR-3 fluid)
TR002	Library/Dining, 1350011052	Transformer, 246-gal internal tank (FR-3 fluid)
TR003	Facilities/Sewer Pump, E Side	Transformer, 250-gal internal tank (dielectric)
TR004	Basketball Courts, N Side 86793	Transformer, 86-gal internal tank (FR-3 fluid)
TR005	Basketball Courts, N Side 86790	Transformer, 86-gal internal tank (FR-3 fluid)
TR006	Basketball Courts, N Side 86791	Transformer, 86-gal internal tank (FR-3 fluid)
TR007	Bayside 300s, NW side	Transformer, 320-gal internal tank (dielectric)
TR008	Bayside 200s, NW side	Transformer, 320-gal internal tank (dielectric)
TR009	Bayside 100s, NW side	Transformer, 320-gal internal tank (dielectric)
TR010	Sail Center, SE side	Transformer, 750-gal internal tank (FR-3 fluid)
TR011	Bayside East, E side	Transformer, 125-gal internal tank (dielectric)
TR012	Maple Hall, W side	Transformer, 186-gal internal tank (FR-3 fluid)
TR014	FCAS/Eng Chillers	Transformer, 220-gal internal tank (dielectric)
TR015	Cedar Hall, W side	Transformer, 186-gal internal tank (FR-3 fluid)
TR016	Dining, S side	Transformer, 394-gal internal tank (FR-3 fluid)
TR017	Stonewall Ent., South Feed NW	Transformer, 300-gal internal tank (dielectric)
TR018	Stonewall 2, N side	Transformer, 345-gal internal tank (dielectric)
TR019	Law School, W side	Transformer, 250-gal internal tank (dielectric)
TR020	Docking Station 1	Transformer, 448-gal internal tank (FR-3 fluid)
TR021	Docking Station 2	Transformer, <55-gal internal tank (FR-3 fluid)
TR025	Main Ent. Center Feed, N side	Transformer, 570-gal internal tank (dielectric)
TR026	Ctr Stu Dev, W side	Transformer, 190-gal internal tank (dielectric)
TR027	Willow Unit #2, W side	Transformer, 200-gal internal tank (dielectric)
TR028	Gabelli, S Side	Transformer, 750-gal internal tank (FR-3 fluid)
TR029	Law School/Rec Center	Transformer, 380-gal internal tank (FR-3 fluid)
TR-030	Tennis Courts, W side	Transformer, 55-gal internal tank (dielectric)
TR-031	North Campus Residence,	Transformer, 523-gal internal tank (FR-3 fluid)

**Waste Vegetable Oil (WVO)**

WVO1	Dining Commons Basement	CleanStar 1500C, 197-gal vertical AST (vegetable oil)
WVO2	Dining Commons Basement	1 x 55-gal drum (skimmed animal/vegetable grease/oil)
WVO3	Dining Commons Basement	1 x 55-gal drum (skimmed animal/vegetable grease/oil)
WVO4	Dining Commons Basement	1 x 55-gal drum (skimmed animal/vegetable grease/oil)
WVO5	Law School Kitchen	CleanStar 1500C, 197-gal vertical AST (vegetable oil)
WVO Connects	Dining Commons ramp, E side	Connection ports for grease / oil collection truck hoses

**Boiler Fuel Oil (AST)**

B087 / AST04	Bridgehouse Basement	1 x 275-gal horizontal AST (#2 fuel oil) (residential-style)
--------------	----------------------	--

**Vehicle Fuel Station (Convault)**

T001	Facilities Back Parking Lot	1 x 1,000 gal concrete encased tank (Diesel Fuel)
T002	Facilities Back Parking Lot	1 x 1,000 gal concrete encased tank (Gasoline)

## Appendix B: Oil Storage Containers

Location	ID#	Capacity (Gal)	Fuel Type	Tank Type Orientation	Discharge Prevention & Containment
<b>Fixed Storage</b>					
<b>Boilers</b>					
Bridge House	B087 / AST-04	275	No. 2 Fuel Oil	AST / horizontal	Single Wall Steel / Concrete Dike
<b>Cooking Oil Storage</b>					
Dining Commons Bldg.	WVO-1	197	Cooking Oil	AST / Vertical	Double Wall Steel / Spill Kit
Law School	WVO-5	197	Cooking Oil	AST / Vertical	Double Wall Steel / Spill Kit
<b>Elevators</b>					
Admissions/Alumni	EV-17	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Architecture Bldg.	EV-03	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Cedar Hall	EV-02	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Center for Std. Development	EV-08	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Dining Commons Bldg.	EV-10	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Dining Commons Bldg. (Service)	EV-11	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Engineering	EV-09	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Engineering Dumbwaiter	EV-21	25	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
FCAS	EV-18	90	FR-3 Fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Fine Arts Dumbwaiter	EV-22	25	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Gabelli Business	EV-01	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Global Heritage Hall	EV-16	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Law School 1	EV-12	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Law School 2	EV-13	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Law School Dumbwaiter	EV-20	25	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Library	EV-06	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Library Dumbwaiter	EV-23	25	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
MNS Building	EV-07	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
North Residence 1	EV-14	150	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
North Residence 2	EV-15	150	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Rec Center 1	EV-04	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Rec Center 2	EV-05	125	Hydraulic fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
Sailing Center	EV-19	125	FR-3 Fluid	Reservoir / Shaft	Single Wall Steel / Spill Containment Basin
<b>Emergency Generators</b>					
Administration Bldg	G001	100	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Architecture Bldg	G002 / AST-01	500	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Bayside	G003	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Cedar Hall	G004	400	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Cedar Hall Sewer Pump	G005	100	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm

Dining Commons Bldg	G006	1000	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Facilities Management	G007	700	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Gabelli Data Center	G009	500	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Guard House/Main Gate	G012	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Law School / Recreation Center	G013	600	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Library	G014	700	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Maple Hall	G015	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
MNS Building	G016	600	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
North Campus Classroom	G017 / AST-02	275	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
North Campus Residence	G018	500	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Performing Arts Center	G020	275	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Recreation Center	G025	330	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Willow Bldg. 4	G028 / AST-03	275	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
<b>Fuel Station</b>					
Facilities Convault	T001	1000	Diesel	AST / horizontal	Double Wall Steel / Concrete Encasement
Facilities Convault	T002	1000	Gasoline	AST / horizontal	Double Wall Steel / Concrete Encasement
<b>Transformers</b>					
Library/Dining, 13500011121	TR001	407	FR-3 Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Library/Dining, 1350011052	TR002	246	FR-3 Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Facilities/Sewer Pump Station	TR003	250	Dielectric Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Basketball Courts – badge 86793	TR004	86	FR-3 Fluid	500 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Basketball Courts – badge 86790	TR005	86	FR-3 Fluid	500 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Basketball Courts – badge 86791	TR006	86	FR-3 Fluid	500 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Bayside 300	TR007	320	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Bayside 200	TR008	320	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Bayside 100	TR009	320	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Sailing Center	TR010	750	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Bayside East (by Emergency Gen.)	TR011	125	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
FCAS/Engineering Chillers	TR014	220	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Cedar Hall	TR015	186	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Dining Commons	TR016	394	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Stonewall Entrance South Feed	TR017	300	Dielectric Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Stonewall	TR018	345	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Law School	TR019	250	Dielectric Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Docking Station 1	TR020	448	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Docking Station 2	TR021	55	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Main Entrance Center Feed	TR025	570	Dielectric Fluid	2500 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Center for Student Development	TR026	190	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad

Willow #2	TR027	200	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Gabelli School of Business	TR028	750	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
Recreation Center/Law School	TR029	380	FR-3 Fluid	1000 KVA Pad Mounted	Steel / Spill Containment Basin / Pad
Tennis Courts	TR030	55	Dielectric Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
North Campus Residence	TR031	523	FR-3 Fluid	Pad Mounted	Steel / Spill Containment Basin / Pad
<b>Trash Compactors</b>					
Facilities Trash #1	TC-01	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
Facilities Trash #2	TC-02	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
Facilities Cardboard	TC-03	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
Dining Commons #1	TC-05	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
Dining Commons #2	TC-06	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
North Campus Residence	TC-04	25	Hydraulic fluid	Compressor / Vertical	Steel / Secondary Spill Containment / Spill Kit
<b>Lifts</b>					
Dining Commons Loading Dock Plate	LDP	25	Hydraulic fluid	Compressor / Vertical	Steel / OWS / Spill Kit
Aerial Lift (near Facilities)	ALS-01	25	Hydraulic fluid	Compressor / Vertical	Steel / Spill Kit
<b>Portable Storage</b>					
<b>Cooking Grease</b>					
Dining Commons Bldg	WVO-2	55	Cooking Oil	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Dining Commons Bldg	WVO-3	55	Cooking Oil	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Dining Commons Bldg	WVO-4	55	Cooking Oil	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
<b>Emergency Generators</b>					
Facilities Management	G021	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Facilities Management	G022	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
Facilities Management	G023	200	Diesel	AST / horizontal	Double Wall Steel / Internal Tank Failure Alarm
<b>Oily Wastes (Auto Shop)</b>					
Facilities Management	MAS	55	Motor Oil	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Facilities Management	MAS	55	Motor Oil Filters	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Facilities Management	MAS	55	Motor Oil	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Facilities Management	MAS	55	Gasoline	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
<b>Oily Wastes (Hazardous Waste)</b>					
Hazardous Waste Storage Area	HWS	55	Spilled material	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Hazardous Waste Storage Area	HWS	55	Spilled material	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit
Hazardous Waste Storage Area	HWS	55	Spilled material	55-gal Drum / Vertical	Steel / Secondary Spill Containment / Spill Kit

**Oil Water Separator Volume Capacities**

Commons Bldg	OWS-04	480	Spilled material	OWS Vault, 4'x4'x4'	Concrete / Annual Pump-out
Facilities Auto Shop	OWS-02	480	Spilled material	OWS Vault, 4'x4'x4'	Concrete / Annual Pump-out
Facilities Trash Compactors	OWS-01	480	Spilled material	OWS Vault, 4'x4'x4'	Concrete / Annual Pump-out
Global Heritage Hall Driveway	OWS-05	480	Spilled material	OWS Vault, 4'x4'x4'	Concrete / Annual Pump-out
North Campus Driveway	OWS-03	480	Spilled material	OWS Vault, 4'x4'x4'	Concrete / Annual Pump-out

**24,226 Gallons**

## Appendix C: Professional Engineer Certification

### **Certification by Registered Professional Engineer – 40 CFR 112.3(D)**

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the Code of Federal Regulations (40 CFR Part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility. [40 CFR 112.3(d)]

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR Part 112. This Plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan.

Certification by Registered Professional Engineer  
Thomas Hevner, P.E.  
Alares, LLC.  
Date – April 28, 2017

*The original signature sheet is kept with the master plan copy in the EHS office.*

## Appendix D: Amendments/Reviews

### Five-Year Review Signed Statements, per 40 CFR 112.5:

**“I have completed the five-year review and evaluation of the SPCC Plan for Roger Williams University on (date indicated) and (will / will not) amend the plan as a result.”**

*The original signature sheet is kept with the master plan copy in the EHS office.*

### Technical Amendments Requiring P.E. Certification, per 40 CFR 112.5:

By	Date	Activity	Comments
D. Gough	11/2006	Initial SPCC Plan	Initial Plan
D. Gough	11/2007	Technical Amend	(-) 4 UST, (+) 2 EG
D. Gough	2/2008	Technical Amend	(-) 4 USTs, (+) 2 EG
D. Gough	2009	Technical Amend	(-) 3 USTs, (+) 2 OWS, (-) 1 AST
C. Neronha	9/2010	Technical Amend	(-) 3 USTs (#2 Heating Oil)
C. Neronha	9/2011	Technical Amend	(-) 3 UST Propane (no more USTs)
C. Neronha	9/2012	Technical Amend	(+) 3 EG
C. Neronha	9/2013	Technical Amend	(+) 2 Convault Tanks (-2) Bulk Diesel
C. Neronha	1/2014	Technical Amend	(+) Elevator (FCAS)
C. Neronha	1/2015	Technical Amend	(+) Elevator (Sailing)
K. Souza	3/2017	5-Year Review	(+) Secondary containment calculations

*The original signature sheet is kept with the master plan copy in the EHS office.*

## Appendix E: Contact List & Numbers

### Suggested Telephone Listing for Oil & Waste Release Response

#### POST AT SITE

**BRISTOL: 401-253-6912**

**Local Fire Department** **PORTSMOUTH: 401-683-1200** or 911

#### State of RI- RIDEM

(Monday through Friday, Workdays, 8:30 A.M. to 4:00 P.M.) (401)-222-1360

(All Other Times, Including Weekends  
and Holidays)

(401) 222-3070 or 1-800-498-1336

**EPA National Response Center**

**1-800-424-8802**

**US Coast Guard (MSO Providence)**

**(401)-435-2300**

**RI Coastal Resources Mgmt Council (24 hr)**

**(401)-222-2476**

#### Facility Environmental Cleanup Contractor

**CLEAN HARBORS ENV. SERVICES 1-800-OIL-TANK**

(Name)

(Phone)

(24hr Phone)

#### Facility Owner(s)/Operator name & 24 number(s)

**KATHY SOUZA EHS 401-952-4694**

**JOHN TAMEO FACILITIES 401-623-0503**

**CAT CONLEY EHS 401-255-8062**

#### Others:

**JIM FINN FACILITIES 401-623-0507**

**BILL MCCARTHY FACILITIES 401-639-4286**

**STEVE MELARAGNO PUBLIC SAFETY 401-255-0429**

**RWU PUBLIC SAFETY DISPATCH 401-254-3333**

## Appendix F: Training Records

Physical copies of training records are kept in the RWU EHS Office and are available for viewing during regular business hours, Monday through Friday, 8:30 AM – 5:00 PM.

## Appendix G: Inspection Checklists

Physical copies of completed checklists are kept in the RWU EHS Office and are available for viewing during regular business hours, Monday through Friday, 8:30 AM – 5:00 PM.

Blank checklist copies are on the next several pages.

[Convault Maintenance Checklist \(Complete booklet in master plan copy in EHS Office\)](#)

## 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.

## RWU Emergency Generator “All In One” Monthly Inspection Form

**RWU Emergency Generator Monthly Inspection List**  
**Air Inventory, Emission Cap (NOx), Generator Permit, RICE, SPCC, and Tier II Compliance**

<b>Emergency Generator Name</b>	<b>Emergency Generator #</b>
<b>Fuel Type</b>	<b>Fuel Capacity</b>
<b>Permit No./12 Mo. RTH</b>	<b>Heat Input Capacity</b>

**Air Inventory, Emission Cap, Permit, and RICE Compliance:**

Date and Time \_\_\_\_\_ Current Run Time Hours \_\_\_\_\_

Number of Hours This Month      \_\_\_ Maint/Test    \_\_\_ Emergency    \_\_\_ Permitted Use

Heat Input Capacity x Monthly RTH x NOx Emission Factor = NOx Emitted

\_\_\_ MMBTU/HR    x \_\_\_ HR    x    \_\_\_ LB/MMBTU = \_\_\_\_\_ LB NOx

**Tier II Compliance and Permit Compliance:**

Fuel Delivery (Diesel)? \_\_\_ GAL      Date \_\_\_\_\_      Fuel COA Attached \_\_\_ Y \_\_\_ N

**SPCC Compliance: STI SP001 Monthly Inspection Checklist**    Date and Time \_\_\_\_\_

**(1.0) Tank Containment**

(1.1) Containment Structure (*water, debris, cracks, fire hazard*)    Y    N    NA

(1.2) Primary Tank (*water*)    Y    N    NA

(1.3) Containment Drain Valves (*operable, in closed position*)    Y    N    NA

(1.4) Pathways and Entry (*clear and operable*)    Y    N    NA

**(2.0) Leak Detection**

(2.1) Tank (*visible signs of leakage*)    Y    N    NA

(2.2) Secondary Containment (*visible signs of leakage from tank into secondary containment*)    Y    N    NA

(2.3) Surrounding Soil (*visible signs of leakage*)    Y    N    NA

(2.4) Interstice (*visible signs of leakage*)    Y    N    NA

**(3.0) Tank Equipment**

(3.1) Valves (*check for leaks*) (*tank drain valves locked*)    Y    N    NA

(3.2) Spill Containment Boxes Fill Pipes (*remove debris/water*) (*drain valves operable, closed*)    Y    N    NA

(3.3) Liquid Level Equipment (*visual/mechanical physical damage*) (*device easily readable*)    Y    N    NA

(3.4) Overfill Equipment (*activate test button if available*) (*actuate mechanical test method*)    Y    N    NA

(3.5) Piping Connections (*check for leaks, corrosion, damage*)    Y    N    NA

**(4.0) Tank Attachments and Appurtenances**

(4.1) Ladder and Platform Structure (*secure w no visible corrosion, severe damage*)    Y    N    NA

**(5.0) Other Conditions**

(5.1) Other Conditions (*affecting continued safe operation or site SPP*)    Y    N    NA

**NOTES**

## RIDEM Monthly AST Tank Inspection Checklist (all other ASTs at Facility)

### MONTHLY TANK INSPECTION REPORT

Instructions: This inspection record should be completed for each oil storage tank every month. Visually inspect the tank, and place a check or an X in the appropriate box for each item. If any item needs elaboration, do so in the comments space provided. **The inspection report must be signed by the inspector.** A copy of each month's inspection report must be submitted to the Department of Environmental Management at 235 Promenade Street, Suite 220, Providence, RI 02908, by December 31<sup>st</sup> of each year.

DATE: \_\_\_\_\_

OWNER OR OPERATOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TOWN: \_\_\_\_\_

TANK NUMBER: \_\_\_\_\_ TANK SIZE: \_\_\_\_\_ TANK CONTENTS: \_\_\_\_\_

	YES	NO	N/A	COMMENTS
Does the tank(s) show signs of settlement, structural or foundation weakness or swelling of tank insulation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Does the tank(s) show signs of cracks, areas of wear, corrosion or leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Does the piping show signs of corrosion or leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Does the pump or hoses show signs of leaks or cracking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is the tank gauge operating as designed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is all leak detection, monitoring, cathodic protection and/or warning systems operating as designed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is there liquid in the interstitial place (double wall tanks only)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Groundwater monitoring program: are the monitoring wells checked monthly in accordance with section 10 (h)(2)(3) of the Oil Pollution Control regulations (50,000 gals or 5000 in GAA) ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Is the information in the Spill Prevention and Emergency Plan or Spill Prevention, Control and Countermeasure Plan kept up to date?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Other: \_\_\_\_\_

Inspector's signature: \_\_\_\_\_

## Chemical and Oil-Only Spill Kit Monthly Inspection / Re-stock Checklist

### Spill Kits & Locations

Bayside 200's Mechanical Room	Oil-Only Spill Kit
Baypoint Storage Room (Vegetable Oil Room)	Oil-Only Spill Kit
Dining Basement (Vegetable Oil Room)	Oil-Only Spill Kit
Facilities Convault Tank (Back Parking Lot)	Oil and Chemical Spill Kit
Facilities EHS Sheds (Back Parking Lot)	Chemical Spill Kit
Facilities Mechanic Shop	Oil-Only Spill Kit
Fine Arts Building Print Making Shop (2 <sup>nd</sup> Flr.)	Chemical Spill Kit
Law School Elevator Mechanical Room	Oil-Only Spill Kit
MNS CORE Lab (203) (Upper Level)	Chemical Spill Kit
MNS Physics Lab (106) (Lower Level)	Chemical Spill Kit
SAAHP Basement Mechanical Room	Oil and Chemical Spill Kit
SAAHP Photo Lab	Chemical Spill Kit

Chemical Spill Kit Contents	Oil-Only Spill Kit Contents
• One box nitrile gloves, size large	• One box nitrile gloves, size large
• Two pairs of safety glasses (clear)	• Two pairs of safety glasses (clear)
• One bag Speedy-Dry	• Two bags Speedy-Dry
• One hand scoop	• One hand scoop
• One bag chemical spill pads (grey)	• One bag oil-only spill pads (white)
• One container acid neutralizer	• One roll CAUTION tape
• One container base neutralizer	• Zip ties
• One package pH paper	• 5-gallon disposal bags
• One package oxidizer test strips	• Hazardous waste labels
• One roll CAUTION tape	• Sharpies
• Zip ties	• Emergency Response Guide (ERG)
• 5-gallon disposal bags	
• Hazardous waste labels	
• Sharpies	
• Emergency Response Guide (ERG)	

## Appendix H: Discharge & Reporting Forms

Form created using the information provided at: <https://www.epa.gov/emergency-response/what-information-needed-when-reporting-oil-spill-or-hazardous-substance-release>

***Instructions: The most-senior available RWU Emergency Contact:  
Gather, record, & report this information to the four Agencies below:***

Your Name	
Location	
Organization	<b>ROGER WILLIAMS UNIVERSITY</b>
Your Phone Number	
Public Safety Dispatch Phone Number	<b>401-254-3333</b>
Name and address of the party responsible for the incident; or name of the carrier or vessel, the railcar/truck number, or other identifying information	
Date and Time of Incident	
Location of Incident	
Source and Cause of Release/Spill	
Types & Quantities of Materials Released/Spilled	
Medium affected (Land, Air, or Water)	
Danger or Threat Posed by Release or Spill	
Number and types of injuries or fatalities (if any)	
Weather conditions at the incident location	
Whether an evacuation has occurred	
Other agencies notified or about to be notified	
Any other information that may help emergency personnel respond to the incident	

**Report in this order:**

- 1. Local Emergency Contacts (Fire Department) (911; also see attached)**
- 2. Environmental Vendor (Clean Harbors) (1-800-OIL-TANK)**
- 3. National Response Center (NRC) (1-800-424-8802)**
- 4. RI Dept. of Env. Management (RIDEM) (401-222-3070)**

# State Contacts

- **Department of Environmental Management:** (401) 222-3070
- **Department of Health:** (401) 222-5960
  - **Disease Prevention and Control:** (401) 222-2577
  - **Drinking Water Quality:** (401) 222-6867
  - **Environmental Health Division:** (401) 222-5960
  - **Food Protection:** (401) 222-2750
  - **Occupational and Radiological Health:** (401) 222-5960
- **Department of Transportation:** (401) 222-2450
  - **Transportation Management System:** (401) 222-3005
- **Fire Marshall's Office:** (401) 462-4200
- **Rhode Island State Police:** (401) 444-1000

## Bristol

### Emergency Management

- [Emergency Management Website](#)
- Director, Chief Michael DeMello, (401) 253-6912

### Police Non Emergency

- Phone: (401) 253-6900
- [Police Website](#)

### Fire Non Emergency

- Phone: (401) 253-6912
- [Fire Website](#)

### Public Works

- Phone: (401) 253-4100
- [Public Works Website](#)

## Portsmouth

### Emergency Management

- [Emergency Management Website](#)
- Director, John King, (401) 683-1200
- Emergency Operations Center: (401) 683-0300

### Police Non Emergency

- Phone: (401) 683-0300
- [Police Website](#)

### Fire Non Emergency

- Phone: (401) 683-1200
- [Fire Website](#)

### Public Works

- Phone: (401) 683-0362
- [Public Works Website](#)

## Appendix I: RWU and Vendor Spill Response

### **RWU Information Spill Kits & Locations**

Bayside 200's Mechanical Room	Oil-Only Spill Kit
Baypoint Storage Room (Vegetable Oil Room)	Oil-Only Spill Kit
Dining Basement (Vegetable Oil Room)	Oil-Only Spill Kit
Facilities Convault Tank (Back Parking Lot)	Oil and Chemical Spill Kit
Facilities EHS Sheds (Back Parking Lot)	Chemical Spill Kit
Facilities Mechanic Shop	Oil-Only Spill Kit
Fine Arts Building Print Making Shop (2 <sup>nd</sup> Flr.)	Chemical Spill Kit
Law School Elevator Mechanical Room	Oil-Only Spill Kit
MNS CORE Lab (203) (Upper Level)	Chemical Spill Kit
MNS Physics Lab (106) (Lower Level)	Chemical Spill Kit
SAAHP Basement Mechanical Room	Oil and Chemical Spill Kit
SAAHP Photo Lab	Chemical Spill Kit

<b>Chemical Spill Kit Contents</b>	<b>Oil-Only Spill Kit Contents</b>
<ul style="list-style-type: none"> <li>• One box nitrile gloves, size large</li> </ul>	<ul style="list-style-type: none"> <li>• One box nitrile gloves, size large</li> </ul>
<ul style="list-style-type: none"> <li>• Two pairs of safety glasses (clear)</li> </ul>	<ul style="list-style-type: none"> <li>• Two pairs of safety glasses (clear)</li> </ul>
<ul style="list-style-type: none"> <li>• One bag Speedy-Dry</li> </ul>	<ul style="list-style-type: none"> <li>• Two bags Speedy-Dry</li> </ul>
<ul style="list-style-type: none"> <li>• One hand scoop</li> </ul>	<ul style="list-style-type: none"> <li>• One hand scoop</li> </ul>
<ul style="list-style-type: none"> <li>• One bag chemical spill pads (grey)</li> </ul>	<ul style="list-style-type: none"> <li>• One bag oil-only spill pads (white)</li> </ul>
<ul style="list-style-type: none"> <li>• One container acid neutralizer</li> </ul>	<ul style="list-style-type: none"> <li>• One roll CAUTION tape</li> </ul>
<ul style="list-style-type: none"> <li>• One container base neutralizer</li> </ul>	<ul style="list-style-type: none"> <li>• Zip ties</li> </ul>
<ul style="list-style-type: none"> <li>• One package pH paper</li> </ul>	<ul style="list-style-type: none"> <li>• 5-gallon disposal bags</li> </ul>
<ul style="list-style-type: none"> <li>• One package oxidizer test strips</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous waste labels</li> </ul>
<ul style="list-style-type: none"> <li>• One roll CAUTION tape</li> </ul>	<ul style="list-style-type: none"> <li>• Sharpies</li> </ul>
<ul style="list-style-type: none"> <li>• Zip ties</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Response Guide (ERG)</li> </ul>
<ul style="list-style-type: none"> <li>• 5-gallon disposal bags</li> </ul>	
<ul style="list-style-type: none"> <li>• Hazardous waste labels</li> </ul>	
<ul style="list-style-type: none"> <li>• Sharpies</li> </ul>	
<ul style="list-style-type: none"> <li>• Emergency Response Guide (ERG)</li> </ul>	

# Vendor Information

800.645.8265 (800.OIL.TANK) – 24-HR WORLDWIDE EMERGENCY RESPONSE NUMBER

BOSTON, MA AREA SERVICE CENTER	42.19 N 70.93 W	24-Hr. #	781.803.4100
609 Pleasant Street		24-Hr. #	800.645.8265
Weymouth, MA 02189		Fax #	781.803.4168

Tom Kelley, General manager

EPA / Federal ID #:

N/A

<b>Personnel Authorized to release equipment / materials / manpower, etc:</b>
---

Steve Rituoci  
Tom Kelley  
Harry Davidson

Mark Purcell  
John Barry

<b>40-Hour OSHA Trained Personnel:</b>
--

Supervisor	10
Foreman	20
Equipment Operator	23
Field Technician	25

Equipment List							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
<b>(1) Vessels &amp; Marine Support Equipment</b>							
Power Workboat, Hanko	Weymouth	24', 150HP, RI 0303 CH, V303	1	Y	Y	N	N
Power Workboat, Carolina Skiff	Weymouth	21', 88HP, MS 2027 B, V158	1	Y	Y	N	N
Power Workboat, Minncraft	Weymouth	18', 25HP, MS 9181 KB, V156	1	Y	Y	N	N
Power Workboat, Sylvan	Weymouth	14', 9.9HP, MS 7121 AA, V206	2	Y	Y	N	N
Power Workboat, Sea squirt	Weymouth	18', 25HP, MS 5383 AC, V161	1	Y	Y	N	N
Workboat, Star Craft	Weymouth	14', No Motor, MS 6455 AP, V155	2	Y	Y	N	N
<b>(2) Motor Vehicles &amp; Vacuum Equipment</b>							
Vacuum Tractor Trailers	Weymouth	4,000/5,000/6,000 gals	8	Y	Y	N	N
High Powered Vacuum Truck/Cusco	Weymouth		6	Y	Y	N	N
Cyclone Vactor/Guzzler	Weymouth		4	Y	Y	N	N
Vactor (Jet Rodder)	Weymouth		2	Y	Y	N	N
Vacuum Trucks S.S.	Weymouth	3,000 & 3,500 gals	5	Y	Y	N	N
Box Truck- Prime Mover	Weymouth	81 International	1	Y	Y	N	N
Straight Box Trucks	Weymouth	Ford	1	Y	Y	N	N
Frac Tanks	Weymouth	22,500 gallons	6	Y	Y	N	N
Rack Truck	Weymouth	5151, 5142, 552	3	Y	Y	N	N
10 Wheel Dump Truck	Weymouth	5252	1	Y	Y	N	N
8 Wheel Dump Truck	Weymouth	5403	1	Y	Y	N	N
Trailer (Lowboy)	Weymouth	50 TON	1	Y	Y	N	N
Crew Cab Pickup	Weymouth	Various Models	27	Y	Y	N	N
Roll-off frames	Weymouth	463, 4131	4	Y	Y	N	N

**800.645.8265 (800.OIL.TANK) – 24-HR WORLDWIDE EMERGENCY RESPONSE NUMBER**

<b>Equipment List Cont.</b>				
<b>Item Description / Manufacturer</b>	<b>Location</b>	<b>Capacity / Size / Key Features</b>	<b># of Units</b>	<b>A T P D</b>
<b>(3) Pumps and Pressure Equipment</b>				
Wilden Diaphragm Pump	Weymouth	M-15 3"	3	Y Y N N
Wilden Diaphragm Pump	Weymouth	M-8 2"	2	Y Y N N
Wilden Diaphragm Pump	Weymouth	1 1/4 "Poly	1	Y Y N N
Wilden Diaphragm Pump	Weymouth	1 1/2 " M-4	1	Y Y N N
Wilden Diaphragm Pump	Weymouth	1 1/4 " M-2	0	Y Y N N
Wilden Diaphragm Pump	Weymouth	2" Champ Poly (chemical)	2	Y Y N N
6" Double Stage Hyd Super Pump	Weymouth	6"	1	Y Y N N
Lutz Electric Barrel Pump	Weymouth	1"	3	Y Y N N
Drum Vacuums	Weymouth		4	Y Y N N
Van Hotsy	Weymouth	3000 psi Hot Water	2	Y Y N N
Hot water Hotsy	Weymouth	3000 psi, trailer mounted	1	Y Y N N
Hot water Hotsy	Weymouth	3000 psi, portable, skid mount	2	Y Y N N
Cold Water Pressure Washer	Weymouth	2000 psi, electric, portable	5	Y Y N N
Warren Rupp	Weymouth	1" SA1A/SB1A	2	Y Y N N
Teel Pump	Weymouth	5H 2" Trash Pump	3	Y Y N N
Vactor Hose	Weymouth		1,000'	Y Y N N
Discharge Hose	Weymouth	6"	150	Y Y N N
Discharge Hose	Weymouth	4"	500'	Y Y N N
Teel Pump	Weymouth	3"	3	Y Y N N
<b>(4) Oil Spill Containment Booms</b>				
Oil Containment Boom	Weymouth	American Marine 18"	2800	Y Y N Y
Oil Containment Boom	Weymouth	Slickbar 18'	3000	Y Y N Y
<b>(5) Environmental Monitoring Equipment</b>				
MSA Gas Indicator	Weymouth	Sirius 5 Gas	7	Y Y N N
MSA Gas Indicator	Weymouth	Passport Quad	3	Y Y N N
Draeger Pump	Weymouth	Accuru	5	Y Y N N
MSA PIDs	Weymouth	Passport PIDs	3	Y Y N N
<b>(6) Recovery Equipment</b>				
Skidmount Vacuum Unit	Weymouth	1000 gal	1	Y Y N N
Slurp Skimmer, SkimPac	Weymouth	Static, 4200 Model, 2", S229	1	Y Y N Y
Drum Skimmer, Elastec	Weymouth	Air, TDS118, 3", 35 GPM, S233	1	Y Y N Y
Recovery Tank	Weymouth	1000 gal	1	Y Y N N
Nilfisk Mercury Vacuum	Weymouth		2	Y Y N Y
HEPA Filter Vacuum	Weymouth		3	Y Y N N
HEPA Filter Vactor	Weymouth		1	Y Y N N
<b>(7) Beach or Earth Cleaning and Excavating Equipment</b>				
Bobcat	Weymouth	Backhoe/Sweeper /Pavement Breaker	2	Y Y N N
Backhoe	Weymouth	436 Cat	1	Y Y N N
Cat Excavator	Weymouth	Cat 315 Track	1	Y Y N N
Bobcat Mini Excavator	Weymouth	337 Mini	1	Y Y N N

Equipment List Cont.							
Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
<b>(8) Generators / Compressors / Light Towers</b>							
Sullair Portable Compressor	Weymouth	185 Diesel	5	Y	Y	N	N
Winco Generator	Weymouth	K4800/A	3	Y	Y	N	N
Coppus Blower	Weymouth	4" Pneumatic	3	Y	Y	N	N
Coppus Blower	Weymouth	8" Pneumatic	1	Y	Y	N	N
Coppus Blower	Weymouth	10" Pneumatic	1	Y	Y	N	N
Coppus Fan	Weymouth	RF-20	2	Y	Y	N	N
<b>(9) Health and Safety Equipment</b>							
MSA S.C.B.A.	Weymouth	1 Hour/4500	10	Y	Y	N	N
Spare Air Cylinders	Weymouth	4500 PSI (1 HR)	8	Y	Y	N	N
MSA SAR	Weymouth	Pressure Demand	4	Y	Y	N	N
MSA Escape Units	Weymouth	5 Minutes	7	Y	Y	N	N
Encapsulating Suits	Weymouth	First Responder	0	Y	Y	N	N
Encapsulating Suits	Weymouth	Butyl	0	Y	Y	N	N
Mustang Suits	Weymouth	Foul Weather PFD	6	Y	Y	N	N
Flame Retardant Suits	Weymouth		0	Y	Y	N	N
Breathing Air Hose	Weymouth		600'	Y	Y	N	N
Hydraulic Hose	Weymouth		650'	Y	Y	N	N
Personal Floatation Devices	Weymouth		40	Y	Y	N	N
PFD Survival Suits	Weymouth		6	Y	Y	N	N
<b>(10) Communications</b>							
Nextel 2-Way Portable Radio/Phones	Weymouth		80	Y	Y	N	N
Nextel Base Station	Weymouth		1	Y	Y	N	N
Marine Radios	Weymouth	Portable	3	Y	Y	N	N
<b>(11) Miscellaneous</b>							
Leroi Jackhammer	Weymouth	30 / 60 / 90 lbs.	3	Y	Y	N	N
Stihl Chain Saw	Weymouth		1	Y	Y	N	N
Amida Light Stand	Weymouth	50600	2	Y	Y	N	N
Amida Towable Light Tower	Weymouth	GS-82	2	Y	Y	N	N
Lincoln Welder	Weymouth		1	Y	Y	N	N
Forklift	Weymouth	5 Ton	2	Y	Y	N	N

**800.645.8265 (800.OIL.TANK) – 24-HR WORLDWIDE EMERGENCY RESPONSE NUMBER**

<b>PROVIDENCE, RI SERVICE CENTER</b> 167 Mill St Cranston, RI 02905	<b>41.83 N 71.37 W</b>	<b>24-Hr. # 401-228-2435</b> <b>24-Hr. # 800.645.8265</b> <b>Fax # 401-941-1745</b>
---	------------------------	---

Brian Fleet, General  
Manager

EPA / Federal ID #: N/A

**Personnel Authorized to release equipment / materials / manpower, etc:**

Brian Fleet  
Peter Joseph  
Chris Kailher  
Paul Hogan

**40-Hour OSHA Trained Personnel:**

Supervisor	4
Foreman	6
Equipment Operator	5
Field Technician	5

<b>Equipment List</b>	<b>Location</b>	<b>Capacity / Size / Key Features</b>	<b># of Units</b>	<b>A</b>	<b>T</b>	<b>P</b>	<b>D</b>
<b>(1) Vessels &amp; Marine Support Equipment</b>							
Power Workboat, Hanco	Providence	22', 150HP, BT444, V444	1	Y	Y	N	N
Workboat, Sylvan	Providence	12', No Motor, MS 2409 KR, V159	1	Y	Y	N	N
Power Workboat, Stanley	Providence	moved to CT	1	Y	Y	N	N
<b>(2) Motor Vehicles &amp; Vacuum Equipment</b>							
Crew Cab Pickup	Providence	Ford F350/Equivalent	9	Y	Y	N	N
Vacuum Trailer	Providence	5,000 gal Vac Trailer #3129	1	Y	Y	N	N
Tractor	Providence	1995 Mack / Fleet # 1156	1	Y	Y	N	N
Box Truck	Providence	1998 Freightliner box truck Fleet# 5139	1	Y	Y	N	N
Vacuum Truck (Cusco)	Providence	2001 Freightliner Cusco Fleet #4121	1	Y	Y	N	N
Vacuum Truck (Guzzler)	Providence	2004 Freightliner / Fleet # 4164	1	Y	Y	N	N
Utility Trailer – Manhole	Providence	Fleet # CH305 / ME Reg# 0739425	1	Y	Y	N	N
R/O frame	Providence	fleet # 4238 R/O Frame	1	Y	Y	N	N
Utility Trailer	Providence		3	Y	Y	N	N
<b>(3) Pumps and Pressure Equipment</b>							
Double Diaphragm Pump	Providence	Wilden 3" Aluminum	2	Y	Y	N	N
Double Diaphragm Pump	Providence	Wilden 2" Aluminum	3	Y	Y	N	N
Double Diaphragm Pump	Providence	Wilden 2" Poly	1	Y	Y	N	N
Double Diaphragm Pump	Providence	Multiquip 2"	1	Y	Y	N	N
Double Diaphragm Pump	Providence	Multiquip 3"	2	Y	Y	N	N
<b>(4) Oil Spill Containment Booms</b>							
Oil Containment Boom	Providence	American Marine 18" /Optimax I	8500	Y	Y	N	Y
Oil Containment Boom	Providence	American Marine 18", In Trailer CH217	1000	Y	Y	N	Y

**800.645.8265 (800.OIL.TANK) – 24-HR WORLDWIDE EMERGENCY RESPONSE NUMBER**

<b>Equipment List Cont.</b>							
<b>Item Description / Manufacturer</b>	<b>Location</b>	<b>Capacity / Size / Key Features</b>	<b># of Units</b>	<b>A</b>	<b>T</b>	<b>P</b>	<b>D</b>
<b>(5) Environmental Monitoring Equipment</b>							
4 Gas Meter (O2 / LEL / CO / H2S)	Providence	MSA Passport	0	Y	Y	N	N
Organic Vapor Monitor	Providence	MSA Passport PID	0	Y	Y	N	N
5 Gas Meter (O2 / LEL / CO / H2S / VOC)	Providence	MSA Sirius	5	Y	Y	N	N
Gastec Toxic Monitoring Pumps	Providence	Various Colorimetric Tubes	2	Y	Y	N	N
Lumex Meter	Providence	Ohio Lumex Mercury Vapor Monitor	1	Y	Y	N	N
<b>(6) Recovery Equipment</b>							
Towable Bladder	Providence	Sea Slug 4300 Gallons	1	Y	Y	N	N
Containment Bladder	Providence	300 Gallons	3	Y	Y	N	N
Drum Skimmer	Providence	Elastec, 3", 35 GPM, TDS11899327	1	Y	Y	N	Y
Drum Skimmer	Providence	Crucial, 3", 35 GPM, 206234	1	Y	Y	N	Y
Oil Suction Hose	Providence	2"	500'	Y	Y	N	N
Oil Suction Hose	Providence	3"	200'	Y	Y	N	N
Chemical Hose	Providence	2"	150'	Y	Y	N	N
Chemical Hose	Providence	3"	150'	Y	Y	N	N
Wash Hose	Providence	1-1/4"	600'	Y	Y	N	N
<b>(7) Beach or Earth Cleaning and Excavating Equipment</b>							
Skid Steer Loader	Providence	Bobcat / Fleet # EQ1115	0	Y	Y	N	N
<b>(8) Generators / Compressors / Light Towers</b>							
Electrical Generator	Providence	5500 Watt	2	Y	Y	N	N
Air Compressor	Providence	Sullair 185 cfm	2	Y	Y	N	N
<b>(9) Health and Safety Equipment</b>							
Supplied Air Respirator	Providence	MSA – With 5 Minute Escape Bottle	5	Y	Y	N	N
SCBA	Providence	MSA – 1 Hour (4500 psi)	5	Y	Y	N	N
SCBA – Spare Cylinders	Providence	MSA – 1 Hour (4500 psi)	10	Y	Y	N	N
Thermal Protective Suits	Providence	Nomex Flash Suits	0	Y	Y	N	N
Anti-Exposure Suits	Providence	Stearns (Mustang)	6	Y	Y	N	N
Extraction / Retrieval Devices	Providence	Rollgliss / DBI	4	Y	Y	N	N
Ventilation Blower	Providence	Coppus / Vano – 4" Pneumatic	2	Y	Y	N	N
Ventilation Blower	Providence	Coppus / Vano – 8" Pneumatic	2	Y	Y	N	N
Ventilation Blower	Providence	Coppus / Vano – 8" Electric	4	Y	Y	N	N
Ventilation Blower	Providence	Coppus / Vano – 24" Pneumatic	1	Y	Y	N	N
<b>(10) Communications</b>							
VHF Radio	Providence	Hand Held (Not Intrinsically Safe)	4	Y	Y	N	N
2-Way Radio	Providence	Nextel	12	Y	Y	N	N
2-Way Radio	Providence	Nextel (Intrinsically Safe)	2	Y	Y	N	N
<b>(11) Miscellaneous</b>							

## Appendix J: Cooking Oil Transfer Procedures

Operating Instructions for the 1500-C and 2500-C

Instrucciones de Operación para la 1500-C y 2500-C

**NEVER clean fryers or discard shortening unless you have been properly trained!**

**¡NUNCA limpie las freidoras o deseché la grasa, a menos que haya sido usted entrenado apropiadamente!**

**Minimize the water being put into the Cleanstar system**

**Minimice el agua que se ponga dentro del sistema Cleanstar**

**NEVER use the Cleanstar caddy without the filter screen or when the oil is cold!**

**¡NUNCA utilice el carrito de Cleanstar sin la pantalla del filtro o cuando el aceite está frío!**



1. Always wear proper safety equipment

1. Utilice siempre el equipo de seguridad apropiado



2. Turn off the fryers

2. Apague las freidoras



3. Reduce the temperature of the fryers to 150 degrees

3. Baje la temperatura de las freidoras a 150 grados



4. Remove fryer strainers

4. Remueva las coladeras de la freidora



5. Make sure the filter screen is in the caddy

5. Asegúrese de que la pantalla del filtro está en el carrito



6. Drain the oil into the caddy, then roll the caddy to the Cleanstar tank

6. Vacíe el aceite dentro del carrito, después empuje el carrito al tanque Cleanstar



7. Pull back on the collar to release the hose from the caddy

7. Jale hacia atrás el collarin para zafar la manguera del carrito



8. Connect the hose to the Cleanstar tank or pump station

8. Conecte la manguera al tanque de Cleanstar o estación de bombeo



9. Plug the caddy pump into the underside of the control panel

9. Conecte la bomba del carrito en la parte inferior del panel de control



10. Push the button on the control panel and hold

10. Oprima el botón en el panel de control y sosténgalo así



11. Hold the button until the caddy is completely empty and the sound of the pump changes

11. Sostenga el botón hasta que el carrito esté completamente vacío y escuche que cambia el sonido de la bomba



12. WAIT! Do not touch the hose and coupler without your safety gloves!

12. ¡ESPERE! No toque la manguera ni el acoplador, sin sus guantes protectores



13. With your insulated gloves on, disconnect the hose from the tank or pump station

13. Con sus guantes con aislante puestos, desconecte la manguera del tanque o estación de bombeo



14. Return the hose connection to the caddy and push the button on the panel for 5 seconds to clear the hose

14. Vuelva a conectar la manguera al carrito y oprima el botón del panel durante 5 segundos para limpiar la manguera



15. Once the filter screen has cooled remove the screen from the caddy and clean the food particles from the screen

15. Una vez que la pantalla del filtro se ha enfriado, remueva la pantalla del carrito y quite las partículas de comida de la pantalla



16. Never use metal or sharp utensils on the filter screen

16. Nunca utilice utensilios de metal o puntiagudos, en la pantalla del filtro



17. Rinse the filter screen and return it to the caddy

17. Enjuague la pantalla del filtro y devuélvala al interior del carrito



18. Store the caddy

18. Almacene el carrito



19. When the yellow light on the control panel is on, call your service provider to pick up the oil

19. Cuando la luz amarilla del panel de control está encendida, haga que su proveedor de servicio recoja el aceite



20. When the red light on the control panel is on, the tank is full and the pump will stop pumping

20. Cuando la luz roja del panel de control está encendida, el tanque está lleno y la bomba dejará de bombear

# WASTE VEGETABLE OIL DISPOSAL PROCEDURE

(taken from the [CleanStar 1500C Owner Manual](#))

<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <span style="color: red; font-size: 24px; margin-right: 10px;">●</span> <div style="border: 1px solid red; padding: 5px; text-align: center;"> <p><b>Tank Full</b> Call Supervisor - Do Not Add Oil!</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <span style="color: yellow; font-size: 24px; margin-right: 10px;">●</span> <div style="border: 1px solid yellow; padding: 5px; text-align: center;"> <p><b>Tank Almost Full</b> Call Supervisor - Do Not Add Oil!</p> </div> </div> <div style="display: flex; align-items: center;"> <span style="color: green; font-size: 24px; margin-right: 10px;">●</span> <div style="border: 1px solid green; padding: 5px; text-align: center;"> <p><b>Tank Has Room for Oil</b> OK to Continue</p> </div> </div> <div style="margin-top: 10px;">  </div> </div>	<p><b>In the Waste Vegetable Oil Room:</b></p> <ul style="list-style-type: none"> <li>● Check the storage tank panel and make sure the light is green.             <ul style="list-style-type: none"> <li>○ Let your supervisor know if the panel light is yellow or red. Do not add more oil to the tank!</li> </ul> </li> <li>● Open the oil caddy lid and make sure the oil caddy is empty.</li> <li>● Put on the neoprene apron, <u>thermaprene</u> gloves, face shield, and safety goggles.</li> </ul>
<div style="text-align: center;">  <p style="color: red; font-size: 24px; margin-top: 10px;"><b>150 degrees F</b></p> </div>	<p><b>At the Fryer:</b></p> <ul style="list-style-type: none"> <li>● Open the lid on the caddy and place it in front of the fryer.</li> <li>● Allow the oil to cool to 150 degrees F prior to draining.</li> <li>● Open the drain valve to empty the used oil from the fryer into the caddy through the caddy's strainer basket.</li> <li>● Close the drain valve, wipe up any spills with a spill pad, and close the caddy lid.</li> </ul>
<div style="text-align: center;">  </div>	<p><b>In the Waste Vegetable Oil Room:</b></p> <ul style="list-style-type: none"> <li>● Connect the caddy hose to the tank and plug in the power cord.</li> <li>● Hold down the "Push the Pump" button to pump the oil into the tank.</li> <li>● Disconnect the hose from the tank and reconnect it to the top of the caddy.             <ul style="list-style-type: none"> <li>○ The hose will be <b>HOT!</b> Keep the <u>thermaprene</u> gloves on!</li> </ul> </li> <li>● Hold down the "Push to Pump" button for 10-15 secs. <u>to</u> clear the oil from the hose.</li> <li>● Unplug the caddy power cord.</li> <li>● Empty and rinse out the strainer basket.</li> <li>● Put the caddy off to the side of the room.</li> <li>● Hang up the PPE.</li> </ul>

## Appendix K: Sample Secondary Containment Calculations

### Secondary Containment for Trash Compactor Equipment (Single Wall Steel)

#### **Preliminary Information**

1. Volume Hydraulic Fluid ( $V_f$ ) = 25 Gallons
2. Volume Required Capacity ( $V_{rc}$ ) = 110% of  $V_f$  = 25 gallons \* 1.1 = 27.5 Gallons
3. Volume Secondary Containment ( $V_{sc}$ )  $\geq V_{rc}$  to be compliant
4.  $V_{sc}$  = Volume Container ( $V_c$ ) – Volume Equipment in Container ( $V_e$ )

#### **Secondary Containment Calculation**

1.  $V_{sc} = V_c - V_e$ 
  - a.  $V_c = L_c * W_c * H_c = (36'' \times 30'' \times 15.5'') = 16,740 \text{ cu.in.}$
  - b.  $V_e = L_e * W_e * H_e = (24'' \times 17.5'' \times 13'') = 5,460 \text{ cu.in.}$
2.  $V_{sc} = (16,740 \text{ cu.in.}) - (5,460 \text{ cu.in.}) = \underline{11,280 \text{ cu.in.}}$

#### **Conversion to Common Units**

1.  $V_{sc} = 11,280 \text{ cu.in.} * (1 \text{ cu.ft.} / 1,728 \text{ cu.in.}) * (7.48 \text{ gallons} / \text{cu.ft.}) = \underline{48.62 \text{ gallons}}$

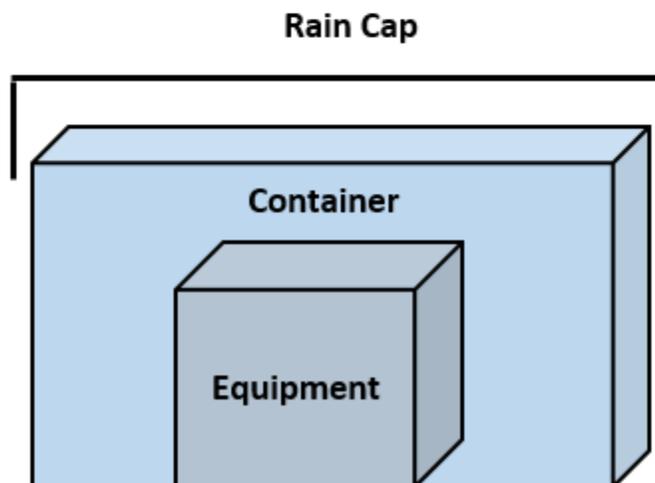
#### **Comparison**

1.  $V_{sc}$  (48.62 gallons)  $>$   $V_{rc}$  (27.5 gallons)

#### **Conclusion**

1.  $V_{sc}$  is compliant for Trash Compactor

#### **Diagram**



**Secondary Containment for Elevator Machine Room (Single Wall Steel)**

**Preliminary Information**

1. Volume Hydraulic Fluid in Unit #1 System ( $V_{f,u1}$ ) = 150 Gallons
2. Volume Hydraulic Fluid in Unit #2 System ( $V_{f,u2}$ ) = 150 Gallons
3. Volume Required Capacity ( $V_{rc}$ ) = 110%  $V_{f}(\text{largest unit}) = 150 \text{ gallons} * 1.1 = \underline{165 \text{ Gallons}}$
4. Volume Secondary Containment ( $V_{sc}$ )  $\geq V_{rc}$  to be compliant
5.  $V_{sc} = \text{Volume Room Containment with Threshold Stop (}V_{rts}\text{)} - \text{Volume Equipment in threshold volume (}V_e\text{)}$

**Secondary Containment Calculation**

1.  $V_{sc} = V_{rts} - V_e$ 
  - a.  $V_{rts} = L_{room} * W_{room} * H_{threshold \ stop} = (108'' * 156'' * 3'') = 50,544 \text{ cu.in.}$
  - b.  $V_e = 4 * \text{Volume Unit Leg (}V_{ul}\text{)}$ 
    - i.  $V_{ul} = (2 * \text{Volume vibration pad (}V_{vp}\text{)}) + \text{Volume upper leg (}V_{upleg}\text{)} + \text{Volume foot (}V_{foot}\text{)} + (2 * \text{Volume Bolt (}V_b\text{)})$   
 $= (2 * (L_{vp} * W_{vp} * H_{vp})) + (L_{upleg} * W_{upleg} * H_{upleg}) + (L_{foot} * W_{foot} * H_{foot}) + (2 * (1/2 * (\pi) * (1/2 * W_b)^2))$   
 $= (2 * (3'' * 3'' * 0.5'')) + (24'' * 0.125'' * 2.5'') + (24'' * 0.125'' * 0.125'') + ((2 * (1/2 * (\pi) * (0.5^2)) * 1''))$   
 $= 9 \text{ cu.in.} + 7.5 \text{ cu.in.} + 0.375 \text{ cu.in.} + 0.25 \text{ cu.in.} = \underline{26.88 \text{ cu.in.}}$
    - ii.  $4 * 26.88 \text{ cu.in.} = \underline{107.55 \text{ cu.in.}}$
2.  $V_{sc} = (50,544 \text{ cu.in.}) - (107.55 \text{ cu.in.}) = \underline{50,436.5 \text{ cu.in.}}$

**Conversion to Common Units**

1.  $V_{sc} = 50,436.5 \text{ cu.in.} * (1 \text{ cu.ft.} / 1,728 \text{ cu.in.}) * (7.48 \text{ gallons} / \text{cu.ft.}) = \underline{218.32 \text{ gallons}}$

**Comparison**

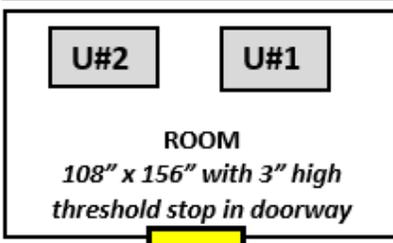
1.  $V_{sc} (218.32 \text{ gallons}) > V_{rc} (165 \text{ gallons})$

**Conclusion**

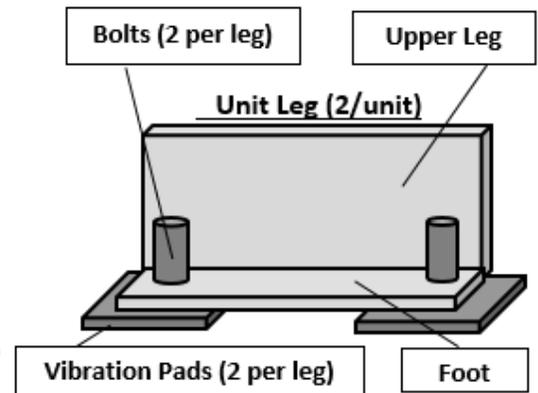
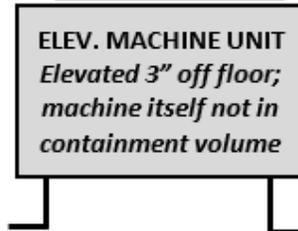
1.  $V_{sc}$  is compliant for Elevator Machine Room

**Diagrams**

**Room with 3" vertical threshold**



**Unit Elevation (3")**



## Secondary Containment for Horizontal AST in Concrete Dike (Single Wall Steel)

### Preliminary Information

1. Volume #2 Heating Oil ( $V_f$ ) = 275 Gallons
2. Volume Required Capacity ( $V_{rc}$ ) = 110%  $V_f$ (largest unit) = 275 gallons \* 1.1 = 302.5 Gallons
3. Volume Secondary Containment ( $V_{sc}$ )  $\geq V_{rc}$  to be compliant
4.  $V_{sc}$  = Volume Concrete Dike ( $V_{cd}$ ) – Volume Equipment in dike ( $V_e$ )

### Secondary Containment Calculation

1.  $V_{sc} = V_{cd} - V_e$ 
    - a.  $V_{cd} = L_{cd} * W_{cd} * H_{cd}$  (inner) = (80" x 44" x 24") = 84,480 cu.in.
    - b.  $V_e =$  Volume tank in dike ( $V_{td}$ ) + Volume tank legs ( $V_{tl}$ )  
(see next page for  $V_e$  calculations)
- $V_{sc} = 84,480 \text{ cu.in.} - 14,286.65 \text{ cu.in.} = 70,193.39 \text{ cu.in.}$

### Conversion to Common Units

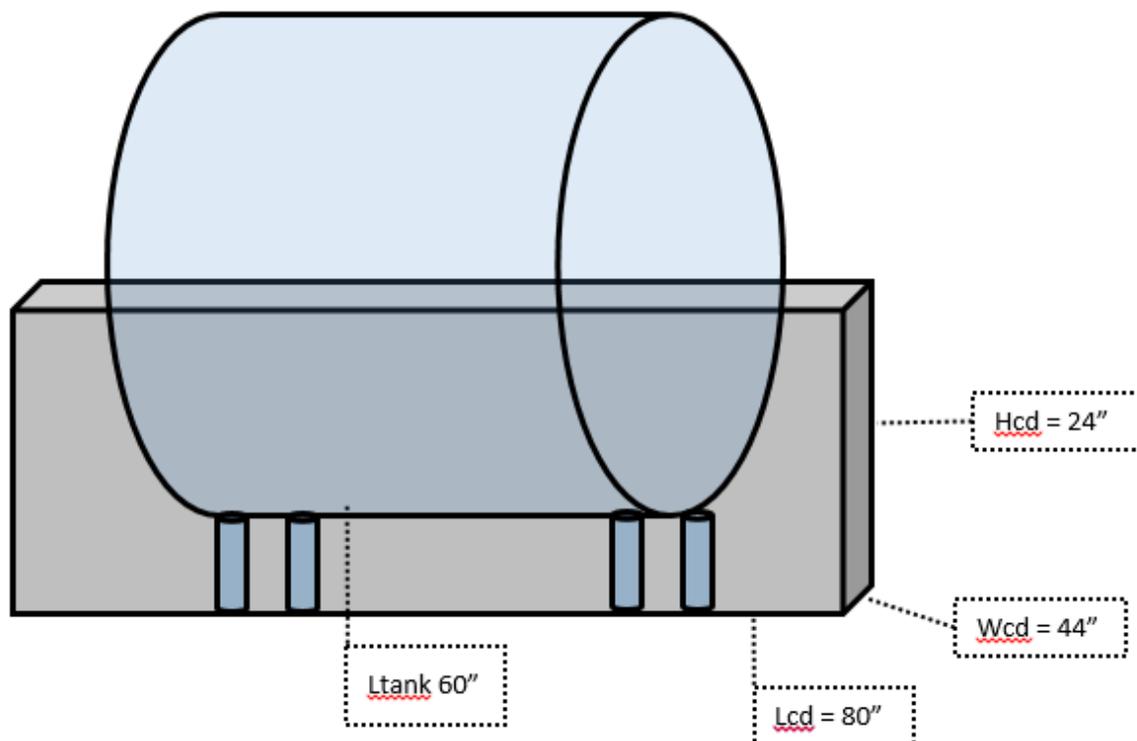
1.  $V_{sc} = 70,193.39 \text{ cu.in.} * (1 \text{ cu.ft.} / 1,728 \text{ cu.in.}) * (7.48 \text{ gallons} / \text{cu.ft.}) = \underline{303.85 \text{ gallons}}$

### Comparison

1.  $V_{sc}$  (303.85 gallons)  $\geq V_{rc}$  (302.5 gallons)

### Conclusion

1.  $V_{sc}$  is compliant for Bridgehouse #2 Heating Oil AST



1.  $V_e = \text{Volume tank in dike (Vtd)} + \text{Volume Tank Legs in dike (Vtl)}$

a.  $V_{tl} = 4 [\text{Area leg (Al)} * \text{Height leg (Hl)}] = [(pi)r^2] * Hl = [(3.14)(0.75in)^2] * 13in = 22.96$   
 cu. in. / leg \* 4 legs = 91.85 cu.in.

**Tank Leg (TL)**



TL diameter = 1.5"  
 TL radius = 0.75"  
 Htl (tank/floor) = 13"  
 4 tank legs in all

b.  $V_{td} = \text{Area tank (Atank)} * \text{Length of tank (Ltank)} = 236.58 \text{ sq.in} * 60 \text{ in} = \underline{14,194.8 \text{ cu.in}}$

i.  $A_{tank} = 2 * \text{Area under x-axis and tank curve using:}$

1. x-axis = Hsc (x = 0)
2. vertex = distance between tank bottom, x-axis at  $\frac{1}{2} W_{tank}$  (0, -13)
3. x-intercept =  $\frac{1}{2} W_{tank}$  at Hsc (13.5, 0)

ii. Solve for f(x) tank curve using vertex:  $f(x) = a(x-h)^2 + k$

$$f(x) = a(x-0)^2 - 13$$

$$0 = a(13.5-0)^2 - 13$$

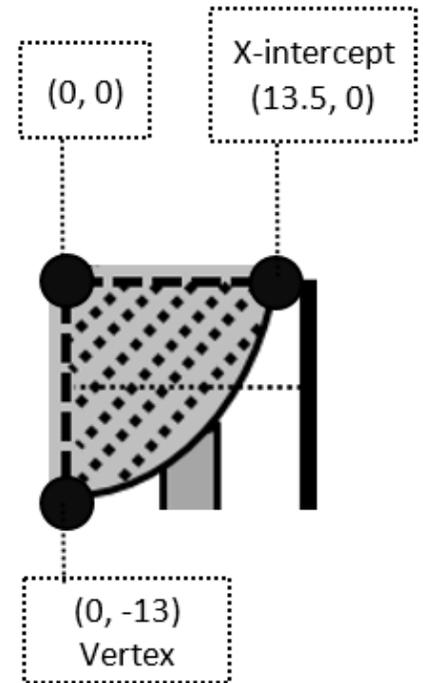
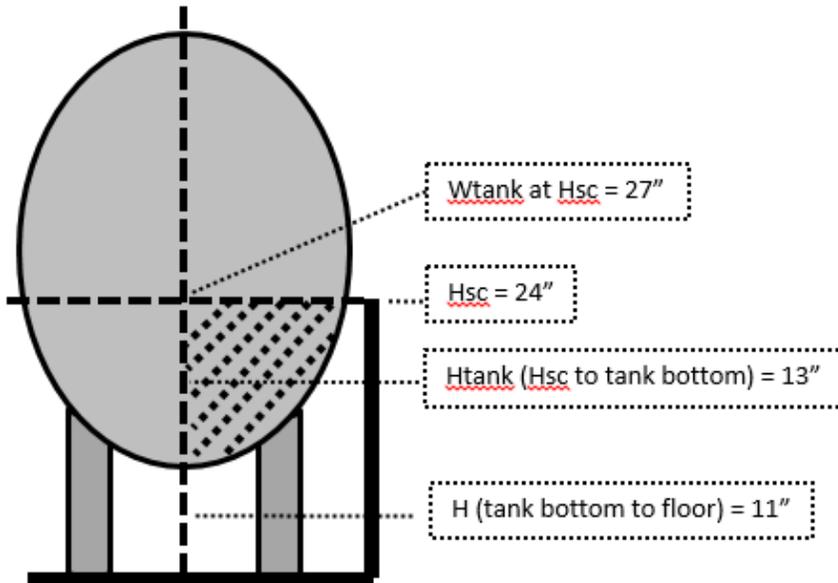
$$13 = 182.25a$$

$$0.07 = a$$

Tank curve  $f(x) = 0.07x^2 - 13$

iii.  $A_{tank} = 2 * [ \int_{13.5,0} (0.07x^2 - 13) dx ]$   
 $= 2 * [ (0.07x^3/3 - 13x) |_{13.5,0} ]$   
 $= 2 * [ ((0.07(13.5)^3)/3) - 13(13.5) ]$   
 $= 2 * [ 118.29 ] = \underline{236.58 \text{ sq. in.}}$

$V_e = 14,194.8 \text{ cu.in.} + 91.85 \text{ cu. in.} = \underline{14,286.65 \text{ cu. in.}}$



## Appendix L: Discharge Records

Date	Description of Discharge	Corrective Actions Taken	Plan for Preventing Recurrence
February 2011	<p>Vendor equipment (Republic Waste services) failure:</p> <p>Drip pan for trash compactor hydraulic fluid lines not covered, filled with rainwater, approx. 25 gallons of oily-sheen rainwater overflowed. Intercepted by oil/water separator at the end of the driveway (North Campus Residence Hall).</p>	<p>Vendor notified DEM and hired remedial contractor (Marshall Environmental). Marshall cleaned spill and removed contents of oil/water separator. Marshall put temporary boom in place for ~1 wk to ensure all oily residue collected. No oil made it past the OWS or entered waterways.</p>	<p>Republic Equipment installed rainwater protectors over all campus trash compactor hydraulic fluid lines and drip pans to prevent rain accumulation. No further issues.</p>
June 2012	<p>Vendor equipment (Turfmaster / Sunbelt Rental services) failure:</p> <p>Hydraulic lift line broke and sprayed approx. 15 gallons of hydraulic fluid on the pavement adjacent the Mailroom.</p>	<p>Vendor notified DEM and hired remedial contractor (Clean Harbors Environmental). CHES cleaned spill and power washed the pavement to remove any residue. No oil appeared to migrate off the pavement to the grass/soil.</p>	<p>Require non-RWU rental equipment to be inspected prior to arriving on campus.</p>

**Appendix M: Certification of Substantial Harm  
Determination 40 CFR 122.20(e), 40 CFR 112.20(f)(1)**

**Facility Name: Roger Williams University – One Old Ferry Road – Bristol, RI**

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes [ ]    No [ X ]

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?

Yes [ ]    No [ X ]

3. Does the facility have a total oil storage capacity greater than 1 million or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes [ ]    No [ X ]

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility would shut down a public drinking water supply?

Yes [ ]    No [ X ]

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes [ ]    No [ X ]

**Certification**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in the document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete

*Kathleen Souza*

Kathleen Souza  
Director  
Department of Environmental Health and Safety  
Roger Williams University

4-27-2017

Date